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**AN EXAMINATION OF MIDDLE-LEVEL EXEMPLARY SCHOOLS
IN MICHIGAN TO DETERMINE THE CURRENT RATE OF
IMPLEMENTATION OF EIGHTEEN CHARACTERISTICS
OF MIDDLE SCHOOLS**

By

Janelle C. McGuire

A DISSERTATION

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

DOCTOR OF PHILOSOPHY

Department of Educational Administration

1994

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ABSTRACT

AN EXAMINATION OF MIDDLE-LEVEL EXEMPLARY SCHOOLS IN MICHIGAN TO DETERMINE THE CURRENT RATE OF IMPLEMENTATION OF EIGHTEEN CHARACTERISTICS OF MIDDLE SCHOOLS

By

Janelle C. McGuire

The purpose of this study was to determine the current level of implementation of 18 basic characteristics of middle schools in exemplary schools in Michigan. The writer also compared implementation levels between Michigan national exemplary schools as well as exemplary schools from the first five years of the Secondary School Recognition Program (SSRP) and the last five years of the SSRP.

The population sampled was the 56 schools identified by the SSRP from the inception of the program through the current year, 1983 through 1993. The survey instrument was a questionnaire developed in 1971 by Riegle and used in many studies to examine the 18 characteristics. The weighted responses to each question yielded a score that was then converted to a percentage, allowing for comparison among and between groups.

Inter-item correlations and reliability tests were performed on the original survey instrument to ensure reliability of the questionnaire. Each group of questions,

as they related to each individual characteristic, was also tested for reliability. It was determined that the survey instrument was reliable.

A review of the statistical data indicated that none of the three null hypotheses could be rejected. The implementation rates, as reported by principals of exemplary middle schools in Michigan, did not represent a statistically significant difference between any of the three comparisons of groups of schools. Within each comparison, rank order of individual characteristics changed, but the overall implementation rate has not changed significantly in exemplary schools in Michigan over the past 10 years.

It was further concluded that participation in the SSRP may heighten the awareness of the 18 middle school characteristics on the part of the school making application for exemplary status, but that attaining national, as opposed to state, exemplary status does not significantly affect the rate at which those 18 characteristics are implemented.

A single study cannot cover the multitude of questions surrounding the exemplary schools program or to what extent middle school characteristics are implemented. This study stands as one examination of the current implementation of middle school characteristics in Michigan exemplary schools.

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1994

To my sons,
Lakins Thomas and Reid Michael.
In memory of my grandmother,
Bernice Fordyce Cook.

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To my sons, Lakins Thomas and Reid Michael, I thank you for your patience and understanding when Mom wasn't there. Part of this belongs to you.

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To my grandmother, Bernice Fordyce Cook, whose belief in lifelong education inspired her "Jannie" to reach for a dream, I present this final project. My regret is that her death this past year, at 94, did not allow both of us the pleasure of seeing that dream's completion.

Finally, "thank you" seems so insignificant for the support, encouragement, and faith in my personal and professional ability given me by my mentor. His unconditional love and friendship allowed me the courage and determination to complete this project. My friend, my soulmate . . . thank you, Thomas.

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CHAPTER I

THE PROBLEM

Middle schools in Michigan continue to grow in number in comparison to junior high schools. Because middle school is a concept as well as a name, practitioners are seeking models as they implement the middle school. The 18 characteristics of middle schools, as defined by Riegle (1971), were drawn from the literature on successful middle schools and have been generally accepted as standard components to move toward a quality middle school concept.

The United States Department of Education began the Secondary Schools Recognition Program to recognize state and national exemplary schools that could serve as models and encourage other school personnel wishing to create good junior high, middle, and high schools. The exemplary schools, coupled with the 18 characteristics of middle schools, can provide a viable source of information for practitioners in the field wishing to pursue quality middle-level education.

Purpose of the Study

The writer's purpose in this investigation was to examine the middle-level exemplary schools in the State of Michigan to determine which of the 18

characteristics of middle schools were present and to what degree they were being implemented. The study was basically an analysis between theory and actual practice in the schools.

Background and Importance of the Study

The middle school movement has been in effect for more than 30 years. Because of its success, many school districts have elected to adopt the philosophy and research supporting middle schools and move from the traditional junior high school configuration to create middle-level schools.

The State of Michigan has granted exemplary status to 56 middle-level schools beginning with the 1982-83 school year. Based on that status, these schools provide standards for other districts wishing to provide effective middle schools. In addition, a review of the literature would suggest that certain characteristics are inherent in effective middle schools. It is assumed that the likelihood of being a successful middle school, as defined by exemplary status, is greater when these characteristics are in place.

This study of exemplary schools in the State of Michigan was intended to provide practitioners and other researchers with an opportunity to consider characteristics that appear appropriate for implementation of a quality middle-level school. Practitioners can then make informed decisions using the findings from this study. A primary goal of this investigation was to provide information that will allow decision makers to determine which characteristics they wish to implement to establish a sound middle school. In addition, school districts can determine the

likelihood of an effective middle-level school while making the transformation from the traditional junior high.

In a study done by Prentice (1990), 12 nationally recognized exemplary middle schools in Michigan, as evidenced by the Secondary School Recognition Program (SSRP), were surveyed to determine the extent of implementation of the 18 characteristics of middle-level schools as perceived by principals and teachers in those schools. The researcher examined the 12 schools receiving national exemplary status from 1983 to 1987. Prentice used the Riegle questionnaire, now considered a landmark in middle-level research, as the survey instrument. Results of the study provided a percentage of degree of characteristic implementation and comparisons of that implementation by school size, geographic location, and length of time the building had been a middle school. Prentice found that all national exemplary schools in Michigan had a rate of characteristic implementation at least 10 percentage points higher than in previous studies done on middle schools in general. Only the recent Mowen (1992) study of national Blue Ribbon Schools showed an implementation rate to be higher in any survey of this nature.

The current study was a replication of portions of the Prentice study. Those 12 schools receiving national exemplary status from 1983 to 1987 were compared to the 6 schools receiving national exemplary status from 1988 to 1993. In addition, the combined 18 national exemplary schools and the additional 38 state exemplary schools were compared with regard to the level of

implementation of the 18 characteristics of middle-level schools. If the rate of implementation of the characteristics had changed significantly regarding the national exemplary schools, the researcher attempted to ascertain the nature of said changes. Data were gathered through the use of questionnaires, and a statistical analysis was performed for the purpose of interpreting and presenting the results.

Background

In 1983, the State of Michigan, along with the other 49 states, instituted the Secondary School Recognition Program (SSRP), with the support and encouragement of the United States Department of Education (USDOE). The intention of this program was to "(1) identify and recognize unusually successful public secondary schools, and (2) through publicity and other means, encourage their emulation by other educators" (Woods, 1985).

In 1983, superintendents in all school districts in the state received a letter from the Michigan Department of Education (MDOE), stating the purpose of the SSRP. Superintendents were asked to nominate either a high school or a junior high school from their district for this recognition. Specific measurable criteria were stated with respect to the program, and specific information was requested from the schools that were nominated.

Completed forms were sent to the MDOE and reviewed by a panel of "experienced readers" who were practitioners in the field of education. Schools were then notified of their selection by the MDOE. Those selected, from the self-

nominations, were also sent on to the USDOE for national competition. Following intense review, selected nominations were slated for site visitations. From the recommendations of site visitors, a total of 60 to 80 schools, nationally, were selected by the panel of experts for recognition. Since the program's inception, Michigan has added a standardized method of selecting and rating schools.

Since 1983, 56 middle-level schools have been awarded state recognition, and 18 of the 56 have been awarded national recognition, two schools having received the honor twice. Of initial interest to this researcher was the fact that only half of the number of schools have been awarded national exemplary status from 1987 to 1993 as compared to the first five years of the program. A further examination of this situation is provided in Chapter IV.

Definition of Terms

The following terms are defined in the context in which they are used in this study.

Exemplary schools. Those schools recognized by the State of Michigan and/or the United States government as having been unusually successful through the Secondary Schools Recognition Program (SSRP).

Michigan Department of Education (MDOE). A state governmental agency that administers and monitors education for the State of Michigan.

Middle schools. Those schools enveloping a configuration that includes grades six through eight.

Secondary School Recognition Program (SSRP). A federal program established in 1983 to "identify and recognize unusually successful public secondary schools, and through publicity and other means, to encourage others to emulate their successful policies and practices" (Woods, 1985, p. 2). The SSRP is referred to as the Blue Ribbon Schools Program.

United States Department of Education (USDOE). An agency of the United States government dealing with the administration and monitoring of education in the United States.

Assumptions and Limitations of the Study

The writer recognized two assumptions and three limitations of this study:

Assumptions

1. For the purpose of this investigation, exemplary status was considered to be synonymous with quality education.
2. The likelihood of having a middle school meet the needs of students is greater if the 18 characteristics of middle schools are in place.

Limitations

This investigation was limited to schools that obtained exemplary status by virtue of an application/selection process.

2. Exemplary status was limited to a definer for quality education and an indicator of success.

3. For the purpose of this study, the Riegle (1971) listing of the 18 characteristics of middle schools was used exclusively.

Hypotheses

The primary focus of this study was on the rate of implementation of the 18 characteristics of middle schools by middle schools in the State of Michigan receiving exemplary status from 1983 to 1993. The following null hypotheses were tested:

Ho 1: There is no difference in the degree of implementation of the 18 characteristics of middle schools in Michigan middle-level schools receiving exemplary status from 1983 through 1987 (Prentice study) and their degree of implementation in the same schools in 1993 (current study).

Ho 2: There is no difference in the degree of implementation of the 18 characteristics of middle schools in Michigan middle-level schools receiving national exemplary status from 1983 through 1987 and those receiving national exemplary status from 1988 through 1993.

Ho 3: There is no difference in the degree of implementation of the 18 characteristics of middle schools in Michigan middle-level schools receiving national exemplary status and those receiving state exemplary status.

Summary and Organization of the Dissertation

Chapter I contained a description of the general nature of the study, indicating the background and significance of the study. The purpose of the study, definitions, basic assumptions, and limitations of the study were included.

Chapter II contains a review of the literature related to this study. Included are a brief historical review of the middle school, general characteristics of middle-

level schools, historical background regarding the inception and implementation of the SSRP, and a general discussion of the Prentice (1990) research and other related studies. The relationship of the 14 attributes developed by the SSRP to the 18 characteristics of middle schools, as defined by Riegle, also is examined.

The procedures used in the study, the sources of data, collection and analysis of the data, and the research design are described in Chapter III. Chapter IV is devoted to presentation and interpretation of the data. Chapter V includes a review of the study, summary, conclusions and implications, and recommendations for further study.

CHAPTER II

REVIEW OF THE LITERATURE

The review of the literature begins with a discussion of the historical development of the middle school. In the second section, the most commonly accepted characteristics of middle schools are reviewed. The third section is devoted to the Secondary School Recognition Program (SSRP) and a review of research pertaining to that program. Exemplary schools are defined, and their application for that status through the SSRP in Michigan is explained. The final section deals with the relationship of the 18 characteristics of middle schools defined by Riegle (1971) to the 14 attributes used as evaluation criteria by the SSRP.

Development of the Middle School

Since its inception in the 1960s, the middle school has fought to emerge and prove its worth as a sound educational concept for the 11- to 14-year-old age group. The middle school, as conceived by the educational leaders in this movement, was designed to be just what the name implied—a school in the middle, between elementary and high school. Educational leaders were dissatisfied with the continuity between elementary and secondary schools. This,

coupled with the problems associated with children making the transition from elementary to high school, has been cited as the primary reason for the emerging middle school.

Many definitions of the middle school encompass the above-mentioned concepts, ranging from general to specific. One of the most commonly accepted definitions of the middle schools is found in the research of Georgiady and Romano (Georgiady, 1968). According to their definition, a middle school is "an organizational arrangement encompassing what are traditionally grades six, seven, and eight for purposes of planning and conducting a unique set of educational experiences for early adolescents or transescent students, ages 11 to 14" (p. 73).

Other middle-level authorities who have defined middle schools include Alexander, DeVita, Hansen, and Murphy. Alexander's (1968) definition is broad. He stated that a middle school is "a school providing a program planned for a range of older children, preadolescents, and early adolescents that builds upon the elementary school program for earlier childhood and in turn is built upon by the high school's program for adolescence" (p. 1). Another general definition of the middle school was given by DeVita (1970). According to him, "the middle school is a school that tries to structure a child's education for him and around him. It considers who he is, where he is, what his needs are, and what his potential is" (p. 26). Murphy (1967) gave a more specific definition: "A middle school designates a school in between elementary and high school housed

separately and, ideally, in a building freshly designed for its purpose and covering at least three of the middle school years, beginning with grades 5 or 6" (p. 6).

Regardless of the breadth of definition, the middle school, as evidenced by the research, is conclusively child-centered. Its purpose is to serve the social, physical, intellectual, and emotional needs of the transescent through an educational program based within the school. The term "transescence" was coined by Eichorn (1987) to describe the movement from elementary to high school.

Transescence defines . . . the stage of development which begins prior to the onset of puberty and extends through the early stages of adolescence. Since puberty does not occur for all precisely at the same chronological age in human development, the transescent designation is based on the many physical, social, emotional and intellectual changes in body chemistry that appear prior to the puberty cycle to the time in which the body gains a practical degree of stabilization over these complex pubescent changes. (p. 3)

Authors such as Conant, Vars, Lounsbury, Beane, Romano, Georgiady and others have written prolifically about the middle school concept. Over the past three decades, since the beginning of the middle school movement, significant strides have been made about how best to provide instructional services to students 11 to 14 years of age. The middle school has emerged as the most-often-named grade configuration for this level, and studies in the field have increased to provide validation of established components in a true middle school.

A growing dissatisfaction with the junior high school provided one reason for the new configuration of a three- to four-grade middle-level school. The 1960s

were filled with criticisms of American schools. Wiles and Bondi (1981) mentioned reasons of a political, social, and fiscal nature. They cited Why Johnny Can't Read as triggering questions about educational quality, and the launching of Sputnik left the American public outraged that we had allowed the Russians to outperform us in the math and science arena. As a result, subjects were moved downward in grade level, especially algebra, foreign language, and chemistry.

Wiles and Bondi (1981) stated that the elimination of racial segregation served as an external force in the development of middle schools during the 1960s. It was an opportunity to integrate the different races at an earlier educational level.

Further, according to Wiles and Bondi (1981), the population growth of the late 1950s and 1960s forced districts to build new facilities during this period. The three-year middle-level school often solved the problem rather than constructing either a new elementary or high school building. Overcrowding was relieved by moving the older elementaries up to the middle level and the ninth grade down to the middle level.

Wiles and Bondi (1981) cited the "bandwagon" effect as having had an influence on middle school growth. One middle school received favorable exposure in the media, and others hoped to "tag along," determined that it was the "thing to do."

Regardless of the reasons, middle schools were appearing in the early 1960s, numbering in the low hundreds. In a national study, Alexander (1968) reported 1,101 schools identifying themselves as middle schools. Michigan reached a total of 137 middle schools by the 1969-70 school year (Riegle, 1971). Two years later, Kealy (1971) identified more than twice that number.

Little research is available concerning the merits of a middle school organization. In 1973, Trauschke and Money's cooperative research indicated philosophical beliefs they determined from teacher responses. Gatewood's 1974 review of the available literature indicated that reorganization of the middle grades had been attributed primarily to practical reasons. He found that the only real difference between most junior highs and middle schools was in name and grade organization. Gatewood (1974) found that a number of studies favored the middle school over the junior high, whereas others demonstrated the reverse. Since many middle schools merely changed their name and not the program, and given the short time span in which the movement had developed, combined with the continued growth and expansion of the middle school concept, it is not surprising to find few studies of a conclusive nature.

In 1971, however, Riegle's landmark study in the area of middle-level education in Michigan and surrounding states established the definition of what middle school education should be, based on the 18 characteristics he gleaned from the literature of the time. The study has been replicated many times and was incorporated virtually in its entirety in both Michigan and West Virginia as

they developed their standards of middle education. Both states used Riegle's 18 characteristics as outlined by their state departments of education (Prentice, 1990).

The 1970s were characterized by constant growth, and the trend soon unfolded with a proliferation of workshops and institutes about middle schools. The founding of the National Middle School Association, the Center for Early Adolescence in North Carolina, and the National Middle School Resource Center in Indiana gave further evidence that the middle school was well rooted (Beane, 1990). The "movement" was beginning with the increasing numbers of publications about middle schools, and a growing body of research was conducted. Brooks (1978) noted that the number of middle schools nationwide had increased to 4,060 by 1977, according to his study done at the University of Kentucky. In his research, Brooks cited the three primary reasons for establishing a middle school or for making the change from a junior high to a middle school as: (a) to bridge the gap from elementary to high school more effectively, (b) to provide a program tailored to the needs of the early adolescent, and (c) to eliminate overcrowding.

There was no decrease in the level of activity regarding middle schools in the 1980s. A new wave of middle schools emerged as a result of the educational tumult following the publication of the so-called Nation at Risk, a report by the National Commission on Excellence in Education in 1983. Virtually every state in the nation implemented programs and practices intended to bridge high school

programs with elementary programs. The ninth grade came under attack. It was met with more intensity, and it was dominated with graduation requirements. More and more administrators found it difficult to keep ninth grade in the middle level.

Whereas programmatic changes were gradual, many schools changed grade configurations in an effort to recognize and respond to the earlier onset of puberty, and to recognize the need for ninth grade to be placed at the high school. In the mid-1980s, the 6-7-8 grade level configuration became the predominant middle-level grade organization. Alexander and McEwin (1989) stated the shift in grade configuration from 1970-71 to 1986-87 as "the total number of 7-9 units (junior high schools) was 2,191 in 1986-87, a drop of 53 percent since 1970-71, and that of 6-8 units (middle schools) was 4,329, an increase of 160 percent since 1970-71" (p. 15).

During this period, gains were also made in the education of future middle-level teachers and administrators. Development of standards for middle-level teacher preparation and certification became the function of departments of education, universities, and professional organizations. The Carnegie Corporation's Task Force on Education for Young Adolescents funded large grants to states to promote more effective middle-level education. As a result of this funding, national, regional, and state conferences were held annually. Books for and about middle-level practitioners were published in massive numbers. References in the literature to junior high schools were few, whereas references

to middle schools were abundant. It appeared that the middle school, at least in concept, was well established.

The middle school of the 1990s is alive and growing both numerically and conceptually. The Michigan Education Directory (1994) lists 404 middle schools by name and only 153 junior high schools. Mowen's (1993) study of the 18 characteristics of middle schools as practiced in Michigan indicated a higher rate of implementation by middle-level schools than was reported in the earlier Prentice (1990) study.

General use of the term "middle school" by the public, by the media, and in other communications is an indication of the acceptance of middle school as an educational concept. Professional development in the area of middle-level teaching, administration, and parenting has experienced more attention than in previous years. Middle-level professional organizations are experiencing higher attendance at conferences and workshops than has been recorded before.

Teacher education and certification have become topics of conversation and debate in state departments of education and higher educational institutions, and among practitioners in the field. In Michigan, a group called the Middle School Alliance has been formed to promote middle-level education. Funded in part by a private foundation, the group hopes to influence certification requirements for future middle-level teachers, and serve as a networking center for all middle-level educators in the state.

Characteristics of Middle School

The search for more responsive middle-level school structures and programs during the 1980s prompted many middle-level educators to reexamine current practices. In 1971, Riegle extracted a list of 18 basic characteristics from the literature, which middle-level writers used to differentiate between junior highs and middle schools. The list was validated by five national middle school authorities: Marie Elie, Montreal, Canada; Nicholas Georgiady, Miami University, Oxford, Ohio; Ann Grooms, Education Services Institute, Cincinnati, Ohio; Louis Romano, Michigan State University, East Lansing, Michigan; and Emmett Williams, University of Florida, Gainesville, Florida. Riegle's list, often referred to simply as 18 middle school characteristics, has subsequently been used throughout the country by a large number of researchers, including Hawkins (1972), Raymer (1974), Caul (1975), Bohlinger (1977), Beckman (1978), Pook (1980), Wah (1980), Schindler (1982), Minster (1985), Magana (1987), Prentice (1990), and Mowen (1993). Each of these researchers determined a rate of implementation of the 18 characteristics, based on a sampling of schools. Their specific outcomes are discussed in the related studies section of this chapter.

The 18 characteristics of middle schools identified by Riegle were refined by Romano and other researchers (1973). They were used as a basis for the characteristics of an exemplary middle school endorsed by the Michigan State Board of Education in 1980 and as the basis for standards of education in West Virginia.

In their most recent publication, Romano and Georgiady (1994) refined the original 18 characteristics even further, collapsing them to 14, as shown in Table 2.1.

Table 2.1: Original 18 characteristics of middle schools and refined 14 characteristics.

Original 18 Characteristics (Riegle, 1971)	Refined 14 Characteristics (Romano & Georgiady, 1994)
1. Continuous progress	1. Continuous progress
2. Multi-material approach	2. Multi-media approach
3. Flexible schedule	3. Flexible schedule
4. Social experiences	4. Social experiences
5. Physical experiences	5. Physical experiences and intramural activity
6. Intramural activities	6. Team teaching
7. Team teaching	7. Guidance for a program of planned gradualism
8. Planned gradualism	8. Creative exploratory and enrichment activities
9. Exploratory and enrichment activities	9. Independent study
10. Guidance services	10. Basic skill and repair
11. Independent study	11. Evaluation
12. Basic skill and repair	12. Community relations
13. Creative experiences	13. Student services
14. Security factor	14. Auxiliary staffing
15. Evaluation	
16. Community relations	
17. Student services	
18. Auxiliary staffing	

Riegle's list of the original 18 characteristics was chosen for this study because (a) they are commonly accepted by most middle-level educators in Michigan, (b) they provide a specific framework for evaluation, (c) their use is supported by other research, (d) the 18 characteristics and the corresponding questionnaire have been used by other researchers to determine the degree of implementation of the characteristics of middle schools, and (e) to replicate portions of the Prentice study, the same evaluative tool had to be used. A detailed list of the 18 middle school characteristics and their definitions are shown in Table 2.2.

Riegle's original study consisted of 136 middle-level schools in Michigan and four national schools selected for their exemplary status. His findings revealed that "the exemplary schools achieved a higher degree of application of the middle school principles . . . than did the middle schools in Michigan, when considered as a group" (p. 4). He also found that:

While a high degree of agreement exists among authorities in the field regarding what constitutes the basic principles of middle school education, the degree of application of these principles by school systems in Michigan in general fails to provide evidence of implementation of the principles proclaimed by this leadership. (p. 4)

Hawkins (1972) developed an extension of the Riegle study to ascertain actual middle school practices in Michigan middle schools and four national middle schools with distinguished reputations. He found that the four nationally prominent middle schools were applying the 18 characteristics to a significantly higher degree than were the Michigan middle schools that replied to his survey.

Table 2.2: Eighteen middle school characteristics identified by Riegle (1971) and their definitions.

Characteristic	Definition
Continuous progress	The middle school program should feature a nongraded organization that allows students to progress at their own individual rate regardless of chronological age.
Multi-material approach	The middle school program should offer students a wide range of easily accessible instructional materials. Classroom activities should be planned around a multi-media approach rather than a basic textbook organization.
Flexible schedules	The middle school should provide a schedule that encourages the investment of time based on educational needs rather than standardized time periods. The schedule should be employed as a teaching aid rather than a control device.
Social experience	The middle school program should provide social experiences appropriate for the transescent youth and should not emulate the social experiences of the senior high school.
Physical experience	The middle school curricular and co-curricular programs should provide physical activities based solely upon the needs of the students. A broad range of intramural experiences that provide physical activity for all students should be provided to supplement the physical education classes, which should center their activity upon helping students understand and use their own bodies.
Intramural activities	The middle school should feature intramural activities rather than interscholastic activities.
Team teaching	The middle school program should be organized in part around team teaching patterns that allow students to interact with a variety of teachers in a wide range of subject areas.

Table 2.2: Continued.

Characteristic	Definition
Planned gradualism	The middle school should provide experiences that assist early adolescents in making the transition from childhood dependence to adult independence, thereby helping them to bridge the gap between elementary school and senior high school.
Exploratory and enrichment studies	The middle school program should be broad enough to meet the individual interests of the students for which it was designed. It should widen the range of educational training a student experiences rather than specialize his training. Elective courses should be a part of the program of every student during his years in the middle school.
Guidance services	The middle school program should include both group and individual guidance services for all students.
Independent study	The middle school program should provide an opportunity for students to spend time studying individual interests or needs that do not appear in the organized curricular offerings.
Basic skill repair and extensions	The middle school program should provide opportunities for students to receive clinical help in basic learning skills. The basic education program fostered in the elementary school should be extended in the middle school.
Creative experiences	The middle school program should include opportunities for students to express themselves in creative manners. Student newspapers, student dramatic creations, student oratorical creations, musical programs, and other student-centered, student-directed, student-developed activities should be encouraged.

Table 2.2: Continued.

Characteristic	Definition
Security factor	The middle school program should provide every student with a security group: a teacher who knows him well and whom he relates to in a positive manner; a peer group that meets regularly and represents more than administrative convenience in its use of time.
Evaluation	The middle school program should provide an evaluation of a student's work that is personal, positive in nature, nonthreatening and strictly individualized. Parent-teacher-student conferences on a scheduled and unscheduled basis should be the basic reporting method. Competitive letter-grade evaluation forms should be replaced with open and honest pupil-teacher-parent communications.
Community relations	The middle school should develop and maintain a varied program of community relations. Programs to inform, to entertain, to educate, and to understand the community as well as other activities should be a part of the basic operation of the school.
Student services	The middle school should provide a broad spectrum of specialized services for students. Community, county, and state agencies should be utilized to expand the range of specialists to its broadest possible extent.
Auxiliary staffing	The middle school should utilize a highly diversified array of personnel such as volunteer parents, teacher aides, clerical aides, student volunteers, and other similar types of support staffing that help to facilitate the teaching staff.

In a study of a sample of 100 national schools compared to 100 Michigan schools, Raymer (1974) compared the degree to which the 18 basic characteristics had been implemented in the 5-8 or 6-8 grade configuration of both sets of schools. He found that Michigan middle schools with grades 6-8 implemented and practiced the 18 characteristics to a higher degree than the national sample of middle schools, but that the reverse was true for schools with grades 5-8.

Caul (1975) used the 18 basic characteristics to determine their level of implementation of middle school concepts. Student, teacher, and principal perceptions of organizational structure of the middle school was the basis of her inquiry. She found that schools with high implementation of the 18 basic characteristics had a more participative organizational structure and that the management practices of the principals of those schools were reflected in teacher management practices toward students.

Bohlinger (1977) attempted to determine the degree to which the 18 characteristics of middle schools were implemented in Ohio public middle schools housing grades 5-8 or grades 6-8. He concluded that Ohio middle schools had not implemented these characteristics to a high degree. Bohlinger determined that the overall implementation rate was 50.5%, which supported his conclusion. Of the 18 characteristics, no individual characteristic had an implementation score higher than 80%.

In a study of Missouri middle schools, Beckman (1978) investigated the current level of implementation of 18 basic middle school principles. He, too,

used the Riegle survey instrument. Beckman found no statistically significant difference in the implementation level regardless of the school name, including "elementary," "middle," or "junior high" school.

Demps (1978) attempted to determine the relationship between teachers' job satisfaction and the level of implementation of the 18 middle school characteristics. No significant relationships were found between the two variables. Demps also discovered that no significant difference existed between principals' and teachers' perceptions of the level of implementation of the 18 basic characteristics.

Pook (1980) replicated and supported Demps's earlier study using Colorado schools. Although direct correlations were found between the level of implementation and the degree of satisfaction surrounding school facilities, curriculum, and community support, no significant difference was found in the job satisfaction of teachers employed in districts with low, medium, or high implementation of the characteristics.

Wah (1980) also used Riegle's questionnaire regarding the 18 middle school characteristics. Wah determined that the longer a middle school had been in operation, the greater the number of middle school characteristics it had implemented. Wah's study involved only four schools.

Schindler (1982) conducted a study with a stratified sample of 10 exemplary middle schools and 150 national middle schools. He found that both groups were implementing the philosophical principles of middle schools and

moving away from junior high school models. The exemplary middle schools showed the most concerted effort to provide a curricular program unique to the middle school student.

Minster's (1985) study was designed to determine the current level of implementation of middle school practices in selected middle schools in Illinois. Using Riegle's questionnaire, he found that superintendents reported a higher degree of implementation than principals, and that principals reported a higher degree of implementation than teachers. The findings also supported the notion that there was not a high degree of implementation of the 18 characteristics; the total average score for the rate of implementation was between 50% and 54%.

Magana (1987) replicated Minster's study in Wisconsin schools. Her findings were similar to Minster's in that administrators perceived a higher level of implementation of nearly all of the 18 characteristics than did teachers.

In a 1990 study, Prentice determined the level of implementation of the 18 basic characteristics of middle school education as perceived by principals and teachers. He used as a sample 12 Michigan schools selected for national recognition in the SSRP during the years 1983 through 1988. Prentice found that there was very little difference in the level of implementation of the characteristics as perceived by principals and teachers. He also determined that the implementation level was higher in the exemplary schools than in any other reported group to that date.

Mowen (1993) conducted an investigation of randomly selected Michigan schools and national Blue Ribbon schools. He discovered the overall implementation rate of the 18 characteristics of middle schools to be 67.4%. When comparing the two groups, Mowen also found that the Blue Ribbon schools scored approximately 11% higher than the Michigan schools in their implementation of the 18 characteristics of middle schools.

The Secondary School Recognition Program (SSRP)

The 1980s were a decade of unsettling information regarding the decline and perceived failure of public education. Reports and books such as The Paideia Proposal (Adler, 1982), High School: A Report on Secondary Education in America (Boyer, 1983), A Place Called School (Goodlad, 1983), and A Nation at Risk (National Commission on Excellence in Education, 1983) gave cause for educators to do a self-evaluation and look critically at public education.

Sensing the upheaval of a strong pillar of American society, then-Secretary of Education, Terrel H. Bell, established a program of Recognizing exemplary schools, which he believed could be found in every state and region of the nation. The intention was not merely to make Americans feel better about their schools, but to provide role models in an attempt to promote school improvement.

The Secondary Schools Recognition Program (SSRP) was thus established. The first nomination forms were sent to all 50 states in 1983. In his preface to a report on this program, the new United States Secretary of Education, William Bennett (1985), indicated that the intention was basically

unchanged. He stated, "The purpose of the 'Secondary School Recognition Program' is to identify and call attention to the successes of many of these schools while encouraging other schools and communities to link to them for ideas and encouragement" (preface). To win recognition, schools first have to be nominated by their state education agency and then pass a rigorous screening and site visit. Each school is evaluated on five outcome measures and 14 attributes of success identified in school effectiveness studies of the 1980s. The SSRP committee determined these 14 attributes that they had identified as criteria for exemplary schools. Recommendations on which schools best meet the program's recognition criteria are made to the Secretary of Education by a national panel representing various constituent groups in public education.

Individual states are responsible for establishing selection procedures appropriate to their state. In 1982-83, each state was permitted to nominate five schools in each category: schools for young adolescents (middle or junior high schools) and high schools. In the second year, 1983-84, the procedure was altered, and each state was given a quota for nominations, reflecting its population and its number of eligible schools. In 1989, the program was expanded to include elementary schools.

Each nomination submitted by the individual states undergoes a three-step review process. First, a national panel is selected yearly by the recognition program to review the applications. This 18-member panel is representative of the diverse constituent groups in public education. The panel carefully reviews

the applications submitted by the schools. In general, about one-half of the applications are screened out before continuing to the second step, according to Woods (1985). The remaining schools then move on to the second step. They receive a two-day site visitation conducted by visitors representing a mix of researchers, consultants, administrators, and other educators with extensive experience in secondary education. During the visit, interviews are held with parents, students, teachers, and administrators. Observations are made in the buildings and classrooms, and detailed reports are prepared for each school. In the final step, the national panel reviews the reports from the site visitors about each school and makes recommendations to the Secretary of Education.

The Secondary School Recognition Program in Michigan

In Michigan, self-nomination forms for the SSRP were mailed to the superintendents of local school districts in 1983 by the Superintendent of Public Instruction, Phillip Runkle, asking them to "nominate any of your schools which you feel would be worthy of recognition." Runkle's letter stated that once the forms were received in Lansing, they would be reviewed by a "panel consisting of practicing Michigan principals who have been selected by their professional organizations." Following the review, Runkle stated that he would announce up to five schools at the high school level and up to five more at the middle level, whose nomination forms would be sent to Washington, D.C., for national consideration. In 1989, a site visit was added to the process. This site visit was designed to use the same criteria proposed by the USDOE as its model.

In 1989, the MDOE letter announcing the opening of the 1989-90 elementary school portion of the program brought with it the concern that perhaps Michigan was not looking for the very best, but only a representative selection of those schools at the upper end of the spectrum, and thus a denigration of the goals of the SSRP (Prentice, 1990).

Our selection process will involve a peer panel review of the applications, site visitations for finalist schools, and the final nomination of 15 Michigan schools for the national program. Superintendents should also be aware of the Department's concern for the need of representation from across the State. We will not be nominating more than a single school from any district with fewer than 50 elementary buildings. We will formally recognize outstanding schools in a ceremony this winter with the State Board of Education.

Fourteen Attributes of Success as Perceived by the Secondary School Recognition Program

Some schools provide more effective instruction to their students than other schools serving similar populations. The question that has plagued researchers for decades is "Why?" This question is not easily answered and has caused debates among educators and policy makers. In an attempt to answer that question, research regarding what makes an effective school began.

In establishing criteria for selection of exemplary schools, the SSRP used a summary of effective schools research. This research substantiated the development of like characteristics (attributes) of schools that had proven to be successful. It drew from the Five Factor Theory developed by Edmonds (1979). This theory identifies (a) strong building-level leadership, (b) clear goals, (c) an orderly school climate, (d) high expectations and standards, and (e) frequent

monitoring and assessment of student progress as the essential characteristics of effective schools (Woods, 1985).

The 14 attributes of success were drawn from studies of effective schools and represent a synthesis of the research findings concerning significant characteristics of effective schools. The committee relied on the judgments and application of the aforementioned findings of experienced people for overall assessments about school success. The final attributes identified by the SSRP are as follows:

1. Clear academic goals
2. High expectations for students
3. Order and discipline
4. Rewards and incentives for students
5. Regular and frequent monitoring of student progress
6. Opportunities for meaningful student responsibility and participation
7. Teacher efficacy
8. Rewards and incentives for teachers
9. Concentration on academic learning time
10. Positive school climate
11. Administrative leadership
12. Well-articulated curriculum
13. Evaluation for instructional improvement
14. Community support and involvement

Four studies were used to validate the general findings as drawn from the school effectiveness research. Rutter and his colleagues (1979), who studied London secondary schools, together with the comparative analysis of public and private secondary schools in the United States by Coleman and his associates (1982), identified secondary school variables that are linked to higher student achievement. Their findings were similar to the conclusions from other school effectiveness studies. Two other researchers reached similar conclusions based on their analyses of case study data. Lightfoot (1983) studied public and private high schools, and Lipsitz (1984) studied public middle schools.

The 14 attributes of the SSRP were correlated to the four previous studies (see Table 2.3). Although some of the researchers defined the variables somewhat differently, the general pattern was similar.

The Relationship of the 18 Characteristics of Middle Schools to the 14 Attributes of the SSRP

The 18 characteristics of middle schools were listed and identified previously. The 14 attributes of the SSRP also were cited. The 14 attributes are used as criteria for evaluating self-nominated schools during the exemplary school selection process. They are used to evaluate elementary, middle, junior high, and high schools. All of these schools are distinctly different. The 18 characteristics are meant only to be applied to middle schools or to those schools in transition to a middle school.

Table 2.3: The 14 attributes of the SSRP and their correlation to the findings of effective schools research.

Attributes of Success	Studies of Usually Successful Secondary Schools			
	Rutter et al. (1979)	Coleman et al. (1982)	Lightfoot (1983)	Lipsitz (1984)
1. Clear academic goals	Consensus on aims and values	---	Clear and shared ideology	Clarity about school mission and consensus about goals
2. High expectations for students	High expectations of academic success	Students taking more rigorous courses and higher grading standards	Desire to have all students work to their full potential	A climate of high expectations
3. Order and discipline	Students held responsible for personal behavior	Fewer disciplinary problems, but firm, fair discipline	A safe, regulated environment for teacher-student relationship	An orderly and caring environment
4. Rewards and incentives for students	Frequent use of praise and direct feedback on performance	Greater teacher interest in students	Respect for teachers	Respect for teachers; many rewards for students
5. Regular and frequent monitoring of student progress	Frequent feedback on performance to students; frequent homework	Higher standards in grading	---	---
6. Opportunities for meaningful student responsibility and participation	High proportion of children in positions of responsibility	High participation in extracurricular activities	---	School provides diverse experience for students
7. Teacher efficacy	Pleasant working conditions for staff and students	---	Respect for teachers and teaching; greater autonomy for teachers	A principal who supports the staff; lack of isolation of teachers

Table 2.3: Continued.

Attributes of Success	Studies of Usually Successful Secondary Schools			
	Rutter et al. (1979)	Coleman et al. (1982)	Lightfoot (1983)	Lipsitz (1984)
8. Rewards and incentives for teachers	---	---	---	---
9. Concentration on academic learning time	Students actively engaged in learning and doing more homework	Students do more homework and less class cutting	---	---
10. Positive school climate	A positive "ethos"	Greater teacher interest in students	A sense of community	An orderly and caring environment
11. Administrative leadership	Consistent policies and procedures	---	Leadership fitting the culture of the school	Strong instructional leadership; a principal with vision
12. Well-articulated curriculum	---	---	---	Teaming promotes curriculum development and articulation
13. Evaluation for instructional improvement	---	---	Awareness of imperfections and willingness to search for solutions	Standardized tests used for diagnosis and justification of curricular decisions
14. Community support and involvement	---	---	---	Schools responsive to their particular social and political milieu

Note: Dashes (---) indicate that the attribute was not discussed in that particular study.

In a comparison of both lists, the researcher corroborated the findings of Prentice (1990) in that:

1. None of the 14 attributes are worded in the same manner as any of the characteristics.

2. The 18 characteristics seem to focus on student-related concepts. The 14 attributes seem to focus on teacher-related concepts.

3. By definition, the characteristic of continuous progress seems to be related to the attribute of high expectations for students.

4. By definition, the characteristic of community relations seems to be related to the attribute of community support and involvement.

5. By definition, the characteristic of evaluation seems to be related to the attribute of regular and frequent monitoring of student progress.

6. By definition, the characteristic of security factor seems to be related to the attribute of positive school climate.

7. The characteristic of creative experiences seems to be related to the attribute of opportunities for meaningful student responsibility and participation by definition in one of the studies. The characteristics of physical experiences and intramural activities and social experiences could also relate to this attribute.

If the USDOE-selected middle schools in Michigan rank high on the 14 attributes of success of the SSRP, then they also rank high on their level of implementation of the 18 basic middle school characteristics as evidenced in Prentice's (1990) research. His study indicated implementation levels of the basic

18 characteristics at significant levels as reported by teachers and principals from those Michigan schools selected as national exemplary schools from 1983 to 1988. Mowen's 1993 study of national Blue Ribbon schools surpassed the rate of implementation of the 18 basic characteristics of middle schools as reported by Prentice. To date, the Mowen (1993) study's levels of implementation were the highest that have been reported in any study of the 18 characteristics.

Summary

A brief description of the historical development of the middle school was presented in this chapter. The 18 characteristics of middle schools, as defined by Riegle, were presented, and studies that used those 18 characteristics were discussed. The SSRP was explained, as well as how it is administered in Michigan to determine exemplary schools. The final portion of this chapter was a discussion of the positive relationship of the 14 attributes used as criteria by the SSRP to determine exemplary schools and the 18 characteristics of middle schools, as defined by Riegle.

CHAPTER III

DESIGN OF THE STUDY

This chapter contains a description of the methods and procedures used to determine which of the 18 characteristics of middle schools were present and to what extent they were being implemented in the schools as reported in the collected data. A comparison was made between Michigan schools that received national exemplary status in the first five years of the Secondary School Recognition Program (SSRP) and those receiving that status in the most recent five years of the program. This researcher further explored whether there was a difference in the degree of implementation of the 18 characteristics of Michigan middle-level schools receiving exemplary status from 1983 through 1987 and their degree of implementation in 1993. Finally, the researcher determined whether there was a difference in the implementation of the 18 characteristics of middle schools between national exemplary schools in Michigan and state exemplary schools, also in Michigan, as selected through the SSRP process. The chapter is divided into the following sections: the sample, the survey instrument, data-gathering procedures, data-analysis procedures, and a summary.

The Sample

The Michigan Department of Education (MDOE) identified 56 Michigan middle/junior high schools that have been selected as outstanding and exemplary secondary schools at the state and national level by the United States Department of Education (USDOE). All 56 schools became the study sample.

The aforementioned 56 schools were sent a cover letter (Appendix A) that described the study and asked for their cooperation in completing the questionnaire. Materials included a copy of the survey instrument (Appendix B) and a self-addressed, stamped envelope along with instructions for completion; these were mailed together with the cover letter. The instrument was to be completed by the building administrator. The completed and returned surveys provided the data for this study.

The Survey Instrument

The survey instrument was replicated from the Riegle (1971) study. It was modified only by the inclusion of definitions for middle school characteristics and an educational terminology revision, where appropriate, to create more current language and reduce ambiguity. The original instrument developed by Riegle was validated at the time of his study by a panel of middle school authorities. The validation procedure included measuring the level of implementation of the basic middle school characteristics. The list was then reviewed and revised by consultants at Michigan State University, and further reviewed by a panel of

authorities, including Nicholas Georgiady, Ann Grooms, Marie Elle, Louis Romano, and Emmett Williams.

Based on the suggestions of the panel of authorities, Riegle compiled a list of 18 basic middle school characteristics. These characteristics were listed and defined in Chapter II.

It was of particular importance that this instrument be used in the current study, as it is the instrument most often referred to in the literature on organizing middle schools in Michigan. Other researchers who have used the Riegle survey instrument include Raymer (1974), Demps (1978), Magana (1987), Minster (1985), Mowen (1993), and Prentice (1990).

The survey instrument used in this study contained 62 questions arranged in a manner to generate collectable data. This included single-choice, multiple-choice, and check forms, corresponding to the specific survey items related to each of the 18 basic middle school characteristics. All choices for each question in the survey were assigned a numerical value. Those values were weighted to provide a positive correlation between high scores and a high degree of application of the characteristic being measured. No information regarding the numerical values of any response was provided in the materials mailed to the sample schools. The corresponding questions and total score possible related to each characteristic are listed in Table 3.1.

Table 3.1: Numbers of questions included in the survey instrument to collect data on each of the 18 middle school characteristics.

Characteristic ^a	Survey Item No.	Total Possible Score
1. Continuous progress	1,2	10
2. Multi-material approach	3,4,5,6,46	37
3. Flexible scheduling	7,8,38	15
4. Social experiences	9,10,47,48,60	24
5. Physical experiences	11,41,42,61	16
6. Intramural activities	12,13,49,62	18
7. Team-teaching	14,15,16,17	20
8. Planned gradualism	18	3
9. Exploratories	19,20,21,50,51	28
10. Guidance services	22,23,24,43	14
11. Independent study	39,44,52	8
12. Basic learning experiences	25,26,45,53	14
13. Creative experiences	27,28,29,30,31,54	18
14. Student security factors	32,33	7
15. Evaluation practices	34,35,40	12
16. Community relations	36,37,55,56	15
17. Student services	57	9
18. Auxiliary staffing	58,59	8

^aCharacteristics are designated by number and key words. Complete descriptions of the 18 characteristics can be found in Chapter II. A copy of the questionnaire can be found in Appendix B.

Before the null hypotheses were tested, a reliability analysis was conducted on the survey instrument, using coefficient alpha and correlations, as well as corrected item/total correlations. Although the original survey instrument

was validated and has been used in many studies since 1971, this researcher could find no reference to a reliability test having been conducted on the questionnaire. The current investigator surveyed a selected group of schools based on exemplary status as designated by the SSRP. A restriction-of-range problem existed because the sample was drawn from the exemplary schools. Thus, the coefficient alphas and inter-item correlations in this study were lower than if the sample had been drawn from the entire population of Michigan middle schools. Previous studies using the questionnaire are not necessarily discredited because their samples were from a wider population. The results of the reliability analysis on the survey instrument are reported in Chapter IV.

Data-Gathering Procedures

Each of the aforementioned 56 schools in Michigan received a packet that included a letter, a survey instrument, and a self-addressed, stamped envelope. The cover letter (Appendix A) indicated that the survey instrument was to be completed by the building principal. On November 1, 1993, a reminder letter, another survey instrument, and a stamped return envelope were mailed to each principal who had not completed and returned the survey instrument sent on September 14, 1993. By December 20, 45 of the 56 principals had completed and returned survey instruments. One principal returned an incomplete questionnaire. The percentage of returned usable questionnaires received was 82.1%.

Data-Analysis Procedures

The raw scores were summed for each characteristic and converted to a percentage of maximum possible score yielded by the survey instrument for each characteristic and for the grand total possible. Converting to percentage scores made possible comparisons between groups, e.g., SSRP, national, and state exemplary schools' responses by characteristic.

Riegle (1971) did a validity check on the survey instrument. However, to test the reliability of the survey instrument and its scales, coefficient alpha (Cronbach, 1951) was calculated for both the questionnaire and the 18 characteristics. Because of the small number of items within each scale, tables of inter-item correlations also were calculated. These tables provided another indication of internal consistency within the scales.

A one-way multivariate analysis of variance (MANOVA) was conducted using Wilks' lambda statistic to test whether there were differences between the two groups of schools on any characteristic. The expected Type I error rate was set to .05. Statistical-analysis computations were generated by use of the computer program, Statistical Package for the Social Sciences (SPSS 4.1).

Three comparisons were made. The first comparison was between the Prentice (1990) study of Michigan schools receiving national exemplary status (1983 through 1987) and those same schools in 1993. Prentice found rates of implementation of the 18 middle school characteristics in Michigan exemplary schools that were recognized by the SSRP during the first five years of the

program, from 1983 through 1987. The historical perspective was examined by comparing the percentage scores from the current study with percentage scores reported by Prentice.

The second comparison was between rate of implementation scores of schools receiving national exemplary status from 1983 through 1987 and those receiving national exemplary status from 1988 through 1993. Again, the percentage scores of implementation were compared.

The third comparison was made between the rate of implementation scores of Michigan schools receiving state exemplary status and those receiving national exemplary status from 1983 through 1993.

After the MANOVA tests were completed, follow-up univariate tests were performed to investigate further the possible differences between groups. Because only two groups were being compared at any one time, these tests were equivalent to t-tests. As in the Mowen (1993) study, the individual alpha level was set to .01 per test, resulting in a maximum Type I error rate of approximately .16 per group of univariate tests.

Summary

This chapter contained an explanation of the research design and procedures followed in conducting the study. A procedure for investigating the reliability of the Riegle (1971) survey instrument was outlined. The sample was described, and the validation of the survey instrument, originally developed by Riegle, was explained. The data-gathering procedures and data-analysis

techniques also were discussed. Chapter IV contains the results of the analyses of data collected for this study.

CHAPTER IV

PRESENTATION AND ANALYSIS OF THE DATA

This chapter contains the analysis of the data. The inter-item correlations and testing of reliability are reported, as is the current rate of implementation of the 18 characteristics in Michigan exemplary schools. Each hypothesis is stated, and the statistics related to that hypothesis are reported immediately following the statement of the hypothesis.

The data presented in this chapter were collected from survey questionnaires returned by 45 Michigan exemplary schools, as identified by the SSRP from 1983 through 1993, which represents an 82.1% return rate. The questionnaire, an updated version of the Riegle (1971) instrument, was designed to provide data for each of the 18 characteristics listed in Chapter II for each school.

Results of Reliability Analysis

A reliability analysis was run on the survey instrument before the data analysis to determine the internal consistency of the questionnaire scales. This analysis consisted of an examination of Cronbach's alpha, inter-item correlations by characteristic, and the corrected item/total correlation. The results are reported in Table 4.1.

Table 4.1: Inter-item correlations within the scales of the survey instrument.

Characteristic	Q1	Q2	Corrected Item-Total Correlation
<u>Continuous Progress</u>			
Q1	1.0000		.5667
Q2	.5667	1.0000	.5667

Inter-item correlations: Mean = .5667 Minimum = .5667 Maximum = .5667
Coefficient alpha = .7205

Characteristic	Q3	Q4	Q5	Q6	Q46	Corrected Item-Total Correlation
<u>Multi-Media Approach</u>						
Q3	1.0000					-.1225
Q4	.0199	1.000				.1752
Q5	-.1984	.1983	1.0000			.3814
Q6	.0436	.1458	.1236	1.0000		.3130
Q46	-.1463	.1252	.3973	.2873	1.0000	.2652

Item-total correlations: Mean = .0996 Minimum = -.1984 Maximum = .3973
Coefficient alpha = .3028

Characteristic	Q7	Q8	Q38	Corrected Item-Total Correlation
<u>Flexible Scheduling</u>				
Q7	1.0000			.0765
Q8	.2810	1.0000		.4645
Q38	-.1143	.3370	1.0000	.1498

Inter-item correlations: Mean = .1679 Minimum = -.1143 Maximum = .3370
Coefficient alpha = .3661

Table 4.1: Continued.

Characteristic	Q9	Q10	Q47	Q48	Q60	Corrected Item-Total Correlation
<u>Social Experience</u>						
Q9	1.0000					.4904
Q10	.4271	1.000				.3349
Q47	.0786	.1754	1.0000			.1738
Q48	.4794	.2995	.2071	1.0000		.5460
Q60	.2084	-.0099	.0142	.3262	1.0000	.2016

Item-total correlations: Mean = .2206 Minimum = -.0099 Maximum = .4794
Coefficient alpha = .5834

Characteristic	Q11	Q41	Q42	Q61	Corrected Item-Total Correlation
<u>Physical Experiences</u>					
Q11	1.0000				.4310
Q41	.2697	1.0000			.4307
Q42	.4789	.6672	1.0000		.5961
Q61	.0998	-.1299	-.1067	1.0000	-.0656

Inter-item correlations: Mean = .2132 Minimum = -.1299 Maximum = .6672
Coefficient alpha = .5407

Characteristic	Q12	Q13	Q49	Q62	Corrected Item-Total Correlation
<u>Intramural Activities</u>					
Q12	1.0000				-.1559
Q13	.1573	1.0000			.0614
Q49	-.1358	.0748	1.0000		.5158
Q62	-.2414	.0203	.5616	1.0000	.2932

Inter-item correlations: Mean = .0728 Minimum = -.2414 Maximum = .5616
Coefficient alpha = .3165

Table 4.1: Continued.

Characteristic	Q14	Q15	Q16	Q17	Corrected Item-Total Correlation
<u>Team Teaching</u>					
Q14	1.0000				.9082
Q15	.9285	1.0000			.8941
Q16	.7640	.7187	1.0000		.7661
Q17	.7988	.8160	.6955	1.0000	.8235

Inter-item correlations: Mean = .7869 Minimum = .6955 Maximum = .9285
Coefficient alpha = .9334

Planned Gradualism: Had fewer than two nonzero variance items and thus could not be processed.

Characteristic	Q19	Q20	Q21	Q50	Q51	Corrected Item-Total Correlation
<u>Exploratories</u>						
Q19	1.0000					.1669
Q20	.5828	1.000				.3811
Q21	.0586	.1975	1.0000			.1270
Q50	-.0144	.2095	-.0342	1.0000		.3685
Q51	.0695	.2140	.1149	.4072	1.0000	.3519

Item-total correlations: Mean = .1805 Minimum = -.0342 Maximum = .5828
Coefficient alpha = .3834

Characteristic	Q22	Q23	Q24	Q43	Corrected Item-Total Correlation
<u>Guidance Services</u>					
Q22	1.0000				.4669
Q23	.4681	1.0000			.6097
Q24	.3338	.4862	1.0000		.4806
Q43	.2576	.3537	.2678	1.0000	.3679

Inter-item correlations: Mean = .3612 Minimum = .2576 Maximum = .4862
Coefficient alpha = .6813

Table 4.1: Continued.

Characteristic	Q39	Q44	Q52	Corrected Item-Total Correlation
<u>Independent Study</u>				
Q39	1.0000			.2942
Q44	.5834	1.0000		.1395
Q52	.1395	.1599	1.0000	.5834

Inter-item correlations: Mean = .2942 Minimum = .1395 Maximum = .5834

Coefficient alpha = .5296

Characteristic	Q25	Q26	Q46	Q53	Corrected Item-Total Correlation
<u>Basic Learning Experiences</u>					
Q25	1.0000				.2741
Q26	.0491	1.0000			.0992
Q46	.0380	-.1464	1.0000		-.0064
Q53	.3156	.1874	.0555	1.0000	.3126

Inter-item correlations: Mean = .0832 Minimum = -.2464 Maximum = .3156

Coefficient alpha = .2859

Characteristic	Q27	Q28	Q29	Q30	Q31	Q54	Corrected Item-Total Correlation
<u>Creative Experiences</u>							
Q27	1.0000						.3766
Q28	.2915	1.0000					.4954
Q29	.3115	.4046	1.0000				.5447
Q30	.1382	.1799	.3389	1.0000			.2657
Q31	.2006	.3207	.0981	-.0589	1.0000		.1886
Q54	.2842	.3261	.6001	.2494	.1957	1.0000	.5708

Inter-item correlations: Mean = .2587 Minimum = -.0589 Maximum = .6001

Coefficient alpha = .6429

Table 4.1: Continued.

Characteristic	Q32	Q33	Corrected Item-Total Correlation
<u>Student Security Factor</u>			
Q32	1.0000		.4969
Q33	.4969	1.0000	.4969

Inter-item correlations: Mean = .4969 Minimum = .4969 Maximum = .4969

Coefficient alpha = .6426

Characteristic	Q34	Q35	Q40	Corrected Item-Total Correlation
<u>Evaluation Practices</u>				
Q34	1.0000			.0289
Q35	-.1363	1.0000		.0549
Q40	.0187	.0000	1.0000	.0156

Inter-item correlations: Mean = .0392 Minimum = -.1363 Maximum = .0187

Coefficient alpha = -.0314

Characteristic	Q36	Q37	Q56	Q55	Corrected Item-Total Correlation
<u>Community Relations</u>					
Q36	1.0000				.1949
Q37	.2682	1.0000			.3415
Q56	.0697	.3622	1.0000		.4168
Q55	.0882	.0938	.3301	1.0000	.2547

Inter-item correlations: Mean = .2020 Minimum = .0697 Maximum = .3622

Coefficient alpha = .5057

Table 4.1: Continued.

Characteristic	Q32	Q33	Q57	Corrected Item-Total Correlation
<u>Student Services</u>				
Q32	1.0000			.3473
Q33	.4969	1.0000		.5638
Q57	.2117	.4155	1.0000	.3428

Inter-item correlations: Mean = .3747 Minimum = .2117 Maximum = .4969

Coefficient alpha = .5491

Characteristic	Q58	Q59	Corrected Item-Total Correlation
<u>Auxiliary Staffing</u>			
Q58	1.0000		.4858
Q59	.4858	1.0000	.4858

Inter-item correlations: Mean = .4858 Minimum = .4858 Maximum = .4858

Coefficient alpha = .6534

Coefficient alpha (α) was calculated for each scale, using the formula reported by Cronbach (1951, p. 83):

$$\alpha = \left[\frac{N}{N-1} \right] \left[\frac{\alpha_x^2 - \sum_{i=1}^N \alpha_{yi}^2}{\alpha_x^2} \right]$$

Tables of inter-item correlations, along with the corrected item-total correlations, serve as another indicator of whether the questions within a scale measure the same construct. The corrected item-total correlation for any item (Q_i) is equal to the correlation between Q_i and the sum of all other items within the scales, except Q_i .

$$\text{Corr. } (Q_i, \sum_{j=1}^N Q_j)$$

where: N = number of items in a scale

Q_i and Q_j refer to items within the scale

Very low or negative corrected item-total correlations may indicate that the particular item is not measuring the same construct as other questions in that scale.

In regard to restriction of range, the reliabilities and correlations reported here are likely to be less than in a similar investigation that used a more representative sample of Michigan schools. Because only exemplary schools in Michigan were investigated in this study, the reliability and correlations reported likely underestimate the magnitude of such relations when the instrument is used across all qualities of schools. (See Table 4.2.)

Table 4.2: Reliability summary.

Characteristic	Coeff. Alpha	Inter-Item Correlations			Suspect Items
		Mean	Minimum	Maximum	
Continuous Progress	.7205	.5667	.5667	.5667	
Multi-Media Approach	.3028	.0996	-.1984	.3973	Q3
Flexible Scheduling	.3661	.1679	-.1143	.3370	
Social Experiences	.5834	.2206	-.0099	.4794	
Physical Experiences	.5407	.2132	-.1299	.6672	Q61
Intramural Activities	.3165	.0728	-.2414	.5616	Q62
Team Teaching	.9334	.7869	.6955	.9285	

Table 4.2: Continued.

Characteristic	Coeff. Alpha	Inter-Item Correlations			Suspect Items
		Mean	Minimum	Maximum	
Planned Gradualism	Could not be processed				
Exploratories	.3834	.1805	-.0342	.5828	Q50
Guidance Services	.6813	.3612	.2576	.4862	
Independent Study	.5296	.2942	.1395	.5834	
Basic Learning Experiences	.2859	.0832	-.1464	.3156	Q26,46
Creative Experiences	.6429	.2587	-.0589	.6001	
Student Security Factors	.6426	.4969	.4969	.4969	
Evaluation Practices	-.0314	-.0392	-.1363	.0187	Q34,35,40
Community Relations	.5057	.2020	.0697	.3622	
Student Services	.5491	.3747	.2117	.4969	
Auxiliary Staffing	.6534	.4858	.4858	.4858	

Interpretation of Scales

Multi-Media Approach. There is evidence that Q3 was not measuring the same construct as the result of the questions surrounding the characteristic. The inter-item correlations between Q3 and the rest of the items were near zero or negative. This is evidence that Q3 may need to be eliminated or reworded for a better understanding of Multi-Media Approach.

Physical Experiences. Q61 negatively correlated with the rest of the questions in this group. Because the question imposes a specific grade

configuration, not all schools were able to score the maximum possible points as not all grades, 5 through 8, were in every building. Q61 may need to be weighted or worded differently to allow for the flexibility in grades housed.

Intramural Activities. There may be a problem with Q62 due to grade configuration, as was discussed under Physical Experiences. Not all schools may have four grades, and the score for Q62 totals nearly one-half the weight for the characteristic. The entire characteristic, Intramural Activities, may not be as competitive with interscholastic activities as was presumed in the original survey instrument.

Exploratories. Q50 correlated negatively with two other questions. This item centers on selecting exploratory classes; however, not all electives may be exploratories. Thus, Q50 would not correlate positively with the rest of the group of questions surrounding this characteristic. The coefficient alpha level of the group was still acceptable.

Basic Learning Experiences. Q46 correlated negatively with the others in the group. The question asks about the media-center materials available to students. As was mentioned earlier, questions on the survey concerning multi-media may need to be updated to reflect current technology. Q46 may not allow for the respondents' maximum score because it limits media materials that may be checked.

Evaluation Practices. Coefficient alpha was low for this group of questions, probably because the survey instrument links student evaluation heavily with parent-

teacher conferences. Although that is one way of reporting academic progress, today's educators may not associate the two that closely. Evaluation Practices may need to be revisited for different, more updated terminology and instructional practices in the questions to generate a more positive correlation. In addition, variance was low because most respondents answered with the same one or two choices out of five. Apparently, these items are not as related as originally hoped.

The rest of the scales did not have any highly suspect items.

Overall, the survey instrument can be deemed fairly reliable as determined by analysis of inter-item correlations and coefficient alphas. Six characteristics' inter-item correlations produced considerably lower coefficient alphas than the others. They included Multi-Media Approach (coefficient alpha = .3028), Flexible Scheduling (coefficient alpha = .3661), Intramural Activities (coefficient alpha = .3165), Exploratories (coefficient alpha = .3834), Basic Learning Experiences (coefficient alpha = .2859), and Evaluation Practices (coefficient alpha = .0314). The other 12 characteristics produced coefficient alphas at the .5 or higher level. All of the characteristics listed above showed suspect items when reviewing corrected item-total correlations, except Flexible Scheduling. All characteristics that had suspect items are listed above, except Physical Experiences. As was previously mentioned, the coefficient alphas may have been higher if there had not been restriction of range.

Rate of Implementation of 18 Characteristics of Middle Schools

Table 4.3 indicates the current rate of implementation of the 18 characteristics as reported by Michigan exemplary schools. The characteristic receiving the highest implementation rate was Guidance Services, with 85.7%. The lowest implementation rate was for Auxiliary Staffing, at 24.4%. It is interesting that Continuous Progress and Auxiliary Staffing remain the two characteristics receiving the lowest rates of implementation in the Prentice (1990), Mowen (1993), and current studies. Although rankings within the characteristics have shifted, the overall implementation rate within Michigan exemplary schools has remained within six percentage points throughout the past 10 years. The confidence intervals indicate that the estimated mean is likely within seven percentage points of the true population mean.

Results of Hypothesis Testing

In the following pages, each null hypothesis is restated, followed by the results pertaining to that hypothesis.

Null Hypothesis One

Ho 1: There is no difference in the degree of implementation of the 18 characteristics of middle schools in Michigan middle-level schools receiving exemplary status from 1983 through 1987 (Prentice study) and their degree of implementation in the same schools in 1993 (current study).

Principals of Michigan exemplary middle-level schools that originally attained their national exemplary status between 1983 and 1987 were asked to complete a replicate survey questionnaire in 1993. These schools' overall percentage rate of

Table 4.3: Rate of implementation of the 18 characteristics of middle schools in Michigan exemplary schools, in rank order (N = 45).

Characteristic	Mean	Std. Dev.	95% Confidence Interval	
			Lower	Upper
1. Guidance Services	.857	.156	.810	.904
2. Community Relations	.778	.207	.827	.951
3. Multi-Media Approach	.719	.306	.488	.672
4/5. Physical Experiences	.660	.152	.614	.705
4/5. Basic Learning Experiences	.660	.187	.604	.716
6. Evaluation Practices	.654	.221	.587	.720
7. Student Services	.637	.219	.517	.703
8. Creative Experiences	.623	.179	.570	.677
9. Planned Gradualism	.615	.213	.551	.679
10. Social Experiences	.604	.152	.558	.649
11. Team-Teaching	.580	.306	.488	.672
12. Student Security Factors	.578	.232	.508	.647
13. Exploratories	.567	.160	.528	.624
14. Independent Studies	.553	.236	.482	.624
15. Flexible Scheduling	.533	.188	.477	.590
16. Intramural Activities	.498	.187	.441	.554
17. Continuous Progress	.367	.227	.299	.435
18. Auxiliary Staffing	.244	.194	.186	.303

implementation of the 18 characteristics of middle schools was then compared to their original percentage rates as reported by Prentice (1990) (see Table 4.4). Principals of 3 of the original 12 schools chose not to respond to the survey instrument in 1993. Because the original data collected in the Prentice study were not available, it was impossible to undertake an absolute matching of schools for the current study.

The overall implementation rate, as reported by school principals, indicated a slight decline of 2.8% in their current rate of implementation of the 18 characteristics. With respect to a slight decline (2.8%), this study would differ from the Wah (1980) study, which indicated that the longer a middle school was in existence, the higher the rate of implementation of the characteristics.

Ten characteristics increased in implementation rates during the past five years. These characteristics included Flexible Scheduling, Social Experiences, Physical Experiences, Team-Teaching, Planned Gradualism, Basic Learning Experiences, Creative Experiences, Evaluation Practices, and Auxiliary Staffing. They had implementation rates from 1.6% to 23.9% higher than originally reported in the Prentice (1990) study. The characteristic, Social Experiences, had the largest increase in rate of implementation (18%). Eight characteristics decreased in implementation rates during the last five years. They were Continuous Progress, Multi-Media Approach, Intramural Activities, Exploratories, Guidance Services, Independent Studies, Student Security Factors, and Student Services. The

Table 4.4: Comparison of rate of implementation of the 18 characteristics of middle schools by Michigan national exemplary middle-level schools as reported by Prentice (1990) and the current study (1993), in percent.

Characteristic	1990 Prentice Study ^a (N = 12)	1993 Current Study (N = 9)
1. Continuous Progress	.360	.311
2. Multi-Media Approach	.800	.754
3. Flexible Scheduling	.560	.593
4. Social Experiences	.545	.725
5. Physical Experiences	.630	.778
6. Intramural Activities	.620	.580
7. Team Teaching	.490	.600
8. Planned Gradualism	.595	.667
9. Exploratories	.710	.615
10. Guidance Services	.860	.770
11. Independent Studies	.695	.653
12. Basic Learning Experiences	.735	.770
13. Creative Experiences	.690	.722
14. Student Security Factors	.690	.508
15. Evaluation Practices	.540	.556
16. Community Relations	.670	.700
17. Student Services	.745	.519
18. Auxiliary Staffing	.215	.292
Overall Implementation Rate	.645	.617

^aPrentice (1990), Table 4.3, p. 83.

percentage of decrease ranged from 4% to 22.6%. The characteristic, Student Services, had the largest decrease in rate of implementation (18.2% points).

The characteristics, Continuous Progress and Auxiliary Staffing, remained at a very low level of implementation during the last five years of the SSRP program, as well as the first five years. In addition, they are the only two characteristics that remained below the 50% level of implementation as reported in the current study. The Prentice (1990) study indicated that Team-Teaching was also at less than a 50% level of implementation. It can be suggested from the study that Continuous Progress and Auxiliary Staffing are not considered to be high needs for an exemplary middle school in Michigan.

Null Hypothesis One failed to be rejected, based on the low percentage change (2.8%) from the Prentice study to the current study. The characteristics changed rank order; however, little change was made in regard to the characteristics' being implemented at or below the 50% level.

Null Hypothesis Two

There is no difference in the degree of implementation of the 18 characteristics of middle schools in Michigan middle-level schools receiving national exemplary status from 1983 through 1987 and those receiving national exemplary status from 1988 through 1993.

The national exemplary schools in Michigan were divided into two groups: those receiving exemplary status from 1983 through 1987 (N = 12) and those receiving exemplary status from 1988 through 1993 (N = 6). The schools from 1983 through 1987 were the same schools surveyed in the Prentice (1990) study. Their

percentage scores of implementation, reported by Prentice, were compared with the scores of the schools receiving national exemplary status from 1988 through 1993. These rates of implementation were determined in the current study. Only half the number of schools received national exemplary status from 1988 through 1993 as compared to 1983 through 1987. The SSRP instituted an elementary school recognition program in 1989, and that program was rotated with the SSRP on an every-other-year basis. This accounts for the small number of secondary schools being recognized from 1988 through 1993.

A comparison of the average percentage rates of implementation of the two groups of schools showed an overall lower rate of implementation of the 18 basic characteristics of the middle schools in national exemplary middle schools in Michigan (see Table 4.5). The overall implementation rate fell 3.1 percentage points, from 64.5% in the Prentice (1990) study to 61.4% in the current study. However, in both studies, 14 of the 18 characteristics were implemented above the 50% level. In both studies, two characteristics were implemented below the 50% level. They were Continuous Progress and Auxiliary Staffing.

The Prentice (1990) study indicated a 50% implementation rate as a satisfactory level; that percentage was used for comparisons within the study. Therefore, to draw comparisons between the Prentice study and the current one, a 50% rate of implementation was deemed satisfactory.

Table 4.5: Mean percentage of implementation for samples of Michigan national exemplary schools from 1983 through 1987 (Prentice, 1990) and from 1988 through 1993 (current study).

Characteristic	1983-1987 ^a (N = 12)	1988-1993 (N = 6)
1. Continuous Progress	.360	.417
2. Multi-Media Approach	.800	.640
3. Flexible Scheduling	.560	.467
4. Social Experiences	.545	.715
5. Physical Experiences	.630	.521
6. Intramural Activities	.620	.565
7. Team Teaching	.490	.608
8. Planned Gradualism	.595	.667
9. Exploratories	.710	.673
10. Guidance Services	.860	.905
11. Independent Studies	.695	.521
12. Basic Learning Experiences	.735	.770
13. Creative Experiences	.690	.630
14. Student Security Factors	.690	.690
15. Evaluation Practices	.540	.556
16. Community Relations	.670	.700
17. Student Services	.745	.704
18. Auxilliary Staffing	.215	.250
Overall Implementation Rate	.645	.614

^aPrentice (1990), Table 4.3, p. 83.

The characteristics being implemented at the 50% level or higher in both the Prentice study and the current study include Multi-Media Approach, Social Experiences, Physical Experiences, Intramural Activities, Planned Gradualism, Exploratories, Guidance Services, Independent Study, Basic Learning Experiences, Creative Experiences, Student Security Factors, Evaluation Practices, Community Relations, and Student Services. Eight characteristics' implementation rates decreased from the originally named Michigan national exemplary schools surveyed in the Prentice study. They included Multi-Media Approach, Flexible Scheduling, Physical Experiences, Intramural Activities, Exploratories, Independent Study, Creative Experiences, and Student Services. Nine characteristics' implementation rates increased from the originally named Michigan national exemplary schools surveyed in the Prentice study. Those characteristics included Continuous Progress, Social Experiences, Team-Teaching, Planned Gradualism, Guidance Services, Basic Learning Experiences, Evaluation Practices, Community Relations, and Auxiliary Staffing. One characteristic, Student Security Factors, remained the same in both studies.

Crossings of the 50% boundaries were found in two characteristics: Flexible Scheduling and Team Teaching. The Prentice study showed Flexible Scheduling to be at the 56% level of implementation, and the current study showed it at 46.7%. Team-Teaching rose from 49% to 60.8% implementation.

The largest increase in implementation rate was for the characteristic, Social Experiences, which rose from 54.5% in the Prentice study to 71.5% in the current

study, a 17% point increase. The largest decrease in implementation rate was represented by the characteristic, Multi-Media Approach, which fell from 80% in the Prentice study to 64% in the current study, a 16% point decrease.

It would appear that the most implemented characteristics in Michigan national exemplary middle schools continue to be Student Services, Basic Learning Experiences, Guidance Services, Exploratories, and Community Relations. Even though the characteristic, Exploratories, decreased in implementation over the past five years, it was still well above the 50% level.

Based on the small percentage decrease in the overall rate of implementation of the 18 characteristics of middle schools, Null Hypothesis Two failed to be rejected.

Null Hypothesis Three

There is no difference in the degree of implementation of the 18 characteristics of middle schools in Michigan middle-level schools receiving national exemplary status and those receiving state exemplary status.

The exemplary middle schools in Michigan were divided into two samples. One sample contained those schools receiving national exemplary status ($N = 15$), and the other contained those schools receiving only state exemplary status ($N = 30$). The results were tabulated for each sample, and a mean percentage was calculated for each of the 18 variables. A nineteenth mean percentage, representing the mean percentage of the total possible score achieved by exemplary schools in Michigan, was also computed. Percentage conversions allowed comparisons between groups, as well as consolidation of samples into larger groups of interest. See Table 3.1 for a list of the survey items for each of the 18 variables.

The statistical data relating to Null Hypothesis Three are reported in Table 4.6. For Michigan national exemplary schools, only two of the characteristics' mean rates of implementation were below the 50% level. Those characteristics were Continuous Progress (35.3%) and Auxiliary Staffing (27.5%). The other 16 characteristics were ranked above that level. For Michigan state exemplary schools, three characteristics' rates of implementation were below the 50% level. Those were Continuous Progress (37.3%), Auxiliary Staffing (22.9%), and Intramural Activities (45.9%). The other 15 characteristics were ranked above this level. Total overall implementation rate was 60.9% for Michigan national exemplary schools and 59.1% for Michigan state exemplary schools.

The Prentice study showed Michigan national exemplary schools to have an implementation rate of 64.5%. Mowen's (1993) study put the national exemplary schools' (not all were from Michigan) implementation rate at 67.4%. Based on the findings of these two studies, it would appear that Michigan national exemplary schools have not progressed in terms of the overall rate of implementation of the 18 basic characteristics of middle schools during the past four years.

The data from which Table 4.6 was derived first were analyzed with a MANOVA, using the Wilks' lambda statistic. This statistic was used to test Null Hypothesis Three, which stated that there were no differences in the degree of implementation of the 18 characteristics between the national and state exemplary schools in the study sample. The f-value for this statistic was 1.36 ($p = .232$).

Table 4.6: Means, standard deviations, and mean percentages for samples of exemplary schools in Michigan.

Characteristic	Michigan National Exemplary Schools		Michigan State Exemplary Schools		Michigan National and State Exemplary Schools	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
1. Continuous Progress	.353	.236	.373	.226	.367	.227
2. Multi-Media Approach	.708	.139	.724	.123	.719	.127
3. Flexible Scheduling	.542	.165	.529	.201	.533	.188
4. Social Experiences	.631	.140	.590	.158	.604	.152
5. Physical Experiences	.675	.186	.652	.135	.660	.152
6. Intramurals	.574	.129	.459	.202	.498	.187
7. Team-Teaching	.603	.304	.568	.311	.580	.306
8. Planned Gradualism	.667	.178	.589	.226	.615	.213
9. Exploratories	.638	.143	.545	.161	.576	.160
10. Guidance Services	.824	.241	.874	.089	.857	.156
11. Independent Studies	.600	.237	.529	.236	.553	.236
12. Basic Learning Experiences	.762	.161	.610	.180	.660	.187
13. Creative Experiences	.685	.157	.593	.184	.623	.179
14. Student Security Factors	.581	.278	.576	.211	.578	.232

Table 4.6: Continued.

Characteristic	Michigan National Exemplary Schools		Michigan State Exemplary Schools		Michigan National and State Exemplary Schools	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
15. Evaluation Practices	.589	.132	.644	.126	.626	.129
16. Community Relations	.680	.126	.638	.163	.652	.152
17. Student Services	.593	.186	.659	.233	.637	.219
18. Auxiliary Staffing	.275	.202	.229	.192	.244	.194
Overall Implementation Rate	.610		.577		.588	

Because the p-value was above the .05 level, Null Hypothesis Three was not rejected.

After completion of the MANOVA, follow-up univariate tests were performed to investigate further the possible differences between groups. Because only two groups were being compared at any one time, these tests were equivalent to t-tests. As in the Mowen (1993) study, the individual alpha level was set to .01 per test, resulting in a maximum Type I error rate of approximately .16 per group of univariate tests. The results of this test are reported in Table 4.7.

The individual t-tests showed no significant difference between the scores of the two groups of schools except for one characteristic, Basic Learning Experiences, which had a p-value of .00821. This difference of 15.1% may warrant further investigation, but when the differences are examined in their entirety, this may just have been a chance fluctuation.

A careful examination of the tables indicates that there were many more similarities among the percentage ratings than there were differences. Only two characteristics, Basic Learning Experiences and Intramural Activities, had a 10% or more difference when comparing implementation rates of Michigan state and national exemplary schools. In the case of Basic Learning Experiences, national exemplary schools scored 15.2% higher than state exemplary schools. National exemplary schools scored 57.4%, whereas state exemplary schools scored 45.9% on the characteristic, Intramural Activities, for a difference of 11.5%. Statistically, these scores were not substantially different; however, from a practical point of view,

Table 4.7: Individual univariate confidence levels for the 18 characteristics of middle schools from Michigan state and national exemplary middle schools.

Characteristic	Std. Error	t-Value	p	95% Confidence Level	
				Lower	Upper
1. Continuous Progress	.03622	-.27612	.78378	-.09412	.07412
2. Multi-Media Approach	.02033	-.39883	.69199	-.05533	.03911
3. Flexible Scheduling	.03006	.22181	.82551	-.06314	.07648
4. Social Experiences	.03045	.83529	.40817	-.04530	.09617
5. Physical Experiences	.02429	.47175	.63949	-.04496	.06787
6. Intramurals	.02864	2.00425	.05137	-.00912	.12393
7. Team-Teaching	.04879	.35866	.72160	-.09583	.13083
8. Planned Gradualism	.00349	1.16105	.25202	-.03891	.11668
9. Exploratories	.02453	1.89250	.06517	-.01055	.10341
10. Guidance Services	.02467	-1.01356	.31646	-.08229	.03229
11. Independent Study	.03737	.94761	.34862	-.05139	.12222
12. Basic Learning Experiences	.02749	2.77136	.00821	.01234	.14004
13. Creative Experiences	.02778	1.66667	.10285	-.01822	.11081
14. Student Security Factors	.03708	.06421	.94910	-.08375	.08851

Table 4.7: Continued.

Characteristic	Std. Error	t-Value	p	95% Confidence Level	
				Lower	Upper
15. Evaluation Practices	.03459	-1.40545	.16707	-.12894	.03172
16. Community Relations	.03279	.87795	.39485	-.04737	.10495
17. Student Services	.03464	-.96220	.34133	-.11380	.04713
18. Auxiliary Staffing	.03082	.74355	.46119	-.04867	.09450

practitioners may want to look more closely at programs of implementation of characteristics in national exemplary schools than in state exemplary schools.

Summary

A review of the statistical data would indicate that none of the three null hypotheses could be rejected. Based on the findings from this study, it can be concluded that there does not appear to have been much change in the overall rate of implementation of the 18 characteristics of middle schools since the inception of the SSRP in either state or national exemplary schools in Michigan.

CHAPTER V

REVIEW OF THE STUDY, SUMMARY, CONCLUSIONS AND IMPLICATIONS, AND RECOMMENDATIONS FOR FURTHER STUDY

In this chapter, the entire study, designed to determine the rate of implementation of the 18 characteristics of middle schools in Michigan exemplary schools and to compare state exemplary schools and national exemplary schools, is summarized. In addition, this chapter contains an observation concerning past research and recommendations.

Review of the Study

The purpose of this study was to determine the rate of implementation of the 18 basic middle school characteristics, as reported by building principals, found in exemplary middle schools in Michigan, identified by the Secondary School Recognition Program (SSRP) since its inception. The population sampled was the 56 Michigan exemplary schools identified by the SSRP from 1983 through 1993. Comparisons of rates of implementation of the 18 characteristics were made between (a) the Prentice (1990) study and the current study, (b) national exemplary schools in Michigan from 1983 to 1988 and those

from 1989 to 1993, and (c) national exemplary schools in Michigan from 1983 to 1993 with state exemplary schools in Michigan from 1983 to 1993. This study was a replication of the Prentice (1990) study, in part. The Riegle (1971) survey instrument was used to measure the rate of implementation of the 18 characteristics of middle schools; Prentice also used this instrument.

The study employed the survey instrument method. Percentage scores, indicating rate of implementation of the basic characteristics, were reported for each group of schools based on the weighted responses of the survey instrument. Coefficient alphas, inter-item correlations, and corrected item total correlations were examined on the original survey instrument to assure reliability of the questionnaire. Straight percentage comparisons were used for two hypotheses, as well as a MANOVA and t-tests for one hypothesis. A review of the statistical data indicated that none of the three null hypotheses could be rejected.

Summary

The review of literature covered the historical development of the middle school and the Secondary School Recognition Program (SSRP). Eighteen basic middle school characteristics were identified (Riegle, 1971), and their relationship to the SSRP was presented. A review of the basic middle school characteristics and criteria established by the SSRP appeared to have a strong relationship to schools receiving state or national exemplary middle school status.

Findings of previous studies showing a steady increase in the rate of implementation of the 18 basic characteristics among exemplary schools in Michigan, as identified by the SSRP, were reported and compared to findings from the current study. Comparisons of rates of implementation of the 18 characteristics were made between (a) the Prentice (1990) study and the current study, (b) schools in Michigan receiving state exemplary status and national exemplary status, and (c) national exemplary schools in Michigan from 1983 to 1988 and those from 1989 to 1993.

The review of research findings on the rate of implementation of the 18 basic characteristics of middle schools in exemplary schools in Michigan indicated a higher rate of implementation than those schools in Michigan that have not achieved exemplary status (Hawkins, 1972; Mowen, 1993; Prentice, 1990). That is not to say that all schools that have not attained exemplary status, as recognized by the SSRP, are not implementing basic middle school concepts at a high rate. However, no research was found regarding comparisons between national and state exemplary status of schools in Michigan or any other state participating in the program.

The ultimate conclusion of the review of literature and research is that participation in the SSRP may heighten the awareness of the characteristics of middle schools on the part of schools applying. However, the current study indicated that attaining national as opposed to state exemplary status has little,

if any, effect on the rate of implementation of the characteristics, whether that status was attained early or late in the program's inception.

Conclusions and Implications

Three studies involving exemplary schools in Michigan have been conducted in the last 10 years. All of them (Mowen, 1993; Prentice, 1990; and the current study) have raised concern regarding the seemingly low rate of implementation of the basic characteristics in exemplary schools. The following findings are explored later in this chapter regarding the current study.

1. The rate of implementation of the 18 basic characteristics of middle schools has not changed significantly in exemplary schools in Michigan in the last 10 years.

2. The rate of implementation of the 18 basic characteristics of middle schools does not differ significantly when comparing Michigan state exemplary schools and Michigan national exemplary schools.

3. The rate of implementation of the 18 basic characteristics of middle schools does not differ significantly in Michigan exemplary schools from 1982 through 1987 and those from 1987 through 1993.

4. The rank order of the 18 characteristics in terms of their rate of implementation has changed over the past 10 years.

5. Criteria established by the USDOE for exemplary status may not directly coincide with a high rate of implementation of the 18 basic characteristics of middle schools.

The current study indicated that the rate of implementation of the combined 18 basic middle school characteristics for all Michigan exemplary middle-level schools was 58.8% overall. The most implemented characteristic was **Guidance Services**, at a rate of 85.7%, and the least implemented characteristic was **Auxiliary Staffing**, at 24.4%.

A comparison was made between the Prentice (1990) study and the current study regarding the rate of implementation of the characteristics in exemplary schools in Michigan, as reported by building principals. There has been a slight decrease in the overall rate of implementation of the 18 basic characteristics since the Prentice study. However, the percentage of implementation of some individual characteristics has increased during that same time period.

The characteristic, **Guidance Services**, was the most implemented characteristic in the Prentice (1990) study, and it remained so in the current study. When examining the definition of **Guidance Services**, it becomes evident that the group and individual services of a personal nature are important to the development of middle school students. School personnel are also aware of this need, as evidenced by increased personnel, contacts with outside agencies for referrals, and small-group or peer counseling. Nearly all of the schools surveyed employed a counselor who not only worked with students, but also helped teachers develop their guidance skills with students. The popularity of the advisory program as a way to connect a significant adult within the school

setting with each child has also supported the guidance service aspect. The advisory program is not new, but it has received much attention in the current literature, including trade journals, workshops, and conventions. Peer-group counseling also has received attention in the schools as community groups have become aware of the need for student assistance programs, chemical/drug-abuse screening, and the general need for direction of transescent students as they make the transition to adolescence.

The characteristics, **Guidance Services**, may be an easily understood concept on the part of the school and community. Therefore, the characteristic receives financial support for programs as well as personnel. In addition, current legislation in Michigan (P.A. 25) mandates accreditation for schools. Part of compliance for accreditation includes the hiring of a counselor based on the number of students in any one building. Recently, state legislative action has made available "Drug-free" and "at-risk" monies, which may also support guidance services. These combined notions, awareness and mandates, including financial resources for programs, may account for the high degree of implementation of the characteristic, **Guidance Services**, in exemplary schools in Michigan.

The characteristic, **Auxiliary Staffing**, remains the least implemented characteristic in exemplary schools in Michigan over the past 10 years, according to the Prentice (1990) study and the current study. According to Riegle (1971), the definition of **Auxiliary Staffing** includes paraprofessionals to aid teachers in

the classroom. There are two probable reasons for the lack of emphasis on **Auxiliary Staffing**. First, budget cuts have reduced the possibility of employing paid auxiliary staff, which contributes to the lack of implementation rate. This creates a situation in which a school must rely solely on volunteers to fill the auxiliary staffing role. By the middle years, students begin to want independence from their parents and encourage them to stay away from the school for fear of interference or embarrassment. Also, parents are becoming less physically involved with their students' education, and it will be increasingly difficult to fill auxiliary staffing needs on a volunteer basis. Second, support personnel unions may prohibit unpaid volunteers from serving in the recognized role of auxiliary staff. Support personnel contracts continue to emphasize a "closed shop" atmosphere, which may prevent parents from volunteering. Thus, it becomes clear why **Auxiliary Staffing** has not been nor is it currently being implemented at a high rate in exemplary schools in Michigan.

The largest increase in implementation rate from early exemplary schools (Prentice, 1990) to later exemplary schools (current study) was for the characteristic, **Social Experiences**. It rose from 54.5% in the Prentice study to 71.5% in the current study, a difference of 17%. Mowen's (1992) study placed **Social Experiences** in what he described as "the lower implementation category," between 64% and 68%. Although the characteristic, **Social Experiences**, certainly is not highly ranked within all Michigan exemplary schools, according to the data it appears to have made an increase in rate of

implementation over the last five years in national exemplary schools in Michigan. As awareness of the middle school concept continues to grow, the characteristic, **Social Experiences**, may be more likely to be implemented than other less visual characteristics. Socialization has traditionally been viewed as an important function of middle-level schools. According to the survey by the National Association of Secondary School Principals (1985), students most often chose athletic contests, parties, field-day activities, roller or ice skating, school carnivals, and talent shows as their desires for social activities.

Most activities for students in national exemplary schools in Michigan are held immediately after school rather than in the evening, lessening the transportation need. Many schools provide an "activity" or "late" bus to facilitate rides home after the events. In a recent publication, the Michigan High School Athletic Association reported more athletic contests being sponsored in the late afternoon rather than evening events at the middle level in the past three years, which may also account for the increase in implementation rate.

The eight characteristics that decreased from the Prentice (1990) study of national exemplary schools in Michigan include **Continuous Progress, Multi-Material Approach, Intramural Activities, Exploratories, Guidance Services, Independent Studies, Student Security Factors, and Student Services**. **Multi-Material Approach, Guidance Services, and Student Security Factors** were considered high-usage characteristics by national exemplary schools in Michigan in Mowen's 1993 study. Their decrease in their

rate of implementation even since the Mowen study suggests a possible change in emphasis of characteristic importance, at least in the past five years. National exemplary schools may have begun to realize some benefits of an advisory program stated earlier, accounting for the drop in the rate of implementation of guidance services. With additional staff helping in this area, guidance counselors may work in more specific areas, while teachers and other staff members assume responsibility for day-to-day personal problems of the students. Technology may provide a rationale for why. **Multi-Material Approach**, as defined in the original questionnaire (Riegle, 1971), has decreased. Computer networking, which allows immediate access to all kinds of literature and reference materials, has virtually replaced hundreds of library books, and video has certainly replaced the older audio-visual methods of presentation. To this extent, the questions regarding the characteristic, **Multi-Material Approach**, may not be adequate since they deal primarily with books, periodicals, and films.

The characteristic, **Student Security Factor**, is affected by advisory programs. There was a nearly 20% drop in rate of implementation by national exemplary schools in Michigan within the last five years, whereas during that same time span, this characteristic has been touted by many authorities, including Romano and Georgiady (1994), Toepfer (1988), and the Carnegie Council of Adolescent Development (1989), to be a building block of the middle school. In addition, Romano and Georgiady combined the two characteristics, **Guidance Services** and **Student Security Factor**, because they both describe

the middle school's professional personnel as helping students make the social and personal transition from the self-contained elementary school to a highly departmentalized high school. One possible explanation is that the respondents did not link the characteristic, **Student Security Factor**, with an advisory program. Another explanation may be that teachers are not taking on the guidance roles that they were earlier, which the findings of the current study seem to suggest.

Furthermore, when comparing implementation rates of national exemplary middle schools in Michigan and state exemplary middle schools in Michigan, there is little difference. National exemplary schools had a current, overall implementation rate of 61.0% with regard to the 18 basic middle school characteristics. **Guidance Services** was their most implemented characteristic, at a level of 82.4%, and **Auxiliary Staffing** was the least implemented characteristic, at the 27.5% level.

State exemplary middle schools in Michigan had an overall implementation rate of 57.7%. **Guidance Services** was also their most implemented characteristic, at 87.4%; likewise, the least implemented characteristic was **Auxiliary Staffing**, with an implementation rate of 22.9%.

There is inconclusive evidence that one characteristic, **Basic Learning Experiences**, showed any statistically significant difference between national and state exemplary middle schools with regard to the rate of implementation. There is basically no evidence that there are any differences between these two

groups on any other characteristics. National exemplary middle schools in Michigan report an implementation rate on **Basic Learning Experiences** 15.2% higher than state exemplary middle schools.

However, when all 18 scales are reviewed, as in the MANOVA, it is possible that the difference on the single characteristic is a chance fluctuation. Whether or not there is a difference in the rate of implementation between the two groups of schools, it is clear that both the State Department of Education and the Federal Department of Education view **Basic Learning Experiences** as critical to being an exemplary school. Basic learning experiences incorporate remediation of math, reading, and language arts; the teaching of study skills and thinking skills; and organizing for mastery learning. A review of the criteria for being selected as a state exemplary school in Michigan indicated that, "For a school to be recognized, there must be clear evidence that its students are developing a solid foundation of skills in reading, writing, and mathematics, as well as reasoning and problem solving" (Department of Education Nomination Requirements, introduction). Practitioners may want to examine programs in schools with national exemplary status, as they pertain to the specific characteristic, **Basic Learning Experiences**.

A drop in the overall rate of implementation of the 18 characteristics to 61.7% from the earlier 64.5% in the Prentice (1990) study gives cause for concern regarding the lack of growth in the rate of implementation of the 18

characteristics over the past decade. There are some reasons for the lack of implementation.

There are at least three likely reasons for the current and feared future lack of implementation of the 18 basic middle school characteristics. Adequate financial support, PA 25, and changes in school leadership and faculty are all factors contributing to the identified lack of implementation of the characteristics. An ongoing turmoil regarding school funding in Michigan is consuming Michigan educators. Many different school-funding proposals have come and gone through the legislature. Legislation in December 1993 at least gave guidelines regarding financial expectations, but even since that time, further transactions have occurred, leaving confusion and uncertainty for school districts. School officials are faced with difficult choices, including the elimination of programs for students. Research has indicated that implementation of middle school characteristics is not high. Programs must be implemented in conjunction with the characteristics in order to improve the implementation rate. These programs may not be instituted under the current duress of the financial situation in Michigan. Public Act 25 was enacted to provide a restructuring process for K-12 curriculum through mandatory curriculum standards, school improvement, and accreditation. The 14 attributes identified by the USDOE for exemplary status encompass most of that public act. However, the 18 basic characteristics do not all necessarily come under scrutiny by those criteria. Educators have struggled to understand outcome-based education in a relatively short period so that they

could lead their districts toward compliance with state mandates. It would seem that PA 25 would be the perfect vehicle for providing programs to improve the rate of implementation of the 18 basic characteristics. Yet financial constraints do not allow for those programs.

The compliance issue also complicates matters. Curriculum change at the middle level is occurring, almost exclusively, by the adaptation method (George, 1992). Using this method, schools implement programs on top of existing curriculum and adapt the new program to fit the existing curriculum. This also explains why some characteristics are implemented more often than others. In their effort to become middle schools, schools select individual programs associated with the middle school philosophy and implement them on top of existing programs that may not be consistent with the middle school philosophy rather than dismantling old programs and starting anew. According to the research, at the individual school level, the 18 basic characteristics of middle schools are becoming implemented at various rates stemming from factors other than middle school criteria.

Recent changes in the core curriculum as dictated by the State of Michigan also have thwarted the raising of the rate of implementation of the characteristics of middle schools. By changing the core curriculum, schools have had to comply with state mandates, including timelines, which do not always coincide with implementation of middle school characteristics. In their convictions to be in compliance, school districts have had to review specifically

language arts, reading, mathematics, science, and social studies, while ignoring exploratories and electives that were included in the original core curriculum. Personnel have been added in specific areas to meet accreditation standards, but programs to use these new personnel may not yet have been developed or implemented.

Leadership, in the call for further implementation of the 18 basic middle school characteristics, is crucial to success. Leaders must direct their energies toward a common goal--a vision. For the vision to be instilled and carried throughout, a certain amount of longevity is essential on the part of the principal, who should lead in this venture. Exemplary schools in Michigan reported a change in building administration during the last 10 years. Additionally, 53% of the exemplary schools in Michigan reported a significant change of 10% or more faculty, and another 28% of the schools have faced layoffs and/or retirements also affecting their total staff. This combination of massive change cannot help but deter the vision for the school and impeded implementation of the 18 basic middle school characteristics. As new staff members begin teaching, it is imperative that the mission is understood and adhered to. With an administrative change, the school/community goals must be understood and agreed to if a successful transition is to take place and implementation of the 18 basic characteristics is to continue.

Finally, exemplary schools in Michigan, as identified by the SSRP, may not show an increase in the rate of implementation of the 18 basic characteristics

of middle schools due to the criteria used in obtaining exemplary status. Although the 18 basic characteristics of middle schools and the 14 attributes of the SSRP are somewhat related, the criteria for the USDOE's 14 attributes of success were not designed with the middle school concept in mind. For the most part, these attributes came from the effective schools research, which was conducted mainly in elementary schools and, to a much smaller degree, in high schools. Currently, middle schools have the option of choosing to complete the necessary paperwork for applying for exemplary status under either elementary or secondary schools. There is no separate SSRP recognition for middle-level schools. There is a danger that middle schools will attempt to implement the 14 attributes instead of the 18 characteristics in order to gain the prestige, recognition, and laurels that accompany the former.

Recommendations for Further Study

If these middle-level schools are indeed exemplary, as the USDOE has so designated them, if they are to be "looked to for exemplary practices to support the achievement of the State and National Goals" (USDOE Blue Ribbon Schools Application Form, introduction), and if the overall level of implementation of the 18 characteristics in the vicinity of 59% to 60%, as the data from the current research suggest, there exists concern for the future direction of middle-level education in Michigan. The researcher offers the following recommendations for further study:

1. Only three studies have been done with Michigan exemplary schools regarding implementation of the 18 characteristics. It would be helpful to have comparisons from some of the other 49 states' exemplary schools and their rate of implementation.

2. A timely study on how financial constraints restrict school districts from implementing the basic characteristics would be appropriate, given current Michigan legislation.

3. There is a need to update the Riegle (1971) survey instrument to reflect the current state of technology and collapsing of the 18 characteristics to 14 to better capture the reality of implementation rates.

4. There is a need to compare the exemplary schools in Michigan that scored high on the USDOE 14 attributes with those nonselected Michigan schools.

5. Further study is appropriate regarding the 14 attributes for exemplary status and their appropriateness to the middle school philosophy.

6. A reliability study on the Riegle survey instrument which is sampled from the total population of Michigan schools would be advisable.

APPENDICES

APPENDIX A

EXEMPLARY SCHOOLS IN MICHIGAN FROM 1983 THROUGH 1993

Table A.1: Exemplary schools in Michigan from 1983 through 1993.

Exemplary School	Year
Cantrick Junior High	1982-83
East Grand Rapids Middle School	1982-83/1992-93
Northwestern Junior High	1982-83
Plainwell Middle School	1982-83/1984-85
*West Ottawa Middle School	1982-83
Drager Middle School	1983-84
Hartford Middle School	1983-84
*John Page Middle School	1983-84
Kinawa Middle School	1983-84
Marshall Middle School	1983-84
*Slauson Intermediate School	1983-84
*Traverse City Junior High School	1983-84/1990-91
Whittier Middle School	1983-84
*Abbott Middle School	1984-85
*Berkshire Middle School	1984-85
Bernard L. Hope Middle School	1984-85
*Brooks Middle School	1984-85
*Gaylord Middle School	1984-85
Graveret Middle School	1984-85
Levey Middle School	1984-85
Novi Middle School	1984-85/1988-89
Berrien Springs Middle School	1985-86
Maltby Middle School	1985-86/1988-89
Clarkston Junior High School	1985-86
Charles R. Drew Middle School	1985-86/1986-87
Elk Rapids Middle School	1985-86
Jenison Junior High School	1985-86
Lakeview Junior High School	1985-86
Boulan Park Middle School	1985-86
Grand Haven Junior High School	1986-87
Larson Middle School	1986-87
Montabella Middle School	1986-87
Onsted Middle School	1986-87
Parcells Middle School	1986-87
*Petoskey Middle School	1986-87
West Maple Middle School	1986-87
*West Hills Middle School	1986-87
Scranton Middle School	1986-87/1990-91

Exemplary School	Year
Marshall Green Middle School	1988-89
*Bloomfield Hills Middle School	1988-89
*Sashabaw Junior High School	1988-89
DeWitt Middle School	1988-89
L'Anse Creuse Middle School	1988-89
Lawton Middle School	1988-89
Meads Mill Middle School	1988-89
Clifford H. Smart Junior High School	1988-89
Iroquois Middle School	1988-89
Lakeview Junior High School	1990-91
*Orchard Lake Middle School	1990-91
*Pinckney Middle School	1990-91
Spring Lake Junior/Senior High School	1990-91
*East Hills Middle School	1990-91
Derby Middle School	1990-91
Munn Middle School	1990-91
Covington Middle School	1992-93
*Rockford Middle School	1992-93

*National exemplary schools.

APPENDIX B

CORRESPONDENCE

MICHIGAN STATE UNIVERSITY

COLLEGE OF EDUCATION
DEPARTMENT OF EDUCATIONAL ADMINISTRATION
ERICKSON HALL

EAST LANSING • MICHIGAN • 48824-1034
(517)355-4538

218 N. Pine River
Ithaca, MI 48847
September 13, 1993

Dear Middle School Administrator:

As a fellow practitioner, I am keenly aware of the demands placed upon us especially during this latter part of the school year. Nevertheless, I have a need to call on my colleagues for your assistance.

Middle level schools in the State of Michigan have previously been studied to determine their status regarding implementation of the characteristics of this level of education. As a part of a doctoral degree in educational administration at Michigan State University, I am continuing research to update and compare what has happened with the aforementioned implementation over the past ten years.

Your school is considered very successful based on the exemplary status received through the Secondary School Recognition Program and the State of Michigan. I need your help, knowledge, and expertise in completing the enclosed questionnaire. It should take you about twenty minutes to finish. You indicate your voluntary agreement to participate by completing and returning this questionnaire. Your candid answers and time in providing information will be greatly appreciated.

Please return the completed questionnaire, in the enclosed envelope, by October 14, 1993. If you would like to receive a summary of the results, please indicate by filling in the space provided on the separate sheet attached to the questionnaire.

I would like to thank you in advance for your interest, cooperation, and dedication in enhancing middle level education.

Sincerely,

Janelle C. McGuire
(517) 875-2375

enc.

APPENDIX C

SURVEY INSTRUMENT

General Information (Confidential):

Please place a check mark before the grades served by your school:

_____6

_____7

_____8

Number of years as a middle school: _____

Changes that have occurred in your school district since obtaining exemplary status
(Check as many as apply):

_____ administrative change

_____ work stoppage

_____ millage defeat

_____ grade configuration

_____ significant change in faculty (10% or more)

_____ parental involvement

_____ population shift

_____ student demographics (race/gender)

_____ economic change--financial hardship

_____ layoffs/retirements

_____ other (Please specify)

Have you begun to implement the State of Michigan core curriculum per PA 25?

_____ Yes

_____ No

So that we are all working from a common understanding of the characteristics, I have included a brief definition of each, which you may wish to review before responding to the questionnaire.

Continuous Progress: Nongraded organization that allows students to progress at their own individual rate regardless of chronological age.

Multi-Material Approach: A wide range of easily accessible instructional materials, a number of explanations, and a choice of approaches to a topic.

Flexible Schedules: Investment of time based on educational needs rather than standardized time periods.

Social Experiences: Experiences appropriate for the transescent youth and should not emulate the senior high school.

Physical Experiences and Intramural Activities: Physical activities based solely on the needs of the students. Emphasis is on participation rather than competition.

Team Teaching: Allows students to interact with a variety of teachers in a wide range of subject areas.

Planned Gradualism: Experiences provided to assist students in transition from childhood dependence to adult independence.

Exploratory and Enrichment Studies: Programs that widen the range of student activities rather than specialization.

Guidance Services: Includes group and individual services for all students.

Independent Study: Students spend time studying individual interests or needs that do not appear in the organized curricular offerings.

Basic Skill Repair and Extension: Students receive clinical help in learning basic skills as an extension of the elementary school.

Creative Experiences: Opportunities for students to express themselves creatively, usually through student-centered, student-directed, student-developed activities.

Security Factor: Provision of a teacher who knows the student well and whom he relates to in a positive manner to serve as a security group.

Evaluation: Provision of evaluation of a student's work that is personal, positive, nonthreatening, and strictly individualized.

Community Relations Maintenance of a program to inform, entertain, educate, and understand the community.

Student Services: Utilization of community, county, and state agencies to provide specialized student services.

Auxiliary Staffing: Utilization of a highly diversified array of personnel or support staff who help to facilitate the teaching staff.

Your response to all questions will be greatly appreciated. All respondents can be assured of COMPLETE CONFIDENTIALITY. Please feel free to make additional comments when believed necessary.

Part I: Place a check mark before the SINGLE BEST answer that explains your current program as it relates to the question.

1-A. Continuous progress programs (a nongraded program which permits students to progress at their own educational pace regardless of their chronological age) are:

- ☐ (1) not used at this time.
- ☐ (2) used with special groups.
- ☐ (3) used for the first two years.
- ☐ (4) used by selected students.
- ☐ (5) used by all students.

2-A. Continuous progress programs are planned for a student over a CALENDAR year span of:

- ☐ (1) not used.
- ☐ (2) one year.
- ☐ (3) two years.
- ☐ (4) three years.
- ☐ (5) more than three years.

3-B. The multi-textbook approach to learning is currently:

- ☐ (1) not used.
- ☐ (2) used in a FEW courses.
- ☐ (3) used in MOST courses.
- ☐ (4) used in NEARLY ALL courses.

4-B. The instructional materials center in this building houses:

- ☐ (1) 1,000 books or less.
- ☐ (2) 1,001 to 3,000 books.
- ☐ (3) 3,001 to 4,000 books.
- ☐ (4) 4,001 to 5,000 books.
- ☐ (5) more than 5,000 books.

5-B. The materials center has a paid certified librarian:

- ☐ (1) no.
- ☐ (2) part-time only.
- ☐ (3) one full-time.
- ☐ (4) more than one full-time.

6-B. For classroom instruction, AUDIO-VISUAL materials other than motion pictures are:

- _____ (1) not used.
- _____ (2) rarely used.
- _____ (3) occasionally used.
- _____ (4) frequently used.
- _____ (5) very frequently used.

7-C. The basic time module used to build the schedule is:

- _____ (1) 10 to 29 minutes.
- _____ (2) 30 to 44 minutes.
- _____ (3) 45 to 59 minutes.
- _____ (4) 60 minutes.
- _____ (5) a combination of time so diversified that no basic module is defined.

8-C. Which of the below best describes your schedule at present:

- _____ (1) traditional.
- _____ (2) traditional, modified by "block-time," "revolving period," or other such regularly occurring modification.
- _____ (3) flexible to the degree that all periods are scheduled but are not identical in length.
- _____ (4) flexible to the degree that changes occur within defined general time limits.
- _____ (5) flexible to the degree that students and teachers control the daily time usage and changes occur regularly.
- _____ (6) other.

9-D. How are sponsorships for club activities handled?

- _____ (1) staff members DO NOT work with club activities.
- _____ (2) staff members are ASSIGNED WITHOUT PAY.
- _____ (3) staff members are ASSIGNED WITH PAY.
- _____ (4) staff members VOLUNTEER WITHOUT PAY.
- _____ (5) staff members VOLUNTEER AND ARE PAID.

10-D. What percentage of your student body regularly participates in at least one club activity?

- _____ (1) we have no club program.
- _____ (2) 25% or less.
- _____ (3) 26% to 50%.
- _____ (4) 51% to 75%.
- _____ (5) 76% to 100%.

11-E. How is the physical education program individualized?

- _____ (1) not at all.
- _____ (2) slightly.
- _____ (3) moderately.
- _____ (4) highly.

12-F. Interscholastic competition is:

- _____ (3) not offered.
- _____ (2) offered in one sport only.
- _____ (1) offered in two or more sports.

13-F. Intramural activities often use the same facilities as interscholastic activities. When this causes a time conflict, how do you schedule?

- _____ (1) we have no INTRAMURAL program.
- _____ (2) interscholastic activities take first priority and others must schedule around their needs.
- _____ (3) we have no INTERSCHOLASTIC PROGRAM.
- _____ (4) intramural activities take first priority and others schedule around their needs.

14-G. How many students participate in team teaching programs (two or more teachers administratively organized to provide opportunities for them to maximize their teaching talents and allow students to interact with teachers responsible for a broad range of subject areas):

- _____ (1) none.
- _____ (2) 25% or less.
- _____ (3) 26% to 50%.
- _____ (4) 51% to 75%.
- _____ (5) 76% to 100%.

15-G. What percentage of your teaching staff is involved in team teaching programs?

- _____ (1) none.
- _____ (2) 25% or less.
- _____ (3) 26% to 50%.
- _____ (4) 51% to 75%.
- _____ (5) 76% to 100%.

16-G. How many minutes per day does a student in grades FIVE or SIX average in a team teaching program?

- ☐ (1) none.
- ☐ (2) 40 minutes or less.
- ☐ (3) 41 to 80 minutes.
- ☐ (4) 81 to 120 minutes.
- ☐ (5) more than 121 minutes.

17-G. How many minutes per day does a student in grades SEVEN or EIGHT average in a team teaching program?

- ☐ (1) none.
- ☐ (2) 40 minutes or less.
- ☐ (3) 41 to 80 minutes.
- ☐ (4) 81 to 120 minutes.
- ☐ (5) more than 121 minutes.

18-H. Which of the following best describes your school program as it evolves from enrollment to completion of the last grade (i.e., grades FIVE through EIGHT)?

- ☐ (1) completely self-contained and/or completely departmentalized.
- ☐ (2) modified departmentalized (blocktime, core, etc.).
- ☐ (3) program moves from largely self-contained to partially departmentalized.
- ☐ (4) other _____

19-I. How many years is ART instruction required for all students?

- ☐ (1) none.
- ☐ (2) one year.
- ☐ (3) two or more years.

20-I. How many years is MUSIC instruction required for all students?

- ☐ (1) none.
- ☐ (2) one year.
- ☐ (3) two or more years.

21-I. The amount of student schedule time set aside for elective courses.

- ☐ (1) decreases with each successive grade, or is the same for all grades, or does not exist at any grade level.
- ☐ (2) varies by grade level but not in any systematic manner.

22-J. For what percentage of students are guidance services normally available?

- ☐ (1) not available.
- ☐ (2) 25% or less.
- ☐ (3) 26% to 50%.
- ☐ (4) 51% to 75%.
- ☐ (5) 76% to 100%.

23-J. Guidance staff members:

- ☐ (1) NEVER work with teachers.
- ☐ (2) SELDOM work with teachers.
- ☐ (3) OFTEN work with teachers.
- ☐ (4) ALWAYS work with teachers.

24-J. Guidance counselors are:

- ☐ (1) not expected to help teachers build their guidance skills.
- ☐ (2) EXPECTED to help teachers build their guidance skills.
- ☐ (3) EXPECTED and REGULARLY encouraged to help teachers build their guidance skills.

25-L. Clinics or special classes to treat the problems of students with poor basic learning skills are:

- ☐ (1) not available.
- ☐ (2) available only to the most critically handicapped learners.
- ☐ (3) available to all students needing such help.

26-L. The amount of time provided in the classroom for instruction in basic learning skills:

- ☐ (1) remains constant or increases with each successive grade.
- ☐ (2) decreases with each successive grade.
- ☐ (3) varies greatly due to individualization of program by teachers.

27-M. Does your school have an official newspaper?

- ☐ (1) no.
- ☐ (2) yes, and publishes four or less issues per year.
- ☐ (3) yes, and publishes five or more issues per year.

28-M. Do students get experiences in creative dramatics?

- ☐ (1) no.
- ☐ (2) yes.

29-M. Dramatic productions at this school are produced from:

- ☐ (1) does not apply.
- ☐ (2) purchased scripts only.
- ☐ (3) materials written by students only.
- ☐ (4) materials written by students and purchased scripts.

30-M. This school has oratorical activities such as debate, public address, etc.

- ☐ (1) no.
- ☐ (2) yes, as a part of its enrichment program.
- ☐ (3) yes, as a part of its planned program of instruction.

31-M. Talent shows are:

- ☐ (1) not a part of our program.
- ☐ (2) produced on an all-school basis.
- ☐ (3) produced at each grade level.
- ☐ (4) produced at each grade level, with some of the acts entering an all-school talent show.

32-N. In the operational design of this school, the role of the teacher as a guidance person is:

- ☐ (1) left strictly to the individual teacher's personal motivation.
- ☐ (2) mentioned to the teacher BUT NOT emphasized.
- ☐ (3) emphasized.
- ☐ (4) strongly emphasized.

33-N. As a general policy, provisions are made for the teacher to provide guidance services:

- ☐ (1) no.
- ☐ (2) yes, to a limited number.
- ☐ (3) yes, to all their students.

34-N. How many times per year is a student's academic progress formally reported to parents?

- ☐ (1) zero to two times.
- ☐ (2) three to five times.
- ☐ (3) six times or more.
- ☐ (4) other _____

35-O. How many times per year are parent-teacher or parent-teacher-student conferences held on a school-wide basis?

- _____ (1) not at all.
- _____ (2) once.
- _____ (3) two times.
- _____ (4) three times.
- _____ (5) four or more times.

36-P. Community service projects by students in this school are:

- _____ (1) not a part of our program.
- _____ (2) carried out occasionally for a special purpose.
- _____ (3) an important part of the planned experiences for all students.

37-P. What is the status of the parents' organization in your school?

- _____ (1) none.
- _____ (2) relatively inactive.
- _____ (3) active.
- _____ (4) very active.

38-C. The master class time schedule can be changed by teachers when need arises by:

- _____ (1) requesting a change for next year.
- _____ (2) requesting a change for next semester.
- _____ (3) requesting administrative approval.
- _____ (4) planning with other teachers on a WEEKLY BASIS.
- _____ (5) planning with other teachers on a DAILY BASIS.

39-K. Students working in independent study situations work on topics that are:

- _____ (1) we have no independent study program.
- _____ (2) assigned to them by the teacher.
- _____ (3) of personal interest and approved by the teacher.

40-O. Formal evaluation of student work is reported by use of:

- _____ (1) letter or number grades.
- _____ (2) teacher comments written on a reporting form.
- _____ (3) parent-teacher conferences.
- _____ (4) parent-teacher-student conferences.
- _____ (5) other _____

41-E. What percentage of physical education class time is devoted to COMPETITIVE-TYPE ACTIVITIES?

- ☐ (1) 25% or less.
- ☐ (2) 26% to 50%.
- ☐ (3) 51% to 75%.
- ☐ (4) 76% to 100%.

42-E. What percentage of physical education class time is devoted to DEVELOPMENTAL-TYPE ACTIVITIES?

- ☐ (1) 25% or less.
- ☐ (2) 25% to 50%.
- ☐ (3) 51% to 75%.

43-J. Do your guidance counselors offer regular group guidance sessions?

- ☐ (1) yes.
- ☐ (2) no.

44-K. Independent study opportunities are provided for:

- ☐ (1) not provided.
- ☐ (2) some students.
- ☐ (3) all students.

45-L. Daily instruction in a developmental reading program is provided for:

- ☐ (1) not provided.
- ☐ (2) poor readers only.
- ☐ (3) all students.

46-B. Which of the following types of materials are housed in your instructional materials center? (Check all that apply)

- ☐ general library books.
- ☐ below-grade-level reading materials.
- ☐ files of past issues of newspapers.
- ☐ card catalogue of materials housed.
- ☐ files of past issues of magazines.
- ☐ collections (coins, insects, art, etc.).
- ☐ micro-films.
- ☐ computers.
- ☐ photo or thermal copy machines.
- ☐ display cases or areas.
- ☐ current newspapers.
- ☐ current magazines.

- _____ above-grade-level reading materials.
- _____ filmstrips.
- _____ motion pictures (include if you are a member of central service).
- _____ overhead transparencies.
- _____ ditto and/or mimeo machines.
- _____ maps, globes, and charts.

47-D. School dances ARE NOT held for:

- _____ (1) grade five.
- _____ (2) grade six.
- _____ (3) grade seven.
- _____ (4) grade eight.

48-D. A club program for students is offered in:

- _____ (1) grade five.
- _____ (2) grade six.
- _____ (3) grade seven.
- _____ (4) grade eight.

49-F. The intramural program includes:

- _____ team games.
- _____ various activities.
- _____ individual sports.

50-I. Students are allowed to elect courses of interest from a range of elective offerings:

- _____ no.
- _____ in grade five.
- _____ in grade six.
- _____ in grade seven.
- _____ in grade eight.

51-I. Electives offered in this building are:

- | | |
|-------------------------|--------------------------|
| _____ art. | _____ wood shop. |
| _____ drawing. | _____ natural resources. |
| _____ foreign language. | _____ vocal music. |
| _____ orchestra. | _____ journalism. |
| _____ typing. | _____ unified arts. |
| _____ creative writing. | _____ speech. |
| _____ band. | _____ computers. |
| _____ drawing. | |
| _____ family living. | |

52-K. How much time would you estimate the average student spends in independent study?

- ☐ (3) 30 minutes or MORE per day in grades seven or eight.
☐ (2) 20 minutes or MORE per day in grades five or six.
☐ (1) less than the above.

53-L. Students with poor basic skills can receive special help on an individual basis from a special staff member trained to treat such situations in the following areas:

- | | |
|--|---------------------------------------|
| <input type="checkbox"/> reading. | <input type="checkbox"/> spelling. |
| <input type="checkbox"/> physical education. | <input type="checkbox"/> mathematics. |
| <input type="checkbox"/> grammar. | <input type="checkbox"/> other _____ |

54-M. Dramatic presentations by students are:

- ☐ not a part of the school program.
☐ a part of certain class activities planned by the teachers.
☐ a part of the activities program.
☐ other _____

55-P. In regard to community relations, this school:

- ☐ does not send out a parent newsletter.
☐ sends out a parent newsletter.
☐ uses the commercial newspaper.
☐ uses a district-wide newsletter to send out information related to this school.
☐ other _____

56-P. The staff presents information programs related to the school's functions:

- ☐ when requested by parents.
☐ once or twice a year at regular parent meetings.
☐ at open-house programs.
☐ at regularly scheduled "seminar-type" meetings planned for interested parents.
☐ other _____

57-Q. From the specialized areas listed below, check each service that is AVAILABLE to students in your building:

- ☐ guidance counselors.
☐ school psychologist.
☐ speech therapist.
☐ clinic services for the emotionally disturbed.
☐ special reading teacher.
☐ school nurse.
☐ diagnostician.
☐ visiting teacher.
☐ special education programs for the mentally handicapped.
☐ other _____

58-R. Teaching teams are organized to include:

- ☐ fully certified teachers.
☐ clerical helpers.
☐ paraprofessionals.
☐ student teachers.
☐ other _____

59-R. Teaching teams are organized to include:

- ☐ paid paraprofessionals.
☐ student teachers and interns.
☐ volunteer helpers from the community.
☐ high school "future teachers" students.
☐ other _____

60-D. School social functions are held at this school:

During the afternoon:

- | | |
|---|---------------------------------------|
| <input type="checkbox"/> (1) Grade 5. | <input type="checkbox"/> (3) Grade 7. |
| <input type="checkbox"/> (2) Grade 6. | <input type="checkbox"/> (4) Grade 8. |
| <input type="checkbox"/> not scheduled. | |

During the evening:

- | | |
|---|---------------------------------------|
| <input type="checkbox"/> (1) Grade 5. | <input type="checkbox"/> (3) Grade 7. |
| <input type="checkbox"/> (2) Grade 6. | <input type="checkbox"/> (4) Grade 8. |
| <input type="checkbox"/> not scheduled. | |

61-E. The physical education program serves all students in:

_____ (1) Grade 5.

_____ (2) Grade 6.

_____ (3) Grade 7.

_____ (4) Grade 8.

62-F. Intramural activities are scheduled for:

BOYS ONLY

_____ Grade 5.

_____ Grade 6.

_____ Grade 7.

_____ Grade 8.

_____ not scheduled.

GIRLS ONLY

_____ Grade 5.

_____ Grade 6.

_____ Grade 7.

_____ Grade 8.

_____ not scheduled.

BIBLIOGRAPHY

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- Alder, M. J. (1982). The Paideia proposal. New York: Macmillan.
- Alexander, W. M. (1968). A survey of organizational patterns of reorganized middle schools (Final Report, USOE Project 7-D-026). Gainesville: University of Florida.
- Alexander, W. M., & George, P. S. (1993). The exemplary middle school. Fort Worth: Harcourt, Brace, Jovanovich.
- Alexander, W. M., & McEwin, C. K. (1989). Schools in the middle: Progress 1968-1988 (ISSNO2764482). National Association of Secondary School Principals.
- Alexander, W. M., & Williams, E. L. (1968). The emergent middle school. New York: Holt, Rinehart, & Winston.
- Allen, M. J., & Yen, W. M. (1979). Introduction to measurement theory. Belmont, CA: Wadsworth.
- Beane, J. A. (1990). A middle school curriculum from rhetoric to reality. Columbus, OH: National Middle School Association.
- Beckman, V. G. (1978). A study to determine the current level of implementation of eighteen basic middle school principles in the state of Missouri. Unpublished doctoral dissertation, St. Louis University.
- Bohlinger, T. L. (1977). A study to determine the current level of implementation of eighteen basic middle school characteristics in Ohio public schools housing grades 5-8 and 6-8. Unpublished doctoral dissertation, Miami University.
- Boyer, E. L. (1983). High school: A report on secondary education in America. New York: Harper & Row.

- Brooks, K. (1978, February). The middle school—A national survey. Middle School Journal, 9, 6.
- Caul, J. L. (1975). A comparative study of student, teacher and principal perceptions of organizational structure between middle schools with high levels and those with low levels of middle school concept implementation. Unpublished doctoral dissertation, Michigan State University.
- Cohen, J. (1988). Statistical power analysis for the behavior sciences. Hillsdale, NJ: Lawrence Erlbaum.
- Coleman, J., Hoffer, T., & Kilgore, S. (1982). Cognitive outcomes in public and private schools. Sociology of Education, 55(2/3), 65-76.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16, 297-334.
- Demps, H. W. (1978). A study of the relationship between teachers' perceptions of job satisfaction and their perceptions of the level of implementation of eighteen basic middle school characteristics. Unpublished doctoral dissertation, Michigan State University.
- DeVita, J. C. (1970). The effective middle school. New York: Parker Publishing.
- Edmonds, R. (1979). Five factor theory. Cambridge, MA: Harvard University Press.
- Eichorn, D. H. (1987). The middle school. New York: Center of Applied Research in Education (1966). Special printing by the National Association of Secondary School Principals and the National Middle School Association.
- Garvin, J. P. (1992). Common denominators in effective middle schools. In Schools in the middle (pp. 26-29). Reston, VA: National Association of Middle School Principals.
- Gatewood, T. E. (1974). What research says about the middle school. In Middle School in the making (pp. 13-14). Washington, DC: Association for Supervision & Curriculum Development.
- Georgiady, N. P., & Romano, L. G. (1967-68). The middle school: Is it a threat to the elementary school? Impact (Journal of the New York State ASCD).

- Goodlad, J. I. (1983). A place called school: Prospects for the future. St. Louis, MO: McGraw-Hill.
- Hawkins, J. (1972). A study to ascertain actual middle school practices as compared to reported middle school practices in selected Michigan schools and nationally prominent schools as perceived by teachers and principals. Unpublished doctoral dissertation, Michigan State University.
- Hopkins, C. D. (1980). Understanding educational research. Columbus, OH: Merrill Publications.
- Johnston, J. H., & Markle, G. C. (1986). What research says to the middle level practitioner. Columbus, OH: National Middle School Association.
- Kealy, R. P. (1971). The middle school movement: 1960-70. National Elementary Principal, pp. 20-25.
- Kerewsky, W. (1992). Site visitor's report on effective middle schools. In Schools in the Middle (pp. 29-33). Reston, VA: National Association of Middle School Principals.
- Levin, J., & Fox, J. (1991). Elementary statistics in social research. New York: Harper Collins.
- Lightfoot, S. (1983). The good high school: Portraits of character and culture. New York: Basic Books.
- Lipsitz, J. (1984). Successful schools for young adolescents. New Brunswick, NJ: Transaction Books.
- Michigan Department of Education. (1983, February). Letter. Lansing: Author.
- Michigan Department of Education. (1994). Michigan education directory. Lansing: Author.
- Mowen, G. G. (1983). Comparison study of the implementation rate of eighteen middle school characteristics in Michigan and national Blue Ribbon schools. Unpublished doctoral dissertation, Western Michigan University.
- Murphy, J. (1967). Middle schools. New York: Educational Facilities Laboratories.

- National Commission on Excellence in Education. (1983). A nation at risk: The imperative for educational reform. Washington, DC: Government Printing office.
- Prentice, D. (1990). A study of the nationally recognized exemplary middle schools in Michigan and the extent of their implementation of the eighteen characteristics of middle school education. Unpublished doctoral dissertation, Michigan State University.
- Raymer, J. T. (1974). A study to identify middle schools and to determine the current level of implementation of eighteen basic characteristics in selected United States and Michigan schools. Unpublished doctoral dissertation, Michigan State University.
- Riegle, J. D. (1971). A study of middle school programs to determine the current level of implementation of eighteen basic middle school principles. Unpublished doctoral dissertation, Michigan State University.
- Romano, L. G., et al. (Eds.). (1973). The middle school. Chicago, IL: Nelson Hall.
- Romano, L. G., & Georgiady, N. P. (1994). Building an effective middle school. Dubuque, IA: Brown & Benchmark.
- Rutter, M. (1979). Fifteen thousand hours: Secondary schools and their effects on children. Cambridge, MA: Harvard University Press.
- Traischke, E. M. (1970). An evaluation of a middle school by a comparison of the achievement, attitudes, and self-concept of students in a middle school with students in other school organizations. Unpublished doctoral dissertation, University of Florida.
- Wiles, J. W., & Bondi, J. (1981). The essential middle school. Columbus, OH: Charles E. Merrill.
- Wilks, S. S. (1932). Certain generalizations in the analysis of variance. Biometrika, 24, 471-494.
- Woods, M. A. (Ed.). (1985). The search for successful secondary schools—The first three years of the Secondary School Recognition Program. Washington, DC: U.S. Department of Education.