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**A STUDY OF THE EFFECTS OF ECONOMIC AND ENROLLMENT DECLINE
ON PUBLIC MIDDLE SCHOOLS IN MICHIGAN FOR THE PERIOD 1979-1983,
AS PERCEIVED BY MIDDLE SCHOOL PRINCIPALS**

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By

Robert W. Cross

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ABSTRACT

A STUDY OF THE EFFECTS OF ECONOMIC AND ENROLLMENT DECLINE ON PUBLIC MIDDLE SCHOOLS IN MICHIGAN FOR THE PERIOD 1979-1983, AS PERCEIVED BY MIDDLE SCHOOL PRINCIPALS

By

Robert W. Cross

This study sought to determine whether patterns exist in principals' perceptions of the effects of economic and enrollment decline on changes in middle school program, staff, and climate; whether patterns exist regarding the impact these changes have had on middle school development; and whether perceptions vary as a function of school size, district state funding, district economic change, and school enrollment change.

The population included the principals of all 348 public middle schools in Michigan identified by the Michigan Department of Education. Principals were surveyed using an instrument developed by the writer and validated by a panel of national experts. The statistical treatments employed in examining the six research questions were the t-ratio, one-way univariate and multivariate analyses of variance, and the Wilks two-way multivariate analysis of variance. The level of significance was set at .05.

The major findings of the study included:

Robert W. Cross

1. Nearly 70 percent of the schools were in districts that receive state per pupil formula financial aid.

2. Over 86 percent of the schools had experienced enrollment decreases.

3. Close to 96 percent of the districts had experienced economic decline.

4. Principals indicated that significant program, staff, and climate changes had occurred in 65 percent of the items measured.

5. Sixty-five percent of all changes that occurred had had a significant impact on middle school development, and 66 percent of those changes had had a negative effect.

6. Significant changes (decline) and impacts (negative) were registered in all areas of school staff. No significant change or impact was noted in school climate. Significant change and impact were found in some program characteristics and materials.

7. Perceptions of change varied most as a function of district state funding and district economic change, whereas perceptions of impact varied most as a function of district state funding.

8. Perceptions of change and impact did not vary as a function of selected interactions between variables.

9. A majority of principals reported overall program quality staying the same or deteriorating over the past five years.

This dissertation is dedicated to my wife, Sue, whose continuing love, support, and encouragement have made this project possible.

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Many people have contributed to the effort necessary to complete this dissertation. My children, Lindsay and Adam, deserve special recognition for tolerating my many physical and mental absences from home. My parents, June and Bill, also deserve special thanks for encouraging me to attain the highest levels of education possible.

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Sincere appreciation is felt toward Don Freeman and the national panel of experts, who helped in the development and validation of the instrument; Mark Picciotto, whose help in analyzing the data was essential; Sue Cooley, who so competently typed the work; Lorraine Hull, who helped me with many of the loose ends; and Glen Gerard, who has always served as a source of inspiration.

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CHAPTER I

STATEMENT OF THE PROBLEM

Introduction

A recent flier sent home with elementary students at Edgewood School in Okemos pointed out that "Americans spend more money on pet food than on education. School enrollments are declining. Energy costs may rise 300%." Parents were then invited to attend a lecture entitled "School for the 80's: Doing More for Less."

The American Association of School Administrators reported in 1981:

What shook public education in the late 1970's and early 1980's was not declining enrollment alone . . . but also rising energy costs; inflationary pressures; erosion of public confidence; tax revolts; white flight; intensified migration (S, SW & W); mandated programs (for the handicapped, the bilinguals); loss or drastic reductions in federal and state aid; court decrees for desegregation, redistricting, busing; changing, eroding or disappearing neighborhoods; the competition of private schools; aging population; aging teachers.

Although "declining enrollments and school mergers have become such familiar phrases that they often produce yawns" (Zerchykov, 1982), some feel that it is "one of the major issues of the day--the management of declining enrollments and resources" (Wendel, 1979). One author wrote, "The most important development in education in the second half of the 20th century is . . . declining enrollment.

Declining enrollment has touched upon every facet of education"

(Bandlow, 1982).

The problems of declining enrollments and declining financial support for schools are bad enough in and of themselves, but our mind set in America compounds the problem.

The American psyche has always been attuned to the concept of unending expansion of more tomorrow than today, of children overshadowing their parents' success, of unlimited resources. . . . Given a tradition of growth that almost amounts to an ideology, it is difficult to face the new conditions--of fewer young people, a slowing economy, and limited resources. (Hechinger, 1981)

The Biblical parable of the seven lean years is taking on real meaning for educators across the country as public schools gear up to face the fallout of the nation's new mood of "fiscal restraint." (Keller, 1981)

Declining enrollment has been a fact of life for public schools since the early 1970s. The National School Boards Association reported in 1976 that "approximately one-third of the school districts in the country have experienced some drop in enrollment." The American Association of School Administrators (1981), using figures from the U.S. Department of Education, reported that the drop in enrollment began in the fall of 1972 and that between the fall of 1971 and the fall of 1979, 12 states had shown a decrease of 15 percent or more. The National Center for Educational Statistics reported a drop in pre-kindergarten through eighth-grade enrollment from 1970 to 1978 of 12.7 percent (Dearman & Plisko, 1980). Michigan experienced a 21.9 percent decrease.

The worst will be over for K-8 by 1984, but for the 10-through-13-year-old age group (grades 5-8), the bottom will not be reached

until somewhere between 1986 and 1988 (projections from the Educational Research Service and U.S. Bureau of the Census). Both projections agree that there will be an upturn until about the year 2000. For grades 9 through 12, no upturn is in sight until possibly 2000 or beyond. This has implications for the middle school, as will be seen.

What exists then, nationally, is a situation in which elementary enrollments will be increasing in the late 1980s while secondary enrollments continue to decline. School systems will find themselves simultaneously dealing with growth and decline. In Michigan the trends are the same, but the numbers are more stark.

The Michigan School Board Journal (1983) showed Michigan's public school enrollment declining every year since the peak period of 1971-72, an overall decline of more than 21 percent. This compared with a national decline during the same period of only 14 percent. From 1976-77 to 1982-83, the decline in average number of pupils at all levels in Michigan was 14.7 percent (Nelson, 1983). It was reported that "by the early 1990's secondary school enrollments will have declined by 25%" (Crane, 1983). Hecker and Ignatovich (1983) reported that K-5 enrollments will have bottomed out by 1983-84 or 1984-85, with a modest increase projected through 1987-88. Enrollments in grades 9-12 will continue a sharp decline until 1983-84, level off slightly through 1985-86, then decline sharply until 1991-92 or 1992-93.

Hecker's and Ignatovich's figures, based on actual birth data, reveal that from a peak in 1971-72, there has been a fairly sharp decline in middle school enrollment (grades 6-8) from 1977-78 to 1979-80 (8.2 percent), a slight leveling off from 1979-80 to 1982-83 (3.5 percent), then a sharp drop will start in 1983-84 until the decline bottoms out in 1988-89 or 1989-90. This trend coincides with Michigan Department of Education and House Democratic Education Office projections published by Harvey (1983).

So while there may be growth at elementary levels during the last part of the decade, middle schools and high schools will experience decline for quite some time. But despite declining enrollments, the costs of educating students are rising. These costs are especially great for the Michigan school districts that receive per pupil state membership aid ("in-formula" districts) (Straus, 1983). Straus noted that "fewer students generate fewer state dollars, and a district cannot reduce expenditures in direct proportion to the loss." Perhaps "the most insidious property of declining enrollment is that fewer students mean higher costs," according to Bandlow (1982).

In 1977, expenditures for public schools exceeded \$66 billion--62 percent more (after inflation) than was spent for public education 10 years earlier (Gonder, 1980). By 1982, that expenditure figure had risen to \$105 billion (Mars, 1982). Gonder, who conducted her study for the American Association of School Administrators (AASA), further reported that out of 1,517 national respondents, fully 75 percent said they faced serious budget problems, and more than two-thirds of the 75

percent said their problems were more serious than two years previously. She noted: "Balancing the school district budget in the 1980's is going to be one of the toughest jobs confronting school administrators and school boards."

Declining enrollments have an insidious connection with economic stress and do not decrease costs until and unless they result in cutbacks in staff and/or facilities. In fact, districts with declining enrollments spent about \$200 more per student than growing districts, according to Rodekohr (1976). Add to this the current citizen pressures for tax reform and the fact that many state funding mechanisms were developed during periods of growth and are related directly or indirectly to student count (Leppert & Routh, 1978), and the problem becomes even more complicated.

After an extensive study of the effects of decline, Zerchykov (1982) concluded that "despite a wealth of data on school financing, it is difficult to disentangle the fiscal effects of enrollment decline specifically from the effects of other correlative factors."

In Michigan, with the current economic depression, the financial situation is even more stark and more complicated. It has been found nationally that as local school district revenues from property taxes declined, the state share rose commensurately (Pagen, 1982). In Michigan, partly due to its cyclical economy and the recent state of recession with high unemployment, there have been state budget cuts for education. In introducing a resolution to the State Senate in November 1981, Senator Kerry Kammer, a member of the Senate

Appropriations Committee and Chairman of the Subcommittee on School Aid, pointed out that the percentage of the state budget that goes to education had declined from 29 percent in 1970-71 to 15 percent in 1980-81. Another way to look at it is that in 1968-69, state and local revenue each accounted for 48 percent of local school district revenues; by 1982-83 the state share was down to 37.1 percent, while the local share was up to 57.9 percent (Harvey, 1983).

In 1973-74, in an effort to provide wealth neutrality in the funding of schools, Michigan's legislature developed a new membership aid formula. It was summarized as follows:

The membership formula incorporates a STATE GUARANTEE from which the taxing effort of a local district is subtracted. If the STATE GUARANTEE is greater than the LOCAL EFFORT, the district will receive the difference as membership state aid. If the LOCAL EFFORT, that is, the district's ability to raise revenue from the property tax, exceeds the STATE GUARANTEE, the district is said to be "out-of-formula." (Harvey, 1983)

Currently, 199 of Michigan's 574 districts are out-of-formula. But the remaining "in-formula" districts are in a strange bind. Because of the Headlee Amendment, local districts may actually have their state income reduced if their local assessments rise at too rapid a rate. The loss of pupils, coupled with a loss of state aid, has often resulted in the cutting of school programs. But it is "impossible for 'in-formula' districts to cut programs proportionally to the amount of funds withheld because of the loss of each student" (Pagen, 1982). The result has been an increase in the disparity of per pupil expenditures (Woons, 1983), an extreme "have" versus "have not" situation in Michigan (Bedell, 1981). In fact, Norman Weinheimer (1982), Executive

Director of the Michigan Association of School Boards, wondered if the net result of the financial crisis and resulting cutbacks in programs was bankrupting Michigan's public schools.

That declining enrollments and financial reductions are intertwined and acute problems, especially in Michigan, is quite clear. That both have affected schools will be sufficiently documented in the next chapter.

There is one aspect of the problem that has not yet been mentioned--the paucity of information regarding the impact of decline on the total school program, especially at the middle school level. Although there has been much written about decline, there have been relatively few research studies and little else about programs. In Zerchykov's (1982) review of 250 literature sources, he found only 68 research studies, while only 6 were on the impact of decline with program as a primary focus. Of the total 250 sources, in fact, only 16 dealt with school program as a primary focus area. None of these sources, as will be seen in Chapter II, dealt specifically with middle schools or middle school programs. All looked at either elementary or secondary programs as a group. The only study available dealing in any substantial part with middle schools was completed in the fall of 1983 by Nelson for the Michigan Department of Education. This study had some figures on class size, enrollment numbers, and numbers of staff, but had nothing about such areas as program characteristics or school climate.

Problems, however, have a way of affording opportunities for innovation. As will be documented, one of the areas where opportunities exist is at the middle school level. If these opportunities are to be used for the benefit of children, the best possible information will be necessary. However, since little information is currently available about the impact of decline on middle schools, more research in this area is needed.

Purpose of the Study

The purpose of this dissertation is to study the effects of economic and enrollment decline on public middle schools in Michigan for the period of 1979-1983, as perceived by middle school principals. Changes, as well as how the changes have affected the ability of schools to develop a middle school program, will be examined. Change and impact will be viewed as a function of four variables--size of the school, level of state funding, level of economic change, and level of enrollment change--as well as selected interactions between the variables. Of further interest is to determine the effect of economic and enrollment decline in middle school programming, middle school staffing, and school climate. Certain demographic data will be collected, namely school size, state funding to district, economic change in district, and school enrollment change, for the purpose of determining their effect on middle school programming.

Significance of the Study

Besides simply generating knowledge to fill a void that exists in the literature, this study is significant for other reasons. One has to do with the peculiar properties of decline. Freeman and Hannan (1981) noted that "decline is not simply growth in reverse. It is a distinct process with its own, different dynamics." This has implications for administrators. "District officials and policymakers risk a possible long-term erosion of the quality of educational delivery by assuming they can simply subtract out that which was added on during expansion" (Berman & McLaughlin, 1978).

Much has been written about the demands of decline on administrators. It was noted by Henry Morgan (1982), Dean of the School of Management at Boston University, that "decline affecting schools calls for a new style of management." In fact, for the years ahead, "mere administration is not enough, not even when it is competent. There is a need for men and women who lead" (Hechinger, 1981). "Decline management demands a keener sense of balance and proportion in the allocation of scarce resources, a deeper understanding of human behavior, and a greater awareness of the priorities of the future" (Keough, 1978).

One of the skills necessary for today's administrators is the ability to engage effectively in long-range planning.

There is little likelihood that the society will ever again commit the same proportion of its total resources to education as were committed between 1950 and 1975. . . . But educational agencies must clearly respond to changed priorities. (Kelley, 1978)

Because of this, "success in education is almost never the result of sheer luck. It is, instead, the outcome of careful planning" (Stellar, 1980).

When superintendents were asked what one mistake should be avoided by school districts faced with declining enrollment, the answer was often "failure to plan ahead" (Neill, 1981). "Planning provides a process for determining future, as well as present needs and the means for developing alternative policies/programs to meet those needs" (Boardman, 1979). In fact, the literature is filled with caveats about the crippling effects on program and children from ill-advised, unplanned cuts which are made in response to momentary political contingencies.

There are many models offered in the literature for planning the changes that will result from decline. The Phi Delta Kappa Educational Planning Model, the Bonghart-Trull Model of Educational Planning, and Kaufman's Educational System Planning were described by Stellar (1980). The thread that ran through each of these and other models for change or planning is the need for data or information about the current situation or state of affairs. In fact, one model to initiate change and solve problems was identified simply as collecting data and making them public (Suehr, 1979).

More important, however, than the mere existence of data is the quality of those data. The importance of accurate data cannot be too greatly stressed (Keough, 1978). This, then, brings us full circle. Educational leaders need accurate data about the effects of decline not

just because it fills a void that exists in the literature, but because it is necessary to have in order to effectively plan for future declines and growth.

This study is also significant because declining enrollments and financial support are major problems that will remain with us through the 1980s. In Gonder's (1980) survey of AASA members, school finance and budget problems consistently rated first or second among a large number of possible concerns. Similarly, a survey of 878 school board members by the National School Boards Association ranked budget-related items 8 times out of the top 11 concerns. In the 17th Annual Gallup Poll (1983), "lack of proper financial support" continued as one of the top four concerns and ranked number three among public school parents. The Educational Research Service noted,

Recent national surveys have found that nearly all groups of school officials surveyed rank declining enrollment as an issue of serious concern. Moreover, enrollment decline brings with it many associated problems such as adequate school financing, cost reduction, staff reductions, facilities planning, and school closings, which administrators and board members have also ranked among their biggest problems" (Porwoll, 1980)

This connection between enrollment decline and financial support for schools was determined to be tied with taxpayer sentiment. "Taxpayers are increasingly unwilling to support rising school budgets for a decreasing number of pupils" (Zerchykov, 1982).

This study is needed for a number of other specific reasons. The 1983 study by Nelson for the Michigan Department of Education, which included some program-effects data, was considered to be important because

As a result of data collected herein, a considerable dimension may be added as appropriate officials attempt to respond accurately to legislative and congressional committees regarding proper funding levels for "catch up" and an adequate funding future.

Zerchykov (1982) believed that literature on declining enrollment and consolidation needs to break away "from either cookbooks giving recipes to administrators on how to avoid the lash of community anger or research on the technology of projections. . . ."

Research is needed specifically in the area of middle schools for several reasons. One is because of the amazing growth in numbers of middle schools. From the first middle school in the United States in Bay City, Michigan, in 1950, growth has been substantial. Cuff (1967) found 499 middle schools nationally in 1965-66, but by 1977 Brooks (1978) had found 4,060. The development of middle schools was called "one of the most remarkable phenomena in the history of American education" (Gatewood & Dilg, 1978).

Many middle schools were started for philosophical or educational reasons (Valentine, 1981). Some were started to eliminate overcrowding (Corducci, 1979). Others were started for a combination of educational and spatial reasons (Alexander, 1968; Onofris, 1971; Sinks, 1975). In the early years of the middle school, the 1960s and early 1970s, the overcrowding resulted from increases in enrollment. Today the overcrowding exists because buildings have been closed and consolidated. Regardless of the reasons, the growth of the middle school continues.

Middle schools are also important to study because of the tremendous impact that staff transfers have on the middle school and,

potentially, its program. Since the middle school most frequently encompasses grades 6-8, teachers in Michigan with elementary certificates (grades K-8) and teachers with secondary certificates (grades 7-12) may teach any subject at grades 7 and 8. These transfers become more and more likely as enrollments decline and buildings are closed. The middle school, in a sense, gets it from both ends. As Michigan's Superintendent of Public Instruction, Dr. Philip Runkel, noted in a recent speech (1983), "The middle school has had a greater impact from declining enrollment than any other level."

There is a need for program-impact information, especially regarding the middle school. It is also important to find out if the size of the school and the level of state funding make a difference in impact. All of the studies reviewed that dealt with size, dealt with only district size. Although some studies looked at district wealth, none specifically looked at in-formula and out-of-formula districts in Michigan.

It is important to look at how changes and impacts are perceived because attitudes and feelings are so important. After surveying 1,000 people nationwide, it was concluded that "a district's attitude and approach to a school closing or a budget cut sometimes can affect whether the experience is good or bad" (Gonder, 1977). Put another way,

How you feel is more important than what you know, because how you feel controls your behavior--what you know doesn't. . . . When it comes to a battle between brains and glands, glands usually win. (Kelley, 1981)

It is important to study the perceptions of middle school principals because, as the administrative head and supervisory officer of the school, the principal makes critical decisions and recommendations regarding staffing, program, school rules and procedures, and nearly all other aspects of the school.

It is important to look at the effects over a period of the last five years for several reasons. As has been documented, Michigan's middle schools have been in a period of only slight enrollment decline for the past two or three years. During this "calm before the storm," the cumulative effects of the past fairly sharp decline are now being felt. Middle schools are also now being hit hard by the further sharp decline that is beginning at all secondary levels. Five years is also a reasonable period for principals to remember as they relate their perceptions of change and impact.

Assumptions of the Study

This dissertation is based on the following assumptions:

1. School officials need, and seek, factual information about the effects of decline for schools at all levels in the district.
2. Middle school principals need, and seek, factual information about the effects of decline on middle schools, on which to base decisions and recommendations for educational policy.
3. Principals hold a critical position in the hierarchy of educational leadership.

4. The questions prepared and organized in the survey instrument are appropriate for measuring middle school programs, staff, and school climate.

5. The survey instrument was understood, and principals responded as they honestly believed the situation to be.

Limitations of the Study

1. This study was limited to those schools identified as public middle schools by the Michigan Department of Education.

2. The study was limited to the time frame 1979 through 1983.

3. The study was limited to the perceptions of principals about program, staff, and school climate, as well as their perceptions of the level and intensity of change in school enrollment and economic stress.

4. The study was limited by the degree to which the survey instrument is understood by the respondent principals and by the accuracy of their responses.

5. The study was limited by the degree to which the survey instrument accurately measures middle school programs, staff, school climate, enrollment change, and economic change.

Definition of Terms

Middle school. An educational unit with a philosophy, structure, and program which will realistically and appropriately deal with 11 to 14 year olds as they are and behave. Its commitment is primarily to the youth it seeks to serve (Georgiady & Romano, 1973).

Principal. The administrative head and supervisory officer of a public school (Smith, 1982).

Perception. A quick, acute, intuitive cognition; a personal understanding (Webster, 1980).

Decline. Organizational contractions, whether due to enrollment drops or fiscal austerity.

Enrollment. The number of full-time-equivalent students actually enrolled and in regular attendance (Michigan School Code, 1976).

Economic. The sum total of fiscal revenues for the school, whether from local, state, or federal sources, after costs have been subtracted out, and accompanying manifestations.

State equalized valuation (SEV). The sum total of districts' real and personal property tax base subject to taxation as equalized at 50 percent of fair market value (Brigham, 1983).

In-formula district. A district in which the state guarantee is greater than the local taxing effort; a district that receives state per pupil membership aid (Michigan Department of Education, 1983).

Out-of-formula district. A district in which the local taxing effort exceeds the state guarantee; a district that does not receive state per pupil membership aid (Michigan Department of Education, 1983).

Eighteen basic characteristics. Those 18 characteristics of a middle school that were originally identified and validated by Riegle (1971) as being basic to a middle school program.

Research Questions

1. Are there any patterns in middle school principals' perceptions of the effects of economic and enrollment decline on changes in program, staff, and climate in middle schools in Michigan?

2. Are there any patterns in middle school principals' perceptions of the impact that changes in program, staff, and climate have had on the school's development as a middle school?

3. Do middle school principals' perceptions of change in program, staff, and climate vary as a function of the following four variables?

- a. size of the school
- b. level of state funding in the school district
- c. economic change in the school district
- d. enrollment change in the school

4. Do middle school principals' perceptions of the impact that changes in program, staff, and climate have had on the school's development as a middle school vary as a function of the following four variables?

- a. size of the school
- b. level of state funding in the school district
- c. economic change in the school district
- d. enrollment change in the school

5. Do middle school principals' perceptions of change in program, staff, and climate vary as a function of interactions among selected variables?

- a. size of the school by level of state funding in the school district
- b. enrollment change in the school by level of state funding in the school district
- c. enrollment change in the school by size of the school

6. Do middle school principals' perceptions of the impact that changes in program, staff, and climate have had on the school's development as a middle school vary as a function of interactions among selected variables?

- a. size of the school by level of state funding in the school district
- b. enrollment change in the school by level of state funding in the school district
- c. enrollment change in the school by size of the school

Overview of the Study

In the first chapter, the problem was presented, as well as the need for, and purpose of, the study. The assumptions and limitations were stated along with the definitions of important terms. Research questions were introduced.

In the second chapter, selected literature and research sources related to the basic elements of the study are reviewed. First, the effects of decline are discussed. Second, school closures and reductions in force are reviewed. Third, an explanation of the 18 basic middle school characteristics is provided.

In the third chapter, the design of the study is presented. The population and sampling method are presented, followed by a description of the survey instrument and its development. Data-gathering procedures are described and research questions are presented. The statistical treatment employed in interpreting the data is introduced.

In the fourth chapter, the research questions are presented along with the statistical treatments employed to analyze the data. Data results are then examined in relation to each of the research questions. Additional descriptive data relative to specific item analyses are also provided.

In the fifth chapter, the conclusions and implications are drawn. Recommendations for further study and general recommendations are also provided.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

There seems to be no shortage of literature on the effects and results of decline in enrollment and finances on school districts at the elementary and secondary levels. Little of this literature specifically addresses the middle school. While there is no shortage of "advice/opinion/theory"-type literature, there is a shortage of research and a particular shortage of research on program effects. Virtually no research exists on program effects at the middle school level. As will be seen, there are some contradictions between the theory about what ought to happen and the research findings about what actually does happen. It will also be seen that it is extremely difficult, if not impossible, to distinguish between effects of decline in enrollments, finances, or other related areas.

Heavy emphasis will be placed on the findings of Dembowski et al. (1979), who conducted the most comprehensive national study to date on program effects at the public elementary and secondary levels. His study, completed for the Association for Supervision and Curriculum Development, involved 320 districts across the nation, of which 94 districts or 31 percent responded. Emphasized at the Michigan level will be the study completed in 1983 for the Michigan Department of

Education by Nelson. This study surveyed a stratified sample of Michigan's school districts, broken down by district size. Ten schools were surveyed in each stratum. Responses were good in all but one stratum, in which only three of the ten school districts replied. Caution was requested in generalizing from that stratum. Nelson's study did have some specific information related to middle school staffing and program demographics. Also frequently cited will be Zerchykov (1982), whose study consisted of an extensive review of literature on managing decline in school systems. As some studies are introduced for the first time in this chapter, some basic information of the type supplied above will be introduced.

The review of the literature will provide a background of information related to the purposes of this study. The review will be presented as follows:

- Effects of decline: nationally and in Michigan
- School closings
- Reductions in force: nationally and in Michigan
- Middle school characteristics

The chapter concludes with a general summary.

Effects of Decline: Nationally

Organizational Demography

Organizational demography is a term coined by Freeman and Hannan in their 1981 study and refers to staff composition characteristics such as age, pupil-teacher ratios, and salaries. Several major studies have been conducted nationally regarding these

characteristics. The studies were in agreement in most areas on what the effects of decline were.

--The median age of staff increased (Dembowski, 1979; Hickrod, 1976; Rodekohr, 1976). Conclusions may be only associated with decline in rural areas in Rodekohr's study.

--Pupil-teacher ratios were lower and lowest in districts declining most rapidly (Hickrod, 1976; Rodekohr, 1976; Odden & Vincent, 1978).

--Teaching staffs were reduced proportionately more than administrative staffs (Freeman & Hannan, 1981; Hickrod, 1976; Odden & Vincent, 1978).

--Average teacher salaries were found to be higher in declining districts by Hickrod (1976), but no difference from state averages was found by Odden and Vincent in 1978.

--Fewer teachers capable of teaching in more than one subject area were hired in declining districts (Rodekohr, 1976).

Costs

It is difficult to generalize about costs. Whether a problem exists or not depends on many factors, such as the level of state contributions to district revenues, districts' property wealth, and the willingness of the community to maintain a constant rate of taxation regardless of enrollment. Some generalizations are possible, however. On a per pupil basis, costs for instructional and administrative staff rise, as do costs for plant maintenance and fixed charges. Costs do

not decrease unless decline causes cutbacks in facilities and staff (Odden & Vincent, 1978).

Range of Programs

Range of programs refers to the variety of program offerings that exists in the curriculum. Several conclusions were found regarding program range.

Declining enrollments are associated with the reduction of course offerings in electives but not in core curriculum. Only course offerings in foreign languages, agricultural education, and driver education were consistently jeopardized by declining enrollments and only then in districts which experienced a decline of 20 percent or more. Staff and faculty allocations followed these shifts in the range of course offerings. (Zerchykov, 1982)

Dembowski (1979) found that while special and compensatory education services did not decline, he did report a decline in language arts, science, and mathematics. A Critical Issues report for the American Association of School Administrators indicated that the effects on programs at the elementary level were "not too serious" but at the secondary level, electives were eliminated; some classes were offered in alternate years; activity programs were curtailed, eliminated, or impaired; and any other programs not falling into the "basics" category were likely to be reduced or eliminated (Neill, 1981).

Program Innovations

Program innovations refer to newly introduced instructional programs and teaching strategies. This section is particularly important since much of the middle school philosophy is considered to

be innovative. The available studies were in agreement that districts in decline were not very innovative.

It is likely newer teachers are able to implement innovative practices. Because they cannot hire new teachers, school districts must either bear the cost of retraining older teachers or opt for status quo instructional programs instead of innovative ones. (Dembowski, 1978)

Dembowski (1981) also saw a trend, especially in core areas that have exhibited some innovations, to "homogenize" programs and restrict them to the basics which he said would also restrict districts' ability "to accommodate individual differences and offer high-quality educational opportunities."

Several related points were made by Keough in 1978:

The desire or willingness to try "something new" is most frequently expressed by the young. . . . We now find ourselves in the position where program improvement is, for most districts, not the crucial concern; "maintaining what we have" is the critical issue. . . . It's usually the very innovations that made the district a "lighthouse" that are the first to go.

In terms of particular innovative practices, districts in decline and growth exhibited no difference in the use of team teaching; less use of individualized instruction; a greater likelihood of having alternative education programs; a greater use of computer-assisted instruction; and a considerably lesser inclination to shorten their instructional materials replacement cycle (Dembowski, 1979). Zerchykov (1982) saw this instructional materials replacement cycle as a better measure of fiscal impact than gross data about per pupil expenditures.

Program Quality

In looking back and summarizing the results of his 1979 study, Dembowski (1980) stated that declining enrollments are beginning to take their toll on instructional programs. He further stated:

The districts that were greatly affected by enrollment declines reported that the quality of their educational program deteriorated the most. Our evidence suggests that if school districts experience slight declines in student enrollment, the quality of the educational program may be increased because it is not necessary to reduce teacher staff or sell buildings. . . . However, as the pinch of declining enrollments is felt financially through reductions in state aid, which is based on the number of pupils, more stringent measures become necessary.

He also noted that drop-out rates increased in declining districts.

A New Mexico study found that some districts reported educational deterioration because of declines (Davis, 1982), whereas an Ontario study spoke of the negative effect on classroom interaction and curriculum implementation (Leighwood & Montgomery, 1978).

When school officials were asked for their perceptions, the overall sample felt their programs had deteriorated, while in the larger school districts the program had not deteriorated (Rodekohr, 1976). A slight majority (53 percent) in Wilken and Callahan's 1978 sample said there was a minimal impact on program quality. It was concluded that:

Respondents in school districts with increasing enrollment think that educational services have been deteriorating most rapidly in the same areas cited by respondents in school districts with declining enrollment.

Rodekohr's sample focused on rural communities, whereas Wilken and Callahan's sample districts were unusually high in property wealth. Despite the differences of these samples, program quality was affected.

Morale

Although nothing was found regarding the morale of students in the school, several sources spoke to the morale of administrators and staff and its eventual impact on instruction.

Today with fewer students and fewer schools, the number of openings among administrative ranks has also decreased. Because of this decline, those holding administrative positions tend to stay, locking off opportunities for advancement among teacher aspirants.

The oversupply of competent, well trained classroom teachers caught in this "closed opportunity" trap will dramatically affect the climate of schools and the morale of instructional staffs.

As if lack of career advancement opportunities, decreased job satisfaction and lowered morale were not enough for teachers to bear, as program budget cuts, economies, and reduction in force set in, they may see a competent colleague with less seniority lose a position. (Keough, 1978)

The events that will inevitably occur when enrollments or resources decline were identified by Sybouts in 1979. He included fear and apprehension among teachers, deteriorating morale, difficulty in achieving cooperative efforts, and a propensity toward retrenchment. The prevailing mood of "pessimism, self-doubt and conservatism" was noted by Hechinger (1981), while Neill (1981) stated that "teacher morale and teaching quality may suffer--that is the bottom line on instruction."

Supervisory Practices

The Association for Supervision and Curriculum Development (ASCD) surveyed school leaders in 16 districts nationwide in 1980. They reported no perceived impact of decline in supervisory practices, which included provisions for in-service, teacher evaluation, curriculum improvement, and instructional supervision.

District Wealth/Socioeconomic Status

Very little generalizable information is available in this area. In Dembowski's (1979) sample, the poorer districts were generally the ones with declining enrollments. Higher conflict levels were found to be associated with decline, and especially school closing, in higher status districts (Boyd, 1979). In Illinois, wealthier districts laid off fewer staff, given equal rates of decline (Hickrod, 1976). Declining Iowa districts had lower tax rates and higher school revenues than the state average, but this was no doubt due to the property wealth of the districts sampled (Wilken & Callahan, 1978).

District Location (Urban Versus Rural Versus Suburban)

Findings regarding the importance of district location were somewhat sketchy. Rural districts were less likely to have innovative programs and more likely to have difficulty maintaining an innovative and comprehensive program (Rodekohr, 1976). It has been noted that perhaps district location is not of critical importance: "There are no loyal districtwide supporters, only loyal school supporters" (Eisenberger, 1974). The symbolic importance of the urban neighborhood school and the rural town or township high school were spoken of as being unmatched by anything in the suburban context by Zerchykov (1982). In a study of 37 school closings in St. Louis, Missouri, it was found that the important feature of urban school districts was the dysfunctions produced by large-scale bureaucratic structures and the

particular difficulty in getting accurate information for local district planning (Colton & Frelich, 1979).

District Size (Large Versus Small)

More data were available regarding district size. Small districts were less likely to have innovative programs because they could not realize minimal economies of scale (Rodekoher, 1976). Smaller districts were less likely to institute early retirement, use alternative education and computer-assisted-instruction programs, and more likely to lengthen materials replacement cycles, but these findings held true for both declining and growing districts (Dembowski, 1979). The ASCD (1981) found a reduction as high as 60 percent in supervisory and curriculum support personnel in large and small districts. A survey of school boards and teachers in Ontario by Enns concluded that smaller schools have experienced more severe problems as a result of pupil reduction. The National School Boards Association found in 1976 that smaller districts are hardest hit by enrollment decline because they are less able to absorb the loss of per pupil financial support.

Middle Schools

The only national data available were in an article by Collins and Lucone (1982) on the effects of Massachusetts' Proposition 2½, a tax-limiting proposal, on the typical middle school from 1980 to 1981. They described a reduction in enrollment from 774 to 750 with a mandate to trim the budget by 15 percent. The reductions or eliminations were

carried out in an across-the-board fashion that left no aspect of the program or personnel untouched.

Effects of Decline: Michigan

As mentioned previously, there does not exist a large volume of data about effects of decline in Michigan. A position paper for the Michigan Association for Supervision and Curriculum Development stated:

Reductions in the instructional programs have been necessary in most school districts in Michigan. Due to the inability on the part of the state to provide adequate basic State Aid to in-formula districts, these districts appear to have reduced programs to a greater extent. (Woons, 1983)

The paper went on to describe some of the reductions and eliminations that occurred, because of reduced resources and declining enrollments, in a sampling of West Michigan districts. The list included reading laboratories; interscholastic and intramural sports at the junior high; gifted and talented programs; driver education; field trips; vocal music, art, and physical education at the elementary level; reduction in periods at all secondary levels; environmental education and camping; and budgets for audio-visual materials, textbooks, teaching supplies, library and research materials, staff workshops and conferences, in-service, and athletics.

Another 1983 study included a list of effects: pay freezes or only regular increment increases; reduction of work hours, shortened work years, salary deferments, not filling vacancies, and substituting compensatory time for overtime pay in the case of administrators; reduction or elimination of support personnel such as teacher aides,

custodial and maintenance workers, and food service personnel; and a number of other conservation measures (Strauss, 1983).

The 1983 Michigan Department of Education study by Nelson examined how recent economic problems have affected the funding of public school education in Michigan. Nelson looked at a variety of items at the elementary, junior high/middle school, and secondary levels. He identified the percentage of change that had occurred from the 1976-77 school year through the 1982-83 school year. In nearly every category, there was a considerable change, frequently much greater at the junior high/middle school level than at either of the other two levels.

In brief, he found that at the junior high/middle school level the following changes occurred:

1. Average number of hours per day--decreased 4.8%
2. Average pupil/teacher ratios--increased 6.6%
3. Average pupil/counselor ratios--decreased 1.4%
4. Average pupil/teacher ratio in the basics (English, math, science, social studies)--increased 2.5%
5. Average pupil-teacher ratio in art, home economics, physical education and music--increased 3.8%
6. Nearly one-half of the interscholastic and intramural athletic programs decreased (46%)
7. Daily cleaning decreased in 29% of the districts
8. Building repairs decreased in 21% of the districts (and actually increased in 36%)

A comparison of the differences between the largest districts and the smallest districts showed:

1. The same or closely similar percentages of change were evident in the average number of hours per day.
2. Smaller districts showed a greater decrease in average number of periods per day and in pupil/counselor ratio. [High schools showed an increase.]
3. In all areas but physical education, smaller districts had greater increases in pupil/teacher ratios.

4. Smaller districts showed greater decreases in sports, daily cleaning and building repairs.
5. Smaller districts were funded to a greater degree by local funds and their increases in state and federal funding levels per child were less. Less also were the increases in funds per child in basic instructional programs and total programs.
6. Enrollment declined somewhat less rapidly in smaller districts (11.8% versus 13.2%), operational expenditures per child increased less, but State Equalized Valuation (SEV) per child increased much more (138.3% to 68.8%).
7. The total levied millage was nearly the same for both the large and small districts.

School Closings

Two areas of effects deserve special mention, both because of the abundance of literature regarding them and the impact they have on middle schools. They are school closings and reductions in force (RIF). Both often result in teachers being reassigned, frequently to the middle school. This can have a major impact on the quality of the program, since some of these reassigned teachers do not want to teach middle school children and others have trouble adjusting their teaching style to meet the unique needs and behaviors of this age group. With this in mind, the literature follows.

At the start of the 1978-79 school year, the Comptroller General of the United States sent a questionnaire to the 50 states about school closings. He found that there were 2,943 vacant schools in 19 states. When asked in June 1981, he estimated there were probably 6,000 closed schools in at least 40 states (Neill, 1981).

The number of closings would reach 10,000 by the end of the decade, according to Hechinger (1981). School closings are only one of the alternatives for dealing with financial and enrollment declines,

but the cost savings make it an attractive option. In fact, small districts are looking to reorganization as a possible solution because they are becoming too small to operate efficiently or to provide an adequate educational program (Wood, 1981). Saving the most money, however, is not the sole consideration. Keough (1978), who was involved in one of the first New York State school closures due to declining enrollments, stated:

School districts caught in a financial crisis have only a few possible courses of action: reduce staff and cut program, consolidate facilities, raise local taxes or operate under deficit budgets. . . . Most administrators view facility contraction as the lesser evil.

School consolidation and/or reorganization frequently results in the development of a sixth-through-eighth-grade middle school organization. It was reported that moving the ninth graders to the high schools and sixth graders to the junior highs saved money through increased capacity use and economies of scale in Maryland (Riew, 1981). It was noted by another source that reorganization in 6-8 middle schools and closing a junior high is attractive in medium- and large-sized districts in part because junior high schools have never developed the loyalty that high schools and neighborhood elementary schools have among parents (Bussard, 1981). Another reason, mentioned by Brodinsky (1982), is that for the two-thirds of the nation's school districts with only one high school, school closing is no solution.

For many others, school closings are not desirable. This may be due in part to the way closure decisions are made. In St. Louis the operative criteria for school closure were school location and school

size (Colton & Frellich, 1979). A comparative case study of 12 school districts in New Jersey showed that the major criterion used was the neighborhoods with the least political clout, as defined by voter turnout (Bornstein, 1979). Bornstein also found that elected school board members who are involved in contested school-closure decisions tend not to be re-elected.

Certainly the pressures are great. In reflecting on school closings and the accompanying layoffs in Michigan, Crane (1982) wrote:

We closed their school, laid off one of their favorite teachers, cut programs, enlarged classes, and to top everything else, their tax bill is higher than ever! The explanation may be plausible, accurate, and totally honest, but it simply doesn't sell.

Keough (1978) stated:

Pressure from parents to keep designated schools open and cut programs is pitted against pressure from parents supportive of quality programs. Both are pitted against pressure from residents without school-age children to affect economies through any means.

Some administrators, given a choice, choose to cut staff and/or programs.

. . . The concentrated costs of school closing upon particular neighborhoods which clearly are the losers in the policymaking game, ordinarily will produce a much more intense public participation and opposition, at least in those particular neighborhoods, than will the distributed costs of across-the-board cuts in teaching personnel throughout the school district. (Boyd, 1979)

In making program cuts, the problem becomes which program to cut and how. Four main approaches are often identified:

1. Not all Disciplines Are Equal: Amputate Selected Programs.
2. All of the Disciplines Are Equal: Trim Each Program.
3. All the Disciplines Are Equal But Should Not Cost the Same: Allocate Resources Based on Unique Needs of a Program.
4. The Formal Disciplines Are Not Necessarily Separate: Combining Programs. (Walter & Kopp, 1979)

Each of these approaches, of course, has strengths and weaknesses. Regardless of the approach chosen, however, one caution is mentioned frequently in the advice literature. The Michigan Association for Supervision and Curriculum Development identified it as the most basic principle to consider in its 1983 position statement: Make reductions which will do the least damage to learners.

One scenario was described, however, that is happening all too frequently: A decision is made to consolidate facilities. The decision is met with considerable community opposition, and a protracted battle ensues. Late in the year, both sides realize that a stalemate has been reached. Their financial crisis is imminent, the facility plan is dead, and it is too late to hold a referendum. The only thing left is to cut program (Keough, 1978). Keough went on to state:

Program cut decisions are made under pressure, quickly and usually without a well thought out plan. Decisions to cut are made by the dollar signs, or by figuring out the area of least community resistance, or by targeting the area that is the least protected by the teachers' contract. At the secondary level, the electives are usually the first to go.

Although school closure is a common response to decline, little has been written on the impact of retrenchment decisions. Few districts study the impact of the policy option finally adopted, according to Zerchykov (1982). The only study available on the topic was done in Ithaca, New York, with 143 second through fifth graders by Richards and Cohen (1981). They found that the children's reactions to merger and closure were related to immediacy. Initially there were

strong negative reactions, but they found little long-term effect academically or otherwise. They did find that age made a difference. The adjustment was easier for the fifth graders.

In reference to people's attitudes about school closures, it has been said: "There is a sense of accomplishment and enthusiasm about constructing new buildings. There tends to be an opposite feeling experienced with the notion of closed buildings" (Hamet, 1981).

William Clark (1981), a Massachusetts administrator, indicated that if reorganization is done properly, negative feelings need not exist. In referring to his district's reorganization into one with a middle school, he said: "The thing we're most pleased about is the teachers' excitement. At a time when teachers generally are kind of down about layoffs, we've managed to rekindle a true school spirit." Would that Clark's comment was the norm. The literature did not bear this out. The days of closing a school to improve the quality of education, according to Neill (1981), are few and far between.

Reductions in Force (RIF): Nationally

The topic of RIF is "second only to school closure in the amount of attention it receives in the literature" (Zerchykov, 1982). According to the National Association of Elementary School Principals (1983), the number of teachers employed in elementary and secondary schools grew by 37 percent from 1961 to 1970, but only by 7 percent from 1971 to 1980. Teachers hired for new positions decreased 20 percent from 1971 to 1980. They also indicated that the outlook is not likely to be better until the end of the 1980s.

A summary look at the literature on RIF yielded the following: RIF is usually only one aspect of a complicated and interrelated attempt to deal with decline. Each decision to affect economies sets in motion a series of other possible consequences. It was explained as follows:

. . . Considering closing schools led into planning and into community involvement. Closing a school may lead to RIF, and RIF may lead to considering in-service and other mitigating actions which, in turn, lead to further expenses, which create renewed community pressure to make more cuts, i.e., cuts in program. (Zerchykov, 1982)

What were considered to be major factors complicating the issue of RIF were outlined by Keough (1978). He collectively called them "educational drawbacks."

1. increased class size.
2. limited possibilities to increase the diversity of offerings and to incorporate long-desired special curricular features previously shelved because of space limitations.
3. . . . the negative impact on overall district climate and teacher morale.
4. . . . the possibility of having to dismiss the most recently hired: minority group members, talented beginning teachers and part-time aides or paraprofessionals.
5. . . . RIF may take along those long fought for special program areas.
6. . . . the greatest drawback of all: indecision and perennial drift--a condition that for many seems preferable to difficult personnel and policy decision making. Once adrift with neither long range plans nor policy, the haphazard lopping off of staff and programs presents an even greater threat to educational quality than does RIF.

Another complicating factor is what criteria to use in making layoff decisions.

Despite an overwhelming prescriptive consensus that RIF decisions take into account "merit" and affirmative action as well as seniority, the overwhelming reality is that seniority alone is often the guiding principle in RIF. (Zerchykov, 1982)

Although Keller (1981) reported an ASCD study which indicated that supervisors and curriculum developers were among the most expendable staff, most studies, including the one by Freeman and Hannan (1981), concluded that the teaching staff was cut proportionately greater than the administrative staff. The net result of RIF, at least RIF by seniority alone, seems to be that the age and experience of the teaching staff increase. The increased salaries and benefits for this aging staff eat up some of the cost reductions made possible by school closure (Odden & Vincent, 1978). This aging teaching force inhibits innovation (Dembowski, 1979). They also become demoralized because administrative positions that they may have normally sought are eliminated or frozen (Cuban, 1979). From a strictly financial standpoint, the district ends up with a higher per pupil cost for education. This, of course, does not sit well with the taxpayers--and so the cycle continues. One other impact was mentioned in a 1977 report by the Illinois State Board of Education, which indicated that teaching effectiveness decreased with length of service. This conclusion has not been substantiated by other studies.

Reduction in Force: Michigan

In Michigan, the effects on school staff have been substantial. It was reported that more than 8,100 Michigan teachers and 10,344 other school personnel have been laid off in the past three years (Strauss, 1983). In 1983 the State Board of Education reported that both enrollment and number of public school employees declined by 11 percent

over the past five years. Teacher aides dropped by about 13 percent, but the largest decline was 17 percent among instructional support personnel. Food service and operation and maintenance employees declined 8 and 9 percent, respectively. Clerical dropped 9 percent, central office administrators 12 percent, and building principals and assistant principals declined by 7 percent. The only category that showed an increase was financial and data processing, which was up about 7 percent.

For the decade ending in 1982-83, the State Board of Education reported that Michigan had the sharpest decline in number of classroom teachers (14 percent) of any state in the nation. During the same period, Michigan's public school enrollment dropped 19.7 percent, compared to a national drop of 14 percent. Teachers at the national level actually increased by 1.4 percent. These figures alone underscore the severity of Michigan's situation.

The 1983 study by Nelson, unfortunately, did not break down staffing data by level. He did find that from 1976-77 through 1982-83 the percentage changes were as follows:

Administrators (including principals)	-11.1%
Classroom teachers	-16.8%
Professional specialists	-14.8%
Clerical/secretarial	- 8.2%
Custodians	-12.3%
All categories of aides	-20.9%

Nelson also found that layoffs had increased by 500 percent! When small and large district figures were compared, small districts experienced a greater percentage decline in all categories except

administrators and clerical aides. Large districts, however, showed a much greater percentage change in number of employees laid off.

The Michigan Education Association (MEA) Employee Personnel Data reports for years 1977-78 through 1982-83 did include data on middle school classroom teachers. Over the period mentioned, the number decreased by 18.1 percent. The reports also showed a drop of 19.1 percent in librarians and 15.1 percent in guidance counselors. Oddly enough, the reports showed the number of assistant principals decreasing by 3.9 percent while the number of principals rose by 5.3 percent. No explanation was given. Regardless of the exact figures, it is clear that declining enrollments and finances have had a substantial impact on the number of personnel in the schools.

Middle School Characteristics

Eventually, many of the decisions surrounding the issue of decline have an impact at the middle school level. In 1983, Neill wrote: "The era of declining enrollments has brought new emphasis to the middle school and the four year high school. The middle school concept is riding high in all parts of the nation." Regardless of the reasons, the middle school is gaining added attention. But what is a middle school? The definition used in this study is by Georgiady and Romano (1983). A middle school is:

An educational unit with a philosophy, structure and program which will realistically and appropriately deal with 11 to 14 year olds as they are and behave. Its commitment is primarily to the youth it seeks to serve.

In 1971, Riegler searched the professional literature for a list of basic characteristics that distinguished middle schools from junior high schools. From the literature he extracted a list of 18 basic middle school characteristics, which he then sent to five national middle school authorities for validation. Riegler's list, sometimes referred to simply as 18 characteristics, has subsequently been used throughout the country by a large number of researchers including Raymer (1974), Caul (1975), Bohlinger (1977), Beckman (1978), Pook (1980), Cooley (1982), and others.

In 1973, Georgiady and Romano helped Riegler refine the list. This refined list is also frequently used. It was, in fact, used as a basis for the characteristics of an exemplary middle school endorsed by Michigan's State Board of Education in 1980. The refined list of 18 basic characteristics is used in this study as a basis for the section on program. The detailed list of these characteristics appears on the following pages.

Eighteen Characteristics of the Middle School

Characteristic

1. Continuous Progress

What and Why

The middle school program should feature a nongraded organization that allows students to progress at their own individual rate regardless of chronological age. Individual differences are at the most pronounced stage during the transescent years of human development. Chronological groups tend to ignore the span of individual differences.

Explanation

The curriculum built on continuous progress is typically composed of sequenced achievement levels or units of work. As a student completes a unit of work in a subject he moves on to the next unit. This plan utilizes programmed and semi-programmed instructional materials, along with teacher-made units.

2. Multi-material approach

What and Why

The middle school program should offer to students a wide range of easily accessible instructional materials, a number of explanations and a choice of approaches to a topic. Classroom activities should be planned around a multi-material approach rather than a basic textbook organization.

Explanation

Maturity levels, interest areas, and student backgrounds vary greatly at this age and these variables need to be considered when materials are selected. The middle school age youngster has a range biologically and physiologically anywhere from seven years old to 19 years old. Their cognitive development, according to Piaget, progresses through different levels, too. (Limiting factors include environment, physical development, experiences, and emotions.) The middle school youngster is one of two stages: preparation for and organization of concrete operations and the period of formal operations. These students have short attention spans. Variation in approach and variable materials should be available in the school program to meet the various needs and abilities of the youngsters and to help the teachers retain the interest of the youngsters.

3. Flexible schedules

What and Why

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. The rigid block schedule provides little opportunity to develop a program to a special situation or to a particular student.

Explanation

Movement should be permissive and free rather than dominated by the teacher. Variation of classes and the length of class time as well as variety of group size will help a student become capable of assuming responsibility for his own learning.

4. Social experiences

What and Why

The program should provide experiences appropriate for the transescent youth and should not emulate the social experiences of the senior high school. Social activities that emulate high school programs are inappropriate for middle school students. The stages of their social development are diverse and the question of immaturity is pertinent in the planning of activities for this age level.

Explanation

The preadolescent and early adolescent undergo changes which affect the self-concept. The youngster is in an in-between world, separate from the family and the rest of the adult world. This is a time of sensitivity and acute perception, a crucial time in preparation for adulthood. This is the age of sex-role identification. The youngsters model themselves after a same-sex adult and seek support from the same-sex peer group. The youngster needs to be accepted by the peer group. The attitudes of the group affect the judgement of the individual child. There is the necessity for developing many social skills--

especially those regarding the opposite sex. There are dramatic changes in activity: dancing, slang, kidding, practical joke give and take, etc. Common areas should be provided in the building for social interaction among small groups.

5. Physical experiences

What and Why

6. Intramural activities

The middle school curricular and cocurricular programs should provide physical activities based solely on the needs of the students. Involvement in the program as a participant rather than as a spectator is critical for 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 bodies. The middle school should feature intramural activities rather than interscholastic activities.

Explanation

Activities that emulate the high school program are inappropriate for the middle school. The stages of their physical development are diverse and the question of immaturity is pertinent in planning activities for this age level. The wide range of physical, emotional, social development found in youngsters of middle school age strongly suggests a diverse program. The child's body is rapidly developing. The relationship of attitude and physical skill must be considered in planning physical activities consistent with the concern for growth toward independence in learning. The emphasis should be upon the development of fundamental skills as well as using these skills in a variety of activities. Intramural activity involves maximum participation, whereas interscholastic activity provides minimum involvement. There is no sound educational reason for interscholastic athletics. Too

often they serve merely as public entertainment and encourage an overemphasis on specialization at the expense of the majority of the student body.

7. Team teaching

What and Why

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. Team teaching is intended to bring to students a variety of resource persons.

Explanation

Team teaching provides an opportunity for teacher talents to reach greater numbers of students and for teacher weaknesses to be minimized. This organizational pattern requires teacher planning time and an individualized student program if it is to function most effectively.

8. Planned gradualism

What and Why

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 high school.

Explanation

The transition period is marked by new physical phenomena in boys and girls which bring about the need for learning to manage their bodies and erotic sensations without embarrassment. Awareness of new concepts of self and new problems of social behavior and the need for developing many social skills is relevant. There is a responsibility to help the rapidly developing person assert his right to make many more decisions about his own behavior, his social life, management of money, choice of friends, in general, to make adult, independent decisions. The transition involves

a movement away from a dependence upon what can be perceived in the immediate environment to a level of hypothesizing and dealing with abstractions. There is an establishment of a level of adult-like thought and desire to test ideas in school as well as social situations.

9. Exploratory and enrichment studies

What and Why

The program should be broad enough to meet the individual interest of the students for which it was designed. It should widen the range of educational training a student experiences rather than specialize his training. There is a need for variety in the curriculum. Elective courses should be a part of the program of every student during his years in the middle school.

Explanation

Levels of retention are increased when students learn by "doing" and understanding is more complete when viewed from a wide range of experiences. Time should be spent enriching the student's concept of himself and the world around him, rather than learning subject matter in the traditional form. A student should be allowed to investigate his interests on school time, and to progress on his own as he is ready.

10. Guidance services

What and Why

The middle school program should include both group and individual guidance services for all students. Highly individualized help that is of a personal nature is needed.

Explanation

The middle school child needs and should receive counseling on many matters. Each teacher should "counsel" the child regarding his learning opportunities and progress in respective areas. Each child should perhaps be a member of a home-base group led by a teacher-counselor, someone who

watches out for his welfare. Puberty and its many problems require expert guidance for the youngsters, so a professional counselor should be available to the individual youngster.

11. Independent study

What and Why

The program should provide an opportunity for students to spend time studying individual interests or needs that do not appear in the organized curricular offerings.

Explanation

A child's own intellectual curiosity motivates him to carry on independently of the group, with the teacher serving as a resource person. Independent study may be used in connection with organized knowledge, or with some special interest or hobby. The student pursues his work, after it has been defined, and uses his teachers, various materials available in and out of school, and perhaps even other students, as his sources. He grows in self-direction through various activities and use of materials.

12. Basic skill repair and extension

What and Why

The middle school program should provide opportunities for students to receive clinical help in learning basic skills. The basic education program fostered in the elementary school should be extended in the middle school.

Explanation

Because of individual differences some youngsters have not entirely mastered the basic skills. These students should be provided organized opportunities to improve their skills. Learning must be made attractive and many opportunities to practice reading, listening, asking questions, etc., must be planned in every classroom.

Formal specialized instruction in the basic skills may be necessary and should be available.

13. Creative expression

What and Why

The middle school program should include opportunities for students to express themselves in creative ways. Student newspapers, dramatic creations, musical programs, and other student-centered, student-directed, student-developed activities should be encouraged.

Explanation

Students should be free to do some divergent thinking and explore various avenues to possible answers. There should be time allowed for thinking without pressure, and a place for unusual ideas and unusual questions to be considered with respect. Media for expressing the inner feelings should be provided. Art, music and drama provide opportunities for expression of personal feelings.

14. Security factor

What and Why

The 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.

Explanation

Teachers need time to give the individual student the attention he needs, to help in counseling and curriculum situations. The student needs someone in school that he can be comfortable with.

15. Evaluation

What and Why

The middle school program should provide an evaluation of a student's work that is

personal, positive in nature, nonthreatening, and strictly individualized. The student should be allowed to assess his own progress and plan for future progress.

Explanation

A student needs more information than a letter grade provides and he needs more security than the traditional evaluation system offers. Traditional systems seem to be punitive. The middle school youngster needs a supportive atmosphere that helps generate confidence and a willingness to explore new areas of learning. Student-teacher planning helps to encourage the student to seek new areas. Student-teacher evaluation sessions can help to create a mutual understanding of problems and also to provide a more meaningful report for parents. Parent-teacher-student conferences on a scheduled and unscheduled basis should be the basic reporting method. Competitive letter grade evaluation should be replaced with open pupil-teacher-parent communications.

16. Community relations

What and Why

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.

Explanation

The middle school houses students at a time when they are eager to be involved in activities with their parents. The school should encourage this natural attitude. The middle school has facilities that can be used to good advantage by community groups.

17. Student services

What and Why

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.

Explanation

Health services, counseling services, testing opportunities for individual development (curricular and co-curricular) meeting the interests and needs of each child should be provided.

18. Auxiliary staffing

What and Why

The middle school should utilize highly diversified 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.

Explanation

Auxiliary staffing is needed to provide the individual help students require. A variety of teacher aides or paraprofessionals may be used to extend the talent of the professional staff.

Summary

Despite the large volume of literature on the topic of overall decline, much can be classified as advice, opinion, or theory. Little research has been done on the effects of decline, and even less on the impact to the school program. In some cases there are contradictions between what the theory says and what the research actually shows to be the case. Much of the research that does exist on school program effects, however, is flawed. Some had biased samples while others had

poor return or extremely low sample sizes. No studies were found of which this study would be a replication.

What does exist in the literature tends to show that decline has negatively affected the public schools and that there is a positive relationship between amount of effect and amount of decline. In most cases, there has been a greater effect in Michigan than nationally. The effects documented include program cuts, school closings, reductions in force, a restricted range of program offerings, less innovation, an aging and more expensive teaching staff, an increase in per pupil expenditures, a decrease in staff morale, and at least some deterioration of program quality. As was noted, the relative paucity of studies on program impact makes much generalization difficult. It is clear, however, that just as declining enrollments and declining financial support are intermeshed, so too are the effects of these declines. Many times one effect or one decision leads districts into a seemingly inescapable vicious cycle of consequences.

The review in this chapter focused heavily on the literature related to program effects, although other sources were included. Literature was from the past decade. Also reviewed was literature relating to the middle school. A list of 18 basic middle school characteristics, used in this study, was detailed at the end of the chapter.

In the next chapter, the design of the study is explained.

CHAPTER III

DESIGN OF THE STUDY

Introduction

The basic objective of this exploratory study is to investigate the effects of economic and enrollment decline on public middle schools in Michigan for the period 1979-1983, as perceived by middle school principals. Four variables are being examined in addition to the overall data:

1. size of the school,
2. level of state funding in the district,
3. level of economic change in the district, and
4. level of enrollment change in the school.

Each variable is being examined in relation to the perceived program change in the school as well as the perceived impact the changes have had on the school's development as a middle school. The four variables are also being examined in selected interactions.

Chapter III presents a description of the processes used to conduct this study. First, the population and sample are defined. The sampling techniques are also explained. Second, the instrument used is explained along with an explanation of how it was developed and validated. Third, the data-gathering procedures are described.

Fourth, the statistical treatment employed is outlined. Last, the research questions are presented.

Population and Sampling Method

The population of this study consisted of the principals of the 348 public middle schools in Michigan. A list was obtained from the Michigan Department of Education of all schools officially classified as middle schools. The list returned consisted of 357 entries. Seven of these entries were excluded because they were nonpublic middle schools. One was found to be a duplication. Another had been closed this year due to declining enrollment. Thus the list was pared to 348.

A determination was made to use the full census as the sample for this study. Questionnaires would be sent to the principal of each of the 348 middle schools. In order to personalize the process of contacting these principals, it was decided to use the 1984 Michigan Education Directory and Buyer's Guide to determine each principal's name. Principals were defined as the administrative head and chief supervisory officer of the school. They were chosen to survey because it is their responsibility to be knowledgeable about the school programs, staff, and climate. Assistant principals, or other building-level administrators, were not included in the sample.

Instrumentation

Data required for this study consisted of information about how middle school principals perceived declining enrollment and/or declining finances had affected their program, staff, and school

climate over the course of the past five years. Since there were no known instruments available to collect these required data, a questionnaire was constructed by the researcher.

The questionnaire method was chosen for this study because (1) it allowed greater coverage in a shorter period of time than would have been possible using personal interviews, (2) the expense involved in the use of questionnaires was less than would have been required had it been necessary to interview the full sample, and (3) its standardized form insured at least some uniformity of measurement.

The instrument used to collect the data was divided into five parts. The first part asked for general background information. Information regarding the four main variables, school size, district funding, enrollment change, and economic change, was requested. Information regarding school location and district size was also requested and may be used for post-dissertation analysis. A coding number, to insure a high percentage of return through a follow-up letter, was included. There were also some general directions and definitions.

The second section of the questionnaire asked for information regarding the school program. The 18 basic middle school characteristics were used as a basis for this section. The 18 characteristics had been developed and validated by Riegler (1971) and subsequently used in many doctoral studies. Additional questions about program and materials were also asked in a separate subsection. The third section asked for information about the certificated and noncertificated staff.

The fourth section asked for information about the climate in the school. Two summary questions and a final question about any other changes that had occurred in the school made up the fifth section, which completed the instrument.

With the exception of the final, open-ended question, and those in the general background section, all questions asked respondents to indicate the level and intensity of change that had occurred over the past five years in their building and the level and intensity of impact that these changes, or lack of changes, had had on their school's development as a middle school. Change was measured on a five-point scale with the following responses: 1 = Substantial Decrease, 2 = Moderate Decrease, 3 = Unchanged, 4 = Moderate Increase, 5 = Substantial Increase. Impact was measured on a five-point scale with the following responses: 1 = Substantially Negative, 2 = Moderately Negative, 3 = None, 4 = Moderately Positive, 5 = Substantially Positive. For the program section there was also an opportunity for respondents to indicate any of the 18 middle school characteristics which had never existed in their school. If they marked this category, they were not required to mark a response in the impact column. In sections two through four, respondents provided the required information by drawing a circle around the number of the appropriate response.

The instrument was developed in the following manner. First, middle school teachers and administrators and university professors were asked for possible effects that they had observed as a result of decline in Michigan. From this list of items an initial questionnaire

was developed. This initial instrument was revised after reactions were solicited from a number of middle school practitioners. Finally, a first draft of the final instrument was developed. This draft was sent to a panel of eight national experts in the field of middle school education (Appendix A). The list of experts included both theoreticians and practitioners.

A second draft was developed which incorporated suggestions made by the panel. Several questions were deleted, some were added, and a number of wording changes were made. There was also a modification in the format for asking responses to the change and impact categories. This draft was then reviewed by personnel from the Office of Research Consultation at Michigan State University, as well as an authority in designing research instruments. Based on their input, the final four-section format was developed.

This third draft was then piloted with several middle school teachers and administrators for a determination of clarity of the questions and to get an idea of how long it would take to supply the required information. Some minor adjustments were made, and the final draft of the instrument was printed (Appendix B).

Data-Gathering Procedures

The final questionnaire was mailed to the full census in early January 1984. A cover letter, explaining the purpose of the study and the importance of prompt participation, was included (Appendix C). The letter also referred to the endorsement of this study by the Michigan

Association of Middle School Educators (MAMSE). A self-addressed, stamped envelope was included with the mailing.

Two weeks after the first mailing, follow-up letters were sent to those principals who had not yet responded (Appendix D). Since a small number of responses had been received from the 50 middle school principals in Detroit, a separate mailing was made to them. The cover letter carried the signature of the current MAMSE president, who is a middle school administrator in Detroit (Appendix E). An additional questionnaire was included in the Detroit mailing. As was indicated on the first page of the instrument, the respondents' identity was known only to the researcher, and their right to anonymity was respected.

For a population of 348 it was necessary to receive 185 responses to insure a 95 percent accuracy of response with only a 5 percent sampling error. Of the 348 questionnaires sent, 215 were returned. Seven were not used because they were returned too late. Three others were not used because they were incomplete to the point of being nearly blank. One was from an extremely small (one building) school district in which the middle school grades were barely distinguishable from the others. The total sample thus became 204. The sample was broken into several demographic categories, which were used in analyzing the data.

Statistical Treatment

The four main independent variables studied, school size, level of state funding, level of enrollment change, and level of economic change, were all determined using information provided by respondents

in section one. Limits for school size were determined by creating a frequency distribution of the number of students enrolled in the 348 identified schools. Enrollment numbers were taken from the 1984 Michigan Education Directory and Buyer's Guide. Three categories were developed, each of which included roughly one-third of the schools. Large schools were determined to be those with 700 or more students enrolled, medium from 500 to 699, and small with under 500. District size, though not one of the main variables studied, was determined in a similar manner.

Enrollment change was collapsed from the six possible responses into four main categories for purposes of analysis: (1) large decrease, (2) moderate decrease, (3) small decrease, and (4) same or increase. Economic change was likewise collapsed into the same four main categories.

If a question in section one was left blank and could be objectively determined by checking the 1984 Michigan Education Directory, the proper response was supplied. If no objective determination could be made, they were assigned a number 9 to indicate no answer was given. If two or more responses were made to a question and an objective determination could be made, the response was clarified.

If two or more responses were given to a question in sections two through four, neither response was used. A number 9 was assigned. Any question left blank was also assigned a number 9. In some sections, respondents were asked to draw a line through the question if the characteristic or program had never existed in their school. These

responses were assigned a number 8, to distinguish them from unanswered questions.

In compiling data for computer analysis, the numbers of the responses to questions 28, 29, 40-44, 54-56, and 58 were reversed, due to the wording of the questions. This assured that response totals were not improperly skewed. The narrative responses to the final, open-ended question were collapsed into several main theme categories and reported as such.

In analyzing the data, several statistical techniques were employed. Frequencies and corresponding percentages were calculated for all questions except the final narrative one. For research questions 1 and 2, the responses to each question were added to determine subsection and section means in both the change and impact categories. Mean scores were calculated using all valid (no number 8 or 9) responses. Number 8's were reported separately in the description of the middle school program section. Mean scores were also calculated for each question.

Hypothesis-testing procedures, using a t-test with the appropriate degrees of freedom, were employed to determine if the mean changes and impacts were significantly different from a mean score of 3.0, which indicated no change and no impact. Standard deviations, variances, and confidence intervals were determined.

The .05 level was set for these and all other statistical tests used in this study. This is the typical level of significance for the alpha error used in most social science studies (Springthall, 1982).

It is likewise the level specified in the Statistical Package for the Social Sciences (SPSS) programs that were used for this study. All work was performed using the Michigan State University computer.

Research questions 1 and 2 were further analyzed by determining which individual program, staff, or climate characteristics showed increases and positive impacts, as well as those which showed declines and negative impacts. Confidence intervals, and corresponding mean, variance, and standard deviation statistics, were calculated for each variable part to determine whether there was any significant change or impact. These calculations also provided information for answering the remaining research questions.

Research questions 2 and 3 were analyzed by first looking at the data developed for questions 1 and 2 to get information regarding significance. To determine, however, if the section and subsection mean scores for each variable part varied from each other, a one-way univariate analysis of variance (ANOVA) was performed for each variable. The ANOVA testing was also part of the SPSS package of statistical tests. In a study of this nature, it is difficult, if not impossible, for respondents to answer questions independently from each other; thus multivariate ANOVAs were calculated in addition to the univariate tests. The multivariate tests used were the Pillais, Hotellings, Wilks, and Wilks lambda. For all ANOVAs, F-statistics were determined, as were the levels at which they were significant. Since all of the multivariate tests yielded roughly the same results,

statistics for the Wilks test were reported as representative of those tests performed.

Research questions 5 and 6 were analyzed in a similar manner by performing univariate and multivariate two-way ANOVAs. The two-way ANOVA tests mean differences for the interaction between variables and as such is the appropriate technique.

Research Questions

1. Are there any patterns in middle school principals' perceptions of the effects of economic and enrollment decline on changes in program, staff, and climate in middle schools in Michigan?

2. Are there any patterns in middle school principals' perceptions of the impact that changes in program, staff, and climate have had on the school's development as a middle school?

3. Do middle school principals' perceptions of change in program, staff, and climate vary as a function of the following four variables?

- a. size of the school
- b. level of state funding in the school district
- c. economic change in the school district
- d. enrollment change in the school

4. Do middle school principals' perceptions of the impact that changes in program, staff, and climate have had on the school's development as a middle school vary as a function of the following four variables?

- a. size of the school
- b. level of state funding in the school district
- c. economic change in the school district
- d. enrollment change in the school

5. Do middle school principals' perceptions of change in program, staff, and climate vary as a function of interactions among selected variables?

- a. size of the school by level of state funding in the school district
- b. enrollment change in the school by level of state funding in the school district
- c. enrollment change in the school by size of the school

6. Do middle school principals' perceptions of the impact that changes in program, staff, and climate have had on the school's development as a middle school vary as a function of interactions among selected variables?

- a. size of the school by level of state funding in the school district
- b. enrollment change in the school by level of state funding in the school district
- c. enrollment change in the school by size of the school

Summary

The sample was drawn from a population of 348 public middle schools supplied by the Michigan Department of Education. The full census was used for the sample.

Since no known questionnaires were available to solicit the data necessary for this study, one was developed. The major content of the questionnaire as well as the procedure used to develop and validate it were described in this chapter.

Data-gathering procedures and information regarding statistical treatment of the data were outlined. The major statistical techniques used were the t-ratio and one-way and two-way univariate and multivariate analyses of variance. Finally, the research questions were presented in verbal form.

The next chapter contains a detailed statistical analysis of the data. The final chapter contains the conclusions and implications of this study as well as recommendations for further study and of a general nature.

CHAPTER IV

ANALYSIS OF THE DATA

Introduction

In this chapter the statistical analyses of the data are presented. Statistical treatments were performed as outlined in Chapter III. First, information regarding the demographic breakdown of the sample is examined. Tables 1 through 6, displaying the frequency distributions of each variable, are included for clarity.

In the second section of this chapter, each research question is examined individually. Data for each individual questionnaire item are examined first. Next the items are combined into the appropriate questionnaire subsections and sections, and overall statistics are examined for each. The data are also broken down into the four main variables of school size, district funding, district economic change, and school enrollment change and examined.

The third section includes descriptive and tabular results of other patterns and findings. The final section includes a summary and discussion of the central findings of this study, as well as summary tables.

Demographic Breakdown

When the responses from the 204 principals were examined to the questions in Section I of the questionnaire, several patterns were noted. Principals from small schools made up 40 percent of the sample, while medium-sized schools were 34 percent and large schools 26 percent. Small and large districts, however, both were represented by nearly 35 percent of the respondents, while 30 percent were from medium-sized districts.

Table 1.--Frequency distribution for total respondents by school size categories.

Variable	Category	Absolute Freq.	Relative Freq.(%)	Adjusted Freq.(%)	Cumulative Freq.(%)
School size	Small	82	40.2	40.2	40.2
	Medium	69	33.8	33.8	74.0
	Large	53	26.0	26.0	100.0
Total		204	100.0	100.0	

Table 2.--Frequency distribution for total respondents by district size categories.

Variable	Category	Absolute Freq.	Relative Freq.(%)	Adjusted Freq.(%)	Cumulative Freq.(%)
District size	Small	71	34.8	34.8	34.8
	Medium	62	30.4	30.4	65.2
	Large	71	34.8	34.8	100.0
Total		204	100.0	100.0	

District location showed the same general trend as school size. Forty-six percent of the schools were in rural locations, 38 percent in suburban locations, and only 16 percent in urban locations. The amount of district state funding revealed that nearly 70 percent of the districts were "in-formula" compared to 30 percent that were "out-of-formula." One principal did not respond.

Table 3.--Frequency distribution for total respondents by district location categories.

Variable	Category	Absolute Freq.	Relative Freq.(%)	Adjusted Freq.(%)	Cumulative Freq.(%)
District location	Urban	33	16.2	16.2	16.2
	Suburban	77	37.7	37.7	53.9
	Rural	94	46.1	46.1	100.0
Total		204	100.0	100.0	

Table 4.--Frequency distribution for total respondents by district state funding categories.

Variable	Category	Absolute Freq.	Relative Freq.(%)	Adjusted Freq.(%)	Cumulative Freq.(%)
District funding	In-formula	142	69.6	70.0	70.0
	Out-of-formula	61	29.9	30.0	100.0
	Didn't answer	1	.5	..	
Total		204	100.0	100.0	

In the important area of school enrollment change, the largest percentage of the districts, nearly 41 percent, had experienced a moderate decrease over the past five years. Twenty-five percent had experienced a large decrease and 20 percent had decreased only a small amount. In total, nearly 86 percent of the schools had had enrollment decreases compared with less than 14 percent that had stayed the same or had shown increases. One principal did not respond to this question.

Table 5.--Frequency distribution for total respondents by school enrollment change categories over the past five years.

Variable	Category	Absolute Freq.	Relative Freq.(%)	Adjusted Freq.(%)	Cumulative Freq.(%)
School enrollment change	Large decrease	51	25.0	25.1	25.1
	Moderate decrease	83	40.7	40.9	66.0
	Small decrease	41	20.1	20.2	86.2
	Same or increase	28	13.7	13.8	100.0
	Didn't answer	1	.5	..	
Total		204	100.0	100.0	

Nearly all of the school districts over the past five years, close to 96 percent, had experienced economic decreases. Moderate decreases accounted for just under 45 percent, 44 percent had a small decrease, and almost 7 percent had a large decrease. Only a little over 4 percent of the districts had stayed the same or experienced increased economic conditions.

Table 6.--Frequency distribution for total respondents by district economic change categories over the past five years.

Variable	Category	Absolute Freq.	Relative Freq.(%)	Adjusted Freq.(%)	Cumulative Freq.(%)
District economic change	Large decrease	14	6.9	6.9	6.9
	Moderate decrease	91	44.6	44.6	51.5
	Small decrease	90	44.1	44.1	95.6
	Same or increase	9	4.4	4.4	100.0
Total		204	100.0	100.0	

Research Questions

Question 1

Are there any patterns in middle school principals' perceptions of the effects of economic and enrollment decline on changes in program, staff, and climate in middle schools in Michigan?

Selected middle school characteristics.--Of the 18 basic middle school characteristics examined in this questionnaire subsection, principals indicated that change was in the direction of decrease in 9 of the items. The characteristics that decreased were:

Continuous Progress	Exploratory & Enrichment Studies
*Flexible Schedules	Guidance Services
Social Experiences	Creative Experiences
*Intramural Activities	Student Services
Team Teaching	
	*Significant at .05

Only two of the decreases, flexible schedules and intramural activities, were significant at the .05 level.

Change in the direction of increase was evident in the other nine items. The increases were:

Multi-material Approach
 *Phys. Ed. Experiences
 *Planned Gradualism
 Independent Study
 *Basic Skill Repair
 and Extension

Security Factor
 *Eval. of Student Achievement
 *Community Relations
 Auxiliary Staffing

*Significant at .05

Five of these increases, physical education experiences, planned gradualism, basic skill repair and extension, evaluation of student achievement, and community relations, were significant at the .05 level.

Mean scores and standard deviations for each item in the selected middle school characteristics subsection are displayed in Table 7 below.

Table 7.--Changes in selected middle school characteristics.

Question No.	Characteristic	Direction of Change ^a	Mean	S.D.	Sig. at .05?
10	Continuous Progress	Decrease	2.993	.750	no
11	Multi-material Approach	Increase	3.022	.903	no
12	Flexible Schedules	Decrease	2.750	.871	yes
13	Social Experiences	Decrease	2.901	1.065	no
14	Phys. Ed. Experiences	Increase	3.141	.905	yes
15	Intramural Activities	Decrease	2.764	1.246	yes
16	Team Teaching	Decrease	2.939	.893	no
17	Planned Gradualism	Increase	3.210	.837	yes
18	Exploratory & Enrichment Studies	Decrease	2.871	1.182	no
19	Guidance Services	Decrease	2.856	1.098	no
20	Independent Study	Increase	3.092	.654	no
21	Basic Skill Repair & Extension	Increase	3.268	.821	yes
22	Creative Experiences	Decrease	2.882	1.099	no
23	Security Factor	Increase	3.085	.832	no
24	Eval. of Student Ach.	Increase	3.182	.703	yes
25	Community Relations	Increase	3.232	.746	yes
26	Student Services	Decrease	2.930	.762	no
27	Auxiliary Staffing	Increase	3.111	1.002	no

^a Decrease = below 3.0 Increase = above 3.0

Other program characteristics and materials.--Principals

responded to eight items in this subsection of the questionnaire. Changes in other program characteristics and materials were in the direction of decrease for four of the items. They were:

- | | |
|-----------------------|----------------------------------|
| Level of library | *Availability of inst. supplies |
| *Length of school day | *Sufficient capital-outlay items |
| | *Significant at .05 |

All of the decreases were significant except for the level of library services.

Increases were recorded in the remaining four items. They were:

- | | |
|--------------------------|--------------------------|
| *Class size (Eng., Math, | *Computer-assisted inst. |
| Science, Soc. Studies) | Sufficient textbooks |
| *Class size (other) | |
| | *Significant at .05 |

Only one item, sufficient textbooks, did not have a significant increase. It should be noted that the scores for both class size items were reversed in tabulation, as previously explained in Chapter III. Table 8 summarizes the statistics for changes in other program characteristics and materials.

"Basic" classroom staff (English, math, science, social studies.--Nine items were in this questionnaire subsection. Change in "basic" classroom staff in the direction of decrease was recorded for only two of the nine items. These items were number of "basic teachers," where the decrease was significant, and percentage of teachers with a secondary certificate, which did not decrease significantly. All of the remaining changes increased significantly except the percentage of teachers with an elementary certificate, where

Table 8.--Changes in other program characteristics and materials.

Question No.	Characteristic	Direction of Change	Mean	S.D.	Sig. at .05?
28	Class size (Eng., Math, Science, Soc. Studies)	Increase	2.616 ^a	.850	yes
29	Class size (other)	Increase	2.606 ^a	.874	yes
30	Computer-assisted inst.	Increase	4.224	.772	yes
31	Level of library	Decrease	2.867	1.129	no
32	Length of school day	Decrease	2.802	.654	yes
33	Sufficient textbooks	Increase	3.005	.745	no
34	Availability of instruct. supplies	Decrease	2.882	.742	yes
35	Sufficient capital-outlay items	Decrease	2.596	1.012	yes

^aScores reversed in tabulation.

the increase was not significant. Table 9 summarizes the results of changes in "basic" classroom staff.

Other certificated staff.--Principals indicated that all of the six items regarding other certificated staff had changed in the direction of decrease, and all six of the decreases were significant. Table 10 summarizes the data.

Non-certificated staff.--Significant decreases were also recorded in all three of the changes examined regarding non-certificated staff. The statistics follow in Table 11.

Table 9.--Changes in "basic" classroom staff (English, math, science, social studies).

Question No.	Characteristic	Direction of Change	Mean	S.D.	Sig. at .05?
36	No. of "basic" teachers	Decrease	2.522	.753	yes
37	% teachers w/elem. cert.	Increase	3.081	.994	no
38	% teachers w/sec. cert.	Decrease	2.950	.855	no
39	% teachers with both elem. & sec. cert.	Increase	3.107	.497	yes
40	% of former h.s. staff transferred to m.s. (Eng.,math,sci.,soc.st.)	Increase	2.686 ^a	.904	yes
41	% of former h.s. staff transferred to m.s. (other classes)	Increase	2.790 ^a	.807	yes
42	% of former elem. staff transferred to m.s. (Eng.,math,sci.,soc.st.)	Increase	2.719 ^a	.887	yes
43	% of former elem. staff transferred to m.s. (other classes)	Increase	2.868 ^a	.625	yes
44	% of staff reassigned within bldg. to areas outside their strength	Increase	2.528 ^a	.854	yes

^aScores reversed in tabulation.Table 10.--Changes in other certificated staff.

Question No.	Characteristic	Direction of Change	Mean	S.D.	Sig. at .05?
45	No. of administrators	Decrease	2.653	.718	yes
46	No. of counselors	Decrease	2.538	.851	yes
47	No. of unified arts teach.	Decrease	2.548	.859	yes
48	No. of music teachers	Decrease	2.574	.808	yes
49	No. of phys. ed. teachers	Decrease	2.751	.706	yes
50	No. of libr./media spec.	Decrease	2.537	.812	yes

Table 11.--Changes in non-certificated staff.

Question No.	Characteristic	Direction of Change	Mean	S.D.	Sig. at .05?
51	No. of secretaries	Decrease	2.765	.637	yes
52	No. of instruct. aides	Decrease	2.505	.915	yes
53	No. of noninstruct. aides	Decrease	2.742	.791	yes

School climate.--All of the items relating to school climate were found in one questionnaire section. Of the ten items examined, principals reported increases in only two, percentage of parents attending conferences and open houses and morale of the students. Both of these school climate increases were significant. Of the eight remaining items that decreased, four were significant and four were not, as seen in Table 12.

Scores for each of the individual questionnaire items were combined into program, staff, and climate subsections and sections; then hypothesis-testing procedures were applied once again. Examination of these data revealed that only the items regarding selected middle school characteristics and school climate showed an increase. Neither of the increases was significant. All of the remaining questionnaire subsections showed a significant decrease.

When the subsection scores were combined into their appropriate section categories, program, staff, and climate, only school climate showed an increase. The increase was not significant. Middle school

Table 12.--Changes in school climate.

Question No.	Characteristic	Direction of Change	Mean	S.D.	Sig. at .05?
54	% of teachers who seem to have decreasing concern for children	Decrease	2.990	.819	no
55	% of students absent from school each day	Decrease	3.126 ^a	.560	yes
56	% of students tardy to school each day	Decrease	3.126 ^a	.620	yes
57	% of parents attending conferences and open houses	Increase	3.355	.805	yes
58	% of students reaching office for misbehavior	Decrease	3.207 ^a	.856	yes
59	% of teachers who stay at school beyond minimum required	Decrease	2.904	.890	no
60	% of teachers who sponsor and/or chaperone after-school activities	Decrease	2.525	1.016	yes
61	Morale of teachers	Decrease	2.879	1.097	no
62	Morale of administrators	Decrease	2.935	1.030	no
63	Morale of students	Increase	3.254	.849	yes

^aScores reversed in tabulation.

staff had a significant decrease. Middle school program showed a decrease, but it was not significant. Statistics for these subsection and section totals are displayed in Table 13.

By way of summary, of the 54 change characteristics on the questionnaire, principals indicated that decreases had occurred in 32, or 59.3 percent, compared with increases in 22, or 40.7 percent. Nineteen of the decreases, 35.2 percent of the total 54, were

significant at the .05 level, while 16 of the increases, 29.6 percent, were significant.

Table 13.--Change--totals for program, staff, and climate.

Name		Direction of Change	Mean	S.D.	Sig. at .05?
<u>Program Subsections</u>					
II.A.	Selected Middle School Characteristics	Increase	3.019	.531	no
B.	Other Program Charac- teristics & Materials	Decrease	2.881	.511	yes
<u>Staff Subsections</u>					
III.A.	"Basic" Classroom Staff	Decrease	2.803	.330	yes
B.	Other Certificated Staff	Decrease	2.601	.505	yes
C.	Non-Certificated Staff	Decrease	2.673	.608	yes
<u>Climate Subsection</u>					
IV.	School Climate	Increase	3.029	.546	no
<u>Section Totals</u>					
II.	Middle School Program	Decrease	2.971	.452	no
III.	Middle School Staff	Decrease	2.715	.322	yes
IV.	School Climate	Increase	3.029	.546	no

Question 2

Are there any patterns in middle school principals' perceptions of the impact that changes in program, staff, and climate have had on the school's development as a middle school?

There were also 54 impact characteristics on the questionnaire. Answers to them present much additional information. Principals were asked to indicate how the changes, or lack of changes, over the past five years had affected their school's development as a middle school. Impact patterns were more distinct than those for change.

Selected middle school characteristics.--Principals indicated that the changes in the 18 basic middle school characteristics had resulted in a negative impact on the school's development as a middle school for 7 of the items. They were:

*Flexible Schedules	Guidance Services
Social Experiences	Creative Experiences
*Intramural Activities	Student Services
Team Teaching	
	*Significant at .05

As was the case with change, only changes in flexible schedules and intramural activities had a negative impact that was significant at the .05 level.

A positive impact of program changes was found in the following 11 selected characteristics:

Continuous Progress	Independent Study
*Multi-material Approach	*Basic Skill Repair & Extension
*Phys. Ed. Experiences	Security Factor
*Planned Gradualism	*Eval. of Student Achievement
Exploratory & Enrichment Studies	*Community Relations
	*Auxiliary Staffing
	*Significant at .05

As can be seen, 7 of the 11 were significant.

Impact data for each of the items in the subsection on selected middle school characteristics are summarized in Table 14.

Table 14.--Impact of changes in selected middle school characteristics.

Question No.	Characteristic	Direction of Impact ^a	Mean	S.D.	Sig. at .05?
10	Continuous Progress	Positive	3.094	.807	no
11	Multi-material Approach	Positive	3.141	.922	yes
12	Flexible Schedules	Negative	2.820	.891	yes
13	Social Experiences	Negative	2.995	1.121	no
14	Phys. Ed. Experiences	Positive	3.215	.997	yes
15	Intramural Activities	Negative	2.732	1.209	yes
16	Team Teaching	Negative	2.932	.948	no
17	Planned Gradualism	Positive	3.180	.946	yes
18	Exploratory & Enrichment Studies	Positive	3.011	1.243	no
19	Guidance Services	Negative	2.906	1.145	no
20	Independent Study	Positive	3.050	.787	no
21	Basic Skill Repair & Extension	Positive	3.305	.898	yes
22	Creative Experiences	Negative	2.964	1.165	no
23	Security Factor	Positive	3.057	.852	no
24	Eval. of Student Ach.	Positive	3.174	.801	yes
25	Community Relations	Positive	3.220	.792	yes
26	Student Services	Negative	2.908	.847	no
27	Auxiliary Staffing	Positive	3.212	1.058	yes

^aNegative = below 3.0 Positive = above 3.0

Other program characteristics and materials.--Of the eight items in this subsection, principals indicated that changes in only two, computer-assisted instruction and sufficient textbooks, had positively affected their school's development as a middle school. Only computer-assisted instruction was significant at the .05 level.

Principals indicated that the remaining six changes in other program characteristics and materials had had a negative impact. Each

was significant except the level of library services. Table 15 summarizes the findings related to other program characteristics and materials.

Table 15.--Impact of changes in other program characteristics and materials.

Question No.	Characteristic	Direction of Impact	Mean	S.D.	Sig. at .05?
28	Class size (Eng., Math,	Negative	2.642	.906	yes
29	Class size (other)	Negative	2.647	.900	yes
30	Computer-assisted inst.	Positive	4.097	.803	yes
31	Level of library	Negative	2.850	1.164	no
32	Length of school day	Negative	2.785	.743	yes
33	Sufficient textbooks	Positive	3.010	.859	no
34	Availability of instruct. supplies	Negative	2.875	.814	yes
35	Sufficient capital-outlay items	Negative	2.706	.927	yes

"Basic" classroom staff (English, math, science, social studies).--Principals indicated that the only two changes in basic classroom staff that had had positive impacts were the percentage of elementary staff transferred/reassigned to the middle school in English, math, science, and social studies classes and those elementary staff transferred/reassigned in other areas. Only those assigned to English, math, science, and social studies had had a positive impact that was significant.

All of the remaining seven items had had a negative impact. All negative impacts were significant except the percentage of teachers

with an elementary certificate and the percentage of teachers with both an elementary and a secondary certificate. Summary data can be seen in Table 16.

Table 16.--Impact of changes in "basic" classroom staff (English, math, science, social studies).

Question No.	Characteristic	Direction of Change	Mean	S.D.	Sig. at .05?
36	No. of "basic" teachers	Negative	2.532	.872	yes
37	% teachers w/elem. cert.	Negative	2.909	.876	no
38	% teachers w/sec. cert.	Negative	2.770	.773	yes
39	% teachers with both elem. & sec. cert.	Negative	2.962	.458	no
40	% of former h.s. staff transferred to m.s. (Eng., math, sci., soc. st.)	Negative	2.604	.805	yes
41	% of former h.s. staff transferred to m.s. (other classes)	Negative	2.714	.714	yes
42	% of former elem. staff transferred to m.s. (Eng., math, sci., soc. st.)	Positive	3.115	.806	yes
43	% of former elem. staff transferred to m.s. (other classes)	Positive	3.053	.606	no
44	% of staff reassigned within bldg. to areas outside their strength	Negative	2.495	.877	yes

Other certificated staff.--Principals perceived that the impacts on their school's development as a middle school of all changes in other certificated staff were negative. All six of the negative impacts were significant at the .05 level. Table 17 summarizes these impact data.

Table 17.--Impact of changes in other certificated staff.

Question No.	Characteristic	Direction of Change	Mean	S.D.	Sig. at .05?
45	No. of administrators	Negative	2.721	.748	yes
46	No. of counselors	Negative	2.544	.915	yes
47	No. of unified arts teach.	Negative	2.605	.910	yes
48	No. of music teachers	Negative	2.611	.926	yes
49	No. of phys. ed. teachers	Negative	2.827	.722	yes
50	No. of libr./media spec.	Negative	2.596	.866	yes

Non-certificated staff.--Significant negative impacts were also recorded in all three of the items examined in this non-certificated staff subsection. The summary statistics follow in Table 18.

Table 18.--Impact of changes in non-certificated staff.

Question No.	Characteristic	Direction of Change	Mean	S.D.	Sig. at .05?
51	No. of secretaries	Negative	2.740	.764	yes
52	No. of instruct. aides	Negative	2.511	.881	yes
53	No. of noninstruct. aides	Negative	2.749	.827	yes

School climate.--Principals indicated that 5 of the 10 school climate items had had a negative impact on their school's development as a middle school, whereas 5 had had a positive impact. The five having a negative impact were:

*% of teachers who seem to have decreasing concern for children

*% of teachers who sponsor and/or chaperone after-school activities

% of teachers who stay
at school beyond
minimum required

Morale of teachers
Morale of administrators

*Significant at .05

Only two items were significant, as seen above.

The five items having a positive impact were:

% of students absent
from school each day
% of students tardy to
school each day

*% of students reaching office
for misbehavior
*Morale of students

*% of parents attending con-
ferences & open houses

*Significant at .05

As noted, three of these five were significant. Table 19 summarizes the impact data for school climate changes.

When the individual item scores for impact were combined into questionnaire subsection and section totals, only the impacts of changes in selected middle school characteristics and school climate were found to be positive. Neither of these was significant. All of the remaining subsections showed a significant negative impact from the changes of the past five years.

When these subsection scores were combined into section totals, the impact of changes in middle school staff was negative and significant. Impacts from program and climate changes were both positive overall, but not significant. Summary totals can be found in Table 20.

Table 19.--Impact of changes in school climate.

Question No.	Characteristic	Direction of Impact	Mean	S.D.	Sig. at .05?
54	% of teachers who seem to have decreasing concern for children	Negative	2.813	1.057	yes
55	% of students absent from school each day	Positive	3.077	.667	no
56	% of students tardy to school each day	Positive	3.046	.646	no
57	% of parents attending conferences and open houses	Positive	3.410	.853	yes
58	% of students reaching office for misbehavior	Positive	3.210	.932	yes
59	% of teachers who stay at school beyond minimum required	Negative	2.871	1.086	no
60	% of teachers who sponsor and/or chaperone after-school activities	Negative	2.557	1.147	yes
61	Morale of teachers	Negative	2.949	1.209	no
62	Morale of administrators	Negative	2.949	1.085	no
63	Morale of students	Positive	3.241	.924	yes

Table 20.--Impact--totals.

Name		Direction of Change	Mean	S.D.	Sig. at .05?
<u>Program Subsections</u>					
II.A.	Selected Middle School Characteristics	Positive	3.052	.577	no
B.	Other Program Charac- teristics & Materials	Negative	2.890	.556	yes
<u>Staff Subsections</u>					
III.A.	"Basic" Classroom Staff	Negative	2.796	.450	yes
B.	Other Certificated Staff	Negative	2.645	.567	yes
C.	Non-Certificated Staff	Negative	2.675	.623	yes
<u>Climate Subsection</u>					
IV.	School Climate	Positive	3.010	.640	no
<u>Section Totals</u>					
II.	Middle School Program	Positive	3.001	.513	no
III.	Middle School Staff	Negative	2.723	.422	yes
IV.	Middle School Climate	Positive	3.010	.640	no

In summary, principals indicated that 34 of the changes, 63 percent, had had a negative impact. Of the 34, 23 changes showed an impact that was significant. This represents 42.6 percent of the total

characteristics. On the other hand, 20 of the changes, 37 percent, had had a positive impact, while only 12 of these, or 22.2 percent of the total changes, had had a significantly positive impact. In other words, nearly twice as many changes, regardless of direction, had a negative impact on middle schools as had a positive impact.

Question 3

Do middle school principals' perceptions of change in program, staff, and climate vary as a function of the following four variables?

- a. size of the school
- b. level of state funding in the school district
- c. economic change in the school district
- d. enrollment change in the school

The overall change patterns for each questionnaire item, subsection, and section have been previously identified. The data for program, staff, and climate were then broken down by the four main variables of school size, district funding, district economic change, and school enrollment change. These data are reported first according to questionnaire subsection and then by total program, staff, and climate section.

Selected middle school characteristics.--Principals of both small and large schools, in-formula districts, districts with large and moderate economic decline, and schools with moderate enrollment decline reported decreases in selected middle school characteristics. The only decrease that was significant, however, was in districts with large economic decline. Principals in out-of-formula districts and districts with only a small economic decline reported significant increases. The

remaining increases were not significant. A nonsignificant increase was the overall subsection pattern of change. Table 21 summarizes these change data.

Table 21.--Changes in selected middle school characteristics by school size, district funding, district economic change, and school enrollment change.

Variable	Category	Direction of Change	Mean	S.D.	Sig. at .05?
School Size	Small	Decrease	2.995	.567	no
	Medium	Increase	3.078	.535	no
	Large	Decrease	2.977	.464	no
District Funding	In-formula	Decrease	2.934	.513	no
	Out-of-formula	Increase	3.212	.529	yes
District Economic Change	Large decrease	Decrease	2.636	.587	yes
	Moderate decrease	Decrease	2.969	.492	no
	Small decrease	Increase	3.125	.534	yes
	Same or increase	Increase	3.034	.503	no
School Enrollment Change	Large decrease	Increase	3.002	.490	no
	Moderate decrease	Decrease	2.951	.585	no
	Small decrease	Increase	3.113	.493	no
	Same or increase	Increase	3.121	.476	no
OVERALL		Increase	3.019	.531	no

Other program characteristics and materials.--The only group of principals to report an increase for changes in other program characteristics and materials were principals in out-of-formula districts. The increase was significant at the .05 level. Change in the other 12 variable categories was in the direction of decrease. The decrease was

significant for large schools, in-formula districts, districts with large and moderate economic decline, and schools with moderate enrollment decline. The overall pattern of change for other program characteristics and materials was a significant decrease. Table 22 summarizes the data.

Table 22.--Changes in other program characteristics and materials by school size, district funding, district economic change, and school enrollment change.

Variable	Category	Direction of Change	Mean	S.D.	Sig. at .05?
School Size	Small	Decrease	2.918	.516	no
	Medium	Decrease	2.950	.520	no
	Large	Decrease	2.736	.469	yes
District Funding	In-formula	Decrease	2.761	.465	yes
	Out-of-formula	Increase	3.181	.467	yes
District Economic Change	Large decrease	Decrease	2.482	.447	yes
	Moderate decrease	Decrease	2.834	.498	yes
	Small decrease	Decrease	2.994	.491	no
	Same or increase	Decrease	2.846	.621	no
School Enrollment Change	Large decrease	Decrease	2.961	.531	no
	Moderate decrease	Decrease	2.844	.500	yes
	Small decrease	Decrease	2.891	.482	no
	Same or increase	Decrease	2.829	.562	no
OVERALL		Decrease	2.881	.511	yes

Middle school program--overall.--When the data from the two program subsections are combined, 5 of the 13 variable categories show increases. They are medium schools, out-of-formula districts, districts with small economic decline, and schools with small enrollment declines

and static or increasing enrollment. Of these five, only the out-of-formula districts had a significant increase. The change in the other eight categories was a decrease. Decreases were significant for in-formula districts and districts with large economic decline. The overall program section change was a decrease, but not a significant decrease. Summary data for the program section follow in Table 23.

Table 23.--Changes in middle school program overall by school size, district funding, district economic change, and school enrollment change.

Variable	Category	Direction of Change	Mean	S.D.	Sig. at .05?
School Size	Small	Decrease	2.969	.475	no
	Medium	Increase	3.033	.454	no
	Large	Decrease	2.894	.408	no
District Funding	In-formula	Decrease	2.875	.425	yes
	Out-of-formula	Increase	3.199	.432	yes
District Economic Change	Large decrease	Decrease	2.574	.456	yes
	Moderate decrease	Decrease	2.920	.411	no
	Small decrease	Increase	3.084	.448	no
	Same or increase	Decrease	2.963	.531	no
School Enrollment Change	Large decrease	Decrease	2.988	.434	no
	Moderate decrease	Decrease	2.916	.495	no
	Small decrease	Increase	3.030	.417	no
	Same or increase	Increase	3.026	.407	no
OVERALL		Decrease	2.971	.452	no

"Basic" classroom staff.--Principals' perceptions of the changes in "basic" classroom staff did not vary at all. Findings for each of

the 13 variable categories showed a significant change in the direction of decrease. This was also the overall pattern. Summary statistics follow in Table 24.

Table 24.--Changes in "basic" classroom staff by school size, district funding, district economic change, and school enrollment change.

Variable	Category	Direction of Change	Mean	S.D.	Sig. at .05?
School Size	Small	Decrease	2.817	.334	yes
	Medium	Decrease	2.823	.300	yes
	Large	Decrease	2.756	.364	yes
District Funding	In-formula	Decrease	2.819	.342	yes
	Out-of-formula	Decrease	2.768	.305	yes
District Economic Change	Large decrease	Decrease	2.663	.240	yes
	Moderate decrease	Decrease	2.746	.307	yes
	Small decrease	Decrease	2.888	.352	yes
	Same or increase	Decrease	2.722	.261	yes
School Enrollment Change	Large decrease	Decrease	2.727	.298	yes
	Moderate decrease	Decrease	2.822	.362	yes
	Small decrease	Decrease	2.823	.333	yes
	Same or increase	Decrease	2.867	.276	yes
OVERALL		Decrease	2.803	.330	yes

Other certificated staff.--Principals in all variable categories reported decreases in other certificated staff. All were significant except districts with static or improving economic conditions. The overall pattern was a significant decrease. (See Table 25.)

Table 25.--Changes in other certificated staff by school size, district funding, district economic change, and school enrollment change.

Variable	Category	Direction of Change	Mean	S.D.	Sig. at .05?
School Size	Small	Decrease	2.523	.540	yes
	Medium	Decrease	2.720	.465	yes
	Large	Decrease	2.564	.480	yes
District Funding	In-formula	Decrease	2.545	.509	yes
	Out-of-formula	Decrease	2.735	.477	yes
District Economic Change	Large decrease	Decrease	2.262	.542	yes
	Moderate decrease	Decrease	2.523	.486	yes
	Small decrease	Decrease	2.740	.471	yes
	Same or increase	Decrease	2.504	.628	no
School Enrollment Change	Large decrease	Decrease	2.503	.514	yes
	Moderate decrease	Decrease	2.571	.490	yes
	Small decrease	Decrease	2.653	.568	yes
	Same or increase	Decrease	2.810	.373	yes
OVERALL		Decrease	2.601	.505	yes

Non-certificated staff.--Decreases were reported in all non-certificated staff categories. All were significant except schools with static or increasing enrollments. The overall pattern was a significant decrease, as shown in Table 26.

Table 26.--Changes in non-certificated staff by school size, district funding, district economic change, and school enrollment change.

Variable	Category	Direction of Change	Mean	S.D.	Sig. at .05?
School Size	Small	Decrease	2.645	.593	yes
	Medium	Decrease	2.768	.642	yes
	Large	Decrease	2.590	.579	yes
District Funding	In-formula	Decrease	2.622	.615	yes
	Out-of-formula	Decrease	2.796	.582	yes
District Economic Change	Large decrease	Decrease	2.028	.388	yes
	Moderate decrease	Decrease	2.729	.625	yes
	Small decrease	Decrease	2.707	.592	yes
	Same or increase	Decrease	2.667	.333	yes
School Enrollment Change	Large decrease	Decrease	2.609	.585	yes
	Moderate decrease	Decrease	2.671	.608	yes
	Small decrease	Decrease	2.700	.574	yes
	Same or increase	Decrease	2.759	.715	no
OVERALL		Decrease	2.673	.608	yes

Middle school staff--overall.--Data from the three staff subsections, when combined, all show significant decreases in staff which are all significant at the .05 level. This corresponds with the overall pattern. Table 27 summarizes the statistics.

Table 27.--~~Changes~~ in middle school staff overall by school size, district funding, district economic change, and school enrollment change.

Variable	Category	Direction of Change	Mean	S.D.	Sig. at .05?
School Size	Small	Decrease	2.688	.332	yes
	Medium	Decrease	2.779	.317	yes
	Large	Decrease	2.671	.306	yes
District Funding	In-formula	Decrease	2.694	.322	yes
	Out-of-formula	Decrease	2.765	.321	yes
District Economic Change	Large decrease	Decrease	2.435	.235	yes
	Moderate decrease	Decrease	2.671	.305	yes
	Small decrease	Decrease	2.808	.317	yes
	Same or increase	Decrease	2.643	.352	yes
School Enrollment Change	Large decrease	Decrease	2.636	.297	yes
	Moderate decrease	Decrease	2.711	.328	yes
	Small decrease	Decrease	2.747	.361	yes
	Same or increase	Decrease	2.833	.258	yes
OVERALL		Decrease	2.715	.322	yes

School climate.--Principals in large schools, in-formula districts, districts with large and moderate economic declines, schools with large enrollment decline, and schools with static or increasing enrollment reported a decrease for school climate changes. None of the decreases was significant. Change was in the direction of increase in the other seven categories. It was significant in out-of-formula districts and districts with small economic decline. The overall pattern was an increase that was not significant. School climate data are summarized in Table 28.

Table 28.--Changes in school climate by school size, district funding, district economic change, and school enrollment change.

Variable	Category	Direction of Change	Mean	S.D.	Sig. at .05?
School Size	Small	Increase	3.067	.536	no
	Medium	Increase	3.052	.587	no
	Large	Decrease	2.937	.503	no
District Funding	In-formula	Decrease	2.984	.564	no
	Out-of-formula	Increase	3.133	.497	yes
District Economic Change	Large decrease	Decrease	2.775	.550	no
	Moderate decrease	Decrease	2.949	.550	no
	Small decrease	Increase	3.133	.511	yes
	Same or increase	Increase	3.149	.667	no
School Enrollment Change	Large decrease	Decrease	2.976	.527	no
	Moderate decrease	Increase	3.063	.539	no
	Small decrease	Increase	3.092	.544	no
	Same or increase	Decrease	2.951	.605	no
OVERALL		Increase	3.029	.546	no

When all of the change data are examined in total, it is evident that most of the significant changes are decreases, as are most of the nonsignificant changes. The greatest change has occurred in the area of middle school staff, while middle school climate has had the least. In examining the data by variable, the greatest discrepancies from the overall patterns were found in district funding and district economic change.

In order to provide a more rigorous analysis of the data, univariate and multivariate one-way analyses of variance were performed. The univariate test shows if there are any differences

in mean scores for each subsection when examined by each variable category. It shows, for example, if being in or out of state funding formula makes a difference.

In both program subsections, there was significant variance, as measured by F-values, across district funding and economic change variable categories. District funding and economic change were likewise significant for the section on school climate. All four variables showed significant variance regarding other certificated staff. Economic change varied regarding "basic" staff and non-certificated staff. Table 29 shows the appropriate F-values and levels of significance for each variable and subsection.

Finally, multivariate one-way analyses of variance were performed. These tests, because all correlations are taken into account, are more rigorous still. Although statistics for the Pillais, Hotelling's, Wilks, and Wilks lambda tests were determined, only the F-values and levels of significance for the Wilks test are reported because the results for each test were roughly the same. The multivariate tests indicated that principals' perceptions did not vary significantly as a function of school size or enrollment change, but did vary as a function of district funding and economic change, as seen in Table 30.

Table 29.--~~Change~~: Univariate one-way ANOVA by school size, district funding, district economic change, and school enrollment change.

Subsection	Variable	F-Value	Level of Sig.
<u>Program Subsections</u>			
II.A. Selected Middle School Characteristics	School Size	1.424	.243
	District Funding	11.406	.001*
	Economic Change	4.793	.003*
	Enrollment Change	.989	.399
B. Other Program Characteristics	School Size	2.378	.095
	District Funding	27.733	<.001*
	Economic Change	4.178	.007*
	Enrollment Change	.361	.781
<u>Staff Subsections</u>			
III.A. "Basic" Classroom Staff	School Size	.810	.446
	District Funding	1.058	.305
	Economic Change	4.257	.006*
	Enrollment Change	1.300	.276
B. Other Certificated Staff	School Size	3.552	.030*
	District Funding	4.210	.024*
	Economic Change	5.545	.001*
	Enrollment Change	2.775	.043*
C. Non-Certificated Staff	School Size	1.064	.347
	District Funding	2.952	.088
	Economic Change	5.018	.002*
	Enrollment Change	.442	.723
<u>Climate Subsection</u>			
IV. School Climate	School Size	.930	.396
	District Funding	3.920	.049*
	Economic Change	3.012	.032*
	Enrollment Change	.745	.526

*Significant at .05.

Table 30.--Change: Multivariate one-way ANOVA by school size, district funding, economic change, and enrollment change.

Variable	Wilks F-Value	Level of Significance
School Size	1.105	.354
District Funding	6.348	<.001*
Economic Change	2.634	<.001*
Enrollment Change	1.258	.210

*Significant at .05.

Question 4

Do middle school principals' perceptions of the impact that changes in program, staff, and climate have had on the school's development as a middle school vary as a function of the following four variables?

- a. size of the school
- b. level of state funding in the school district
- c. economic change in the school district
- d. enrollment change in the school

When the impact data are broken down and examined, the patterns are similar to those found with change. Most of the significant impacts on the development of a middle school program are negative, as are most of the impacts in general.

Selected middle school characteristics.--Principals of large schools, in-formula districts, districts with large and moderate economic decline, and schools with moderate enrollment decline all reported that changes in selected middle school characteristics had had a negative impact on their school's development as a middle school.

The only negative impact that was significant, however, was in districts with large economic decline. Principals in out-of-formula districts and districts with small economic decline reported a significantly positive impact of changes in selected characteristics. All other principals reported positive impacts that were not significant. The overall pattern was also a not-significant positive impact. Table 31 summarizes impact findings for changes in selected middle school characteristics.

Table 31.--Impact of changes in selected middle school characteristics by school size, district funding, district economic change, and school enrollment change.

Variable	Category	Direction of Change	Mean	S.D.	Sig. at .05?
School Size	Small	Positive	3.057	.621	no
	Medium	Positive	3.085	.571	no
	Large	Negative	2.997	.512	no
District Funding	In-formula	Negative	2.960	.565	no
	Out-of-formula	Positive	3.264	.556	yes
District Economic Change	Large decrease	Negative	2.619	.539	yes
	Moderate decrease	Negative	2.992	.492	no
	Small decrease	Positive	3.179	.617	yes
	Same or increase	Positive	3.045	.639	no
School Enrollment Change	Large decrease	Positive	3.010	.462	no
	Moderate decrease	Negative	2.987	.625	no
	Small decrease	Positive	3.179	.628	no
	Same or increase	Positive	3.148	.523	no
OVERALL		Positive	3.052	.577	no

Other program characteristics and materials.--The only group of principals to report a positive impact of changes in other program characteristics and materials were principals in out-of-formula districts. The positive impact was significant. All the rest reported negative impacts. For principals of large schools, in-formula districts, districts with large and moderate economic decline, and schools with moderate enrollment decline, the negative impact of changes in other program characteristics and materials was significant. The remaining categories registered negative impacts that were not significant. The overall pattern was a significant negative impact, as seen in Table 32.

Table 32.--Impact of changes in other program characteristics and materials by school size, district funding, district economic change, and school enrollment change.

Variable	Category	Direction of Change	Mean	S.D.	Sig. at .05?
School Size	Small	Negative	2.935	.542	no
	Medium	Negative	2.908	.588	no
	Large	Negative	2.796	.532	yes
District Funding	In-formula	Negative	2.774	.538	yes
	Out-of-formula	Positive	3.184	.464	yes
District Economic Change	Large decrease	Negative	2.469	.480	yes
	Moderate decrease	Negative	2.881	.538	yes
	Small decrease	Negative	2.968	.544	no
	Same or increase	Negative	2.864	.751	no
School Enrollment Change	Large decrease	Negative	2.994	.522	no
	Moderate decrease	Negative	2.849	.557	yes
	Small decrease	Negative	2.907	.534	no
	Same or increase	Negative	2.789	.642	no
OVERALL		Negative	2.890	.556	yes

Middle school program--overall.--When the data from the two program subsections are analyzed as a total section, an overall positive impact of program changes is found, but this positive impact was not significant. Negative impacts were seen in large schools, in-formula districts, districts with large and moderate economic decline, districts that remained static or improved economically, and schools with moderate enrollment decline. The only significant negative impacts of changes in program were in in-formula districts and districts with large economic decline. Positive impacts of program change were evidenced in all remaining categories, but the change was significant only in out-of-formula districts. Table 33 summarizes impact findings for the entire section on middle school program.

Table 33.--Impact of changes in middle school program overall by school size, district funding, district economic change, and school enrollment change.

Variable	Category	Direction of Change	Mean	S.D.	Sig. at .05?
School Size	Small	Positive	3.017	.536	no
	Medium	Positive	3.026	.523	no
	Large	Negative	2.942	.464	no
District Funding	In-formula	Negative	2.903	.495	yes
	Out-of-formula	Positive	3.237	.479	yes
District Economic Change	Large decrease	Negative	2.560	.455	yes
	Moderate decrease	Negative	2.963	.446	no
	Small decrease	Positive	3.111	.535	no
	Same or increase	Negative	2.974	.661	no
School Enrollment Change	Large decrease	Positive	3.005	.427	no
	Moderate decrease	Negative	2.943	.551	no
	Small decrease	Positive	3.081	.552	no
	Same or increase	Positive	3.048	.493	no
OVERALL		Positive	3.001	.513	no

"Basic" classroom staff.---Principals' perceptions of the impact that changes in "basic" classroom staff had had on their school's development as a middle school did not vary in direction. All reported a negative impact. The negative impact was significant in all cases except for districts with the same or improving economics and schools with small enrollment decline. The overall pattern was a significant negative impact of changes in "basic" classroom staff. Data are summarized in Table 34.

Table 34.--Impact of changes in "basic" classroom staff by school size, district funding, district economic change, and school enrollment change.

Variable	Category	Direction of Change	Mean	S.D.	Sig. at .05?
School Size	Small	Negative	2.796	.490	yes
	Medium	Negative	2.846	.450	yes
	Large	Negative	2.727	.376	yes
District Funding	In-formula	Negative	2.772	.457	yes
	Out-of-formula	Negative	2.848	.436	yes
District Economic Change	Large decrease	Negative	2.459	.390	yes
	Moderate decrease	Negative	2.772	.358	yes
	Small decrease	Negative	2.870	.514	yes
	Same or increase	Negative	2.870	.494	no
School Enrollment Change	Large decrease	Negative	2.726	.397	yes
	Moderate decrease	Negative	2.797	.496	yes
	Small decrease	Negative	2.877	.476	no
	Same or increase	Negative	2.803	.364	yes
OVERALL		Negative	2.796	.450	yes

Other certificated staff.--Principals were in agreement about the impact on their schools of changes in other certificated staff. The impacts reported were negative and significant in all cases but one. The one area in which the negative impact was not significant was districts with the same or improving economic conditions. The overall pattern was a significant negative impact of changes in other certificated staff, as seen in Table 35.

Table 35.--Impact of changes in other certificated staff by school size, district funding, district economic change, and school enrollment change.

Variable	Category	Direction of Change	Mean	S.D.	Sig. at .05?
School Size	Small	Negative	2.562	.588	yes
	Medium	Negative	2.779	.550	yes
	Large	Negative	2.595	.531	yes
District Funding	In-formula	Negative	2.567	.588	yes
	Out-of-formula	Negative	2.839	.467	yes
District Economic Change	Large decrease	Negative	2.250	.580	yes
	Moderate decrease	Negative	2.614	.536	yes
	Small decrease	Negative	2.754	.552	yes
	Same or increase	Negative	2.492	.756	no
School Enrollment Change	Large decrease	Negative	2.577	.581	yes
	Moderate decrease	Negative	2.620	.563	yes
	Small decrease	Negative	2.689	.640	yes
	Same or increase	Negative	2.809	.407	yes
OVERALL		Negative	2.645	.567	yes

Non-certificated staff.--Negative impacts of changes in non-certificated staff were reported in all variable categories. All negative impacts were significant except for schools with static or increasing enrollment. The overall pattern was a significant negative impact of changes in non-certificated staff, as shown in Table 36.

Table 36.--Impact of changes in non-certificated staff by school size, district funding, district economic change, and school enrollment change.

Variable	Category	Direction of Change	Mean	S.D.	Sig. at .05?
School Size	Small	Negative	2.721	.658	yes
	Medium	Negative	2.712	.608	yes
	Large	Negative	2.550	.580	yes
District Funding	In-formula	Negative	2.622	.638	yes
	Out-of-formula	Negative	2.810	.574	yes
District Economic Change	Large decrease	Negative	2.083	.452	yes
	Moderate decrease	Negative	2.738	.610	yes
	Small decrease	Negative	2.718	.625	yes
	Same or increase	Negative	2.481	.556	yes
School Enrollment Change	Large decrease	Negative	2.670	.624	yes
	Moderate decrease	Negative	2.643	.603	yes
	Small decrease	Negative	2.709	.588	yes
	Same or increase	Negative	2.744	.760	no
OVERALL		Negative	2.675	.623	yes

Middle school staff--overall.--When all three staff subsections are examined as a total section, the impact of staff changes is negative in each variable category as well as in the overall pattern. Furthermore, these negative impacts are significant in all cases except with

districts experiencing the same or improving economic conditions.

Table 37 summarizes the impact data for changes in middle school staff.

Table 37.--Impact of changes in middle school staff overall by school size, district funding, district economic change, and school enrollment change.

Variable	Category	Direction of Change	Mean	S.D.	Sig. at .05?
School Size	Small	Negative	2.702	.463	yes
	Medium	Negative	2.788	.403	yes
	Large	Negative	2.665	.372	yes
District Funding	In-formula	Negative	2.677	.438	yes
	Out-of-formula	Negative	2.831	.368	yes
District Economic Change	Large decrease	Negative	2.325	.317	yes
	Moderate decrease	Negative	2.719	.350	yes
	Small decrease	Negative	2.800	.452	yes
	Same or increase	Negative	2.598	.603	no
School Enrollment Change	Large decrease	Negative	2.680	.426	yes
	Moderate decrease	Negative	2.708	.437	yes
	Small decrease	Negative	2.770	.474	yes
	Same or increase	Negative	2.776	.292	yes
OVERALL		Negative	2.723	.422	yes

School climate.--Principals in large schools, in-formula districts, districts with large and moderate economic decline, districts with the same or improving economics, large school-enrollment decreases, and static or increasing school enrollment reported negative impacts of school climate changes over the past five years. None of the negative impacts was significant. Positive impacts of climate change were

reported in the remaining variable categories, but none was significant. This coincided with the overall pattern, as seen in Table 38.

Table 38.--Impact of changes in school climate by school size, district funding, district economic change, and school enrollment change.

Variable	Category	Direction of Change	Mean	S.D.	Sig. at .05?
School Size	Small	Positive	3.052	.638	no
	Medium	Positive	3.064	.695	no
	Large	Negative	2.863	.543	no
District Funding	In-formula	Negative	2.965	.663	no
	Out-of-formula	Positive	3.113	.578	no
District Economic Change	Large decrease	Negative	2.642	.623	no
	Moderate decrease	Negative	2.952	.619	no
	Small decrease	Positive	3.125	.619	no
	Same or increase	Negative	2.974	.879	no
School Enrollment Change	Large decrease	Negative	2.926	.570	no
	Moderate decrease	Positive	3.036	.649	no
	Small decrease	Positive	3.115	.684	no
	Same or increase	Negative	2.943	.667	no
OVERALL		Positive	3.010	.640	no

As was the case with the change data examined in the previous research question, most of the significant impacts of changes in program and staff were negative, with staff showing the greatest negative impact. No significant impact was reported in middle school climate.

The two variables showing the greatest discrepancies from the overall patterns were district funding and district economic change.

Results of the univariate one-way analyses of variance provided additional information. Significant variance in impact is evident for the variable categories of economic change for all of the six questionnaire subsections except other program characteristics. District funding is significant for impact of changes in selected middle school characteristics, other program characteristics and materials, and other certificated staff. There was significant school size variance for the impact of changes in other certificated staff and school climate. Table 39 summarizes the univariate one-way ANOVA data for the impact of change.

The multivariate analyses of variance revealed, however, that there is a significant variance only in district funding, although economic change varies at a level of significance close to the required .05. Results are displayed in Table 40.

Table 39.--Impact: Univariate one-way ANOVA by school size, district funding, district economic change, and school enrollment change.

Subsection	Variable	F-Value	Level of Sig.
<u>Program Subsections</u>			
II.A. Selected Middle School Characteristics	School Size	2.664	.072
	District Funding	10.216	.002*
	Economic Change	4.789	.003*
	Enrollment Change	1.272	.286
B. Other Program Characteristics	School Size	2.105	.124
	District Funding	19.297	<.001*
	Economic Change	2.584	.055
	Enrollment Change	1.043	.375
<u>Staff Subsections</u>			
III.A. "Basic" Classroom Staff	School Size	2.499	.085
	District Funding	.348	.556
	Economic Change	3.314	.021*
	Enrollment Change	.938	.424
B. Other Certificated Staff	School Size	5.049	.007*
	District Funding	5.761	.017*
	Economic Change	2.924	.035*
	Enrollment Change	1.660	.177
C. Non-Certificated Staff	School Size	2.390	.094
	District Funding	3.415	.066
	Economic Change	4.340	.006*
	Enrollment Change	.275	.844
<u>Climate Subsection</u>			
IV. School Climate	School Size	3.989	.020*
	District Funding	2.118	.147
	Economic Change	2.917	.036*
	Enrollment Change	1.307	.274

*Significant at .05.

Table 40.--Impact: Multivariate one-way ANOVA by school size, district funding, district economic change, and school enrollment change.

Variable	Wilks F-Value	Level of Significance
School Size	1.495	.123
District Funding	4.097	.001*
Economic Change	1.561	.066
Enrollment Change	1.362	.145

*Significant at .05.

Question 5

Do middle school principals' perceptions of change in program, staff, and climate vary as a function of interactions among selected variables?

- size of the school by level of state funding in the school district
- enrollment change in the school by level of state funding in the school district
- enrollment change in the school by size of the school

When interactions among selected variables are examined regarding change, the Wilks F-values from the multivariate two-way analysis of variance for all three interactions show none being significant at a .05 level. Table 41 shows that the interactions provide no significant variance in principals' perceptions about change.

Table 41.--Change: Multivariate two-way ANOVA by interaction.

Interaction	Wilks F-Value	Level of Significance
School Size x District Funding	.903	.544
Enrollment Change x District Funding	.935	.536
Enrollment Change x School Size	1.067	.366

Question 6

Do middle school principals' perceptions of the impact that changes in program, staff, and climate have had on the school's development as a middle school vary as a function of interactions among selected variables?

- a. size of the school by level of state funding in the school district
- b. enrollment change in the school by level of state funding in the school district
- c. enrollment change in the school by size of the school

When the impacts of change are examined for variable interaction variance, again none of the three interactions is significant. Table 42 supplies the statistical data for each interaction.

Table 42.--Impact: Multivariate two-way ANOVA by interaction.

Interaction	Wilks F-Value	Level of Significance
School Size x District Funding	.312	.987
Enrollment Change x District Funding	.960	.505
Enrollment Change x School Size	1.287	.124

Other Patterns and Findings

Selected Middle School Characteristics (II.A)

In the questionnaire, principals were instructed to draw a line through any program characteristics in subsection II.A. that had never existed in their school. Table 43 summarizes the results. It is interesting that five characteristics--continuous progress, flexible schedules, team teaching, independent study, and a security factor--had never existed in more than 25 percent of the middle schools in the state, with flexible schedules nonexistent in over 37 percent of the schools. On the other hand, all principals reported that their school provided appropriate school-sponsored social experiences.

Changes Having Positive Impacts

Tables 44 and 45 present information about those changes, both increases and decreases, that principals felt had had a positive impact on their school's development as a middle school. Whether the change is significant is indicated, as well as whether the impact is significant. Of the 15 increases that had a corresponding positive impact, 11 of them were significant. Only one of the five decreases had a significantly positive impact, and it referred to a decrease in the percentage of students reaching the office for misbehavior.

Table 43.--Eighteen middle school characteristics that never existed
(N = 204).

Question No.	Characteristic	# Indicating Characteristic Had Never Existed	% of N
10	Continuous Progress	61	29.9
11	Multi-material Approach	19	9.3
12	Flexible Schedules	76	37.3
13	Social Experiences	0	0
14	Phys. Ed. Experiences	1	0.5
15	Intramural Activities	19	9.3
16	Team Teaching	52	25.5
17	Planned Gradualism	18	8.8
18	Exploratory & Enrichment Studies	8	3.9
19	Guidance Services	7	3.4
20	Independent Study	57	27.9
21	Basic Skill Repair & Extension	7	3.4
22	Creative Experiences	6	2.9
23	Security Factor	58	28.4
24	Eval. of Student Ach.	16	7.8
25	Community Relations	20	9.8
26	Student Services	11	5.4
27	Auxiliary Staffing	10	4.9

Table 44.--Summary of questionnaire items showing an increase that had a positive impact.

Question No.	Name of Increase	Increase Sig. at .05?	Positive Impact Sig. at .05?
11	Multi-material Approach	no	yes
14	Phys. Ed. Experiences	yes	yes
17	Planned Gradualism	yes	yes
20	Independent Study	no	no
21	Basic Skill Repair & Extension	yes	yes
23	Security Factor	no	no
24	Eval. of Student Ach.	yes	yes
25	Community Relations	yes	yes
27	Auxiliary Staffing	no	yes
30	Computer-Assisted Inst.	yes	yes
33	Sufficient Textbooks	no	no
42	% of former elem. staff transferred to m.s. (Eng., math, sci., soc. st.)	yes	yes
43	% of former elem. staff transferred to m.s. (other classes)	yes	no
57	% of parents attending conferences and open houses	yes	yes
63	Morale of students	yes	yes

Table 45.--Summary of questionnaire items showing a decrease that had a positive impact.

Question No.	Name of Decrease	Decrease Sig. at .05?	Positive Impact Sig. at .05?
10	Continuous Progress	no	no
18	Exploratory & Enrichment Studies	no	no
55	% of students absent from school each day	yes	no
56	% of students tardy to school each day	yes	no
58	% of students reaching office for misbehavior	yes	yes

Overall Quality of the School Program

Three additional questions were asked on the survey instrument. Question 64 asked principals how the changes over the past five years had affected the overall quality of their school's program. As seen in Table 46, principals felt that program quality had improved slightly, although there were some differences when the variable categories were examined individually. Of the principals who responded, 33.8 percent felt their program had deteriorated, compared to 16.7 percent who said it had stayed the same and 49.5 percent who indicated some degree of improvement had occurred.

Table 47 shows that most principals indicated that improvement had occurred, though not significantly in 6 of the 10 variable

categories. Principals of schools that were large in size, or who were in districts that had stayed the same or increased economically, indicated their programs had deteriorated, though not significantly. Principals of schools where large economic decreases had occurred indicated significant program deterioration.

Table 46.--Question 64--Overall quality of school program--totals.

	Absolute Freq.	Relative Freq.(%)	Adjusted Freq.(%)	Cumulative Freq.(%)
Deteriorated considerably	15	7.4	7.6	7.6
Deteriorated slightly	52	25.5	26.3	33.8
Stayed the same	33	16.2	16.7	50.5
Improved slightly	76	37.3	38.4	88.9
Improved considerably	22	10.8	11.1	100.0
Didn't answer	6	2.9	..	100.0
Total	204	100.0	100.0	

Mean = 3.192

Standard Deviation = 1.168

95% Confidence Interval = 3.028-3.356

Table 47.--Question 64--Overall program quality by school size, district funding, district economic change, and school enrollment change.

Variable	Category	Overall Direction of Change	Mean	S.D.	Sig. at .05?
School Size	Small	Improved	3.218	1.136	no
	Medium	Improved	3.338	1.192	yes
	Large	Deteriorated	2.962	1.171	no
District Funding	In-formula	Improved	3.007	1.173	no
	Out-of-formula	Improved	3.633	1.041	yes
District Economic Change	Large decrease	Deteriorated	2.250	.866	yes
	Mod. decrease	Improved	3.055	1.205	no
	Small decrease	Improved	3.500	1.038	yes
	Same or incr.	Deteriorated	2.889	1.453	no
School Enrollment Change	Large decrease	Improved	3.128	1.076	no
	Mod. decrease	Improved	3.099	1.210	no
	Small decrease	Improved	3.317	1.171	no
	Same or incr.	Improved	3.464	1.138	yes
OVERALL		Improved	3.192	1.168	yes

Do You Have a Middle School Now?

Question 65 asked for principals' perceptions about whether or not their school is currently a middle school. Just over one-half of those responding, or 51.5 percent, indicated they definitely or probably do have middle schools. A few were not sure, 8.6 percent, while the remaining 39.9 percent said they definitely or probably do not have middle schools, as seen in Table 48.

Table 48.--Question 65--Do you have a middle school now?--total.

	Absolute Freq.	Relative Freq.(%)	Adjusted Freq.(%)	Cumulative Freq.(%)
Definitely yes	31	15.2	15.7	15.7
Probably yes	71	34.8	35.9	51.5
Not sure	17	8.3	8.6	60.1
Probably not	62	30.4	31.3	91.4
Definitely not	17	8.3	8.6	100.0
Didn't answer	6	2.9	..	
Total	204	100.0	100.0	

Mean = 2.813

Standard Deviation = 1.271

95% Confidence Interval = 2.635-2.991

Table 49 displays the responses as broken down by variable categories. Principals in nine of the variable categories responded in the general "yes" direction, although five of the nine were not statistically different from "not sure." Principals in districts with large economic decreases were not sure, while those in districts with the same or increasing economics, large school enrollment decreases, and small schools responded in the "no" direction, though not significantly so.

Table 49.--Question 65--Do you have a middle school now?--by school size, district funding, district economic change, and school enrollment change.

Variable	Category	General Direction	Mean	S.D.	Sig. at .05?
School Size	Small	no	3.077	1.277	no
	Medium	yes	2.647	1.219	yes
	Large	yes	2.635	1.284	yes
District Funding	In-formula	yes	2.891	1.294	no
	Out-of-formula	yes	2.644	1.214	yes
District Economic Change	Large decrease	not sure	3.000	1.348	--
	Moderate decrease	yes	2.835	1.267	no
	Small decrease	yes	2.698	1.247	yes
	Same or increase	no	3.444	1.424	no
School Enrollment Change	Large decrease	no	3.042	1.220	no
	Moderate decrease	yes	2.802	1.308	no
	Small decrease	yes	2.725	1.281	no
	Same or increase	yes	2.643	1.224	no
OVERALL		yes	2.813	1.271	yes

Narrative Comments

The final item on the questionnaire asked principals if any other important changes had occurred that had moved their school away from, or toward, a middle school in the past five years. Ninety people responded to the question. Responses were varied, as evidenced by the totals and sample comments in the following summary categories.

Enrollment and economic decline.--Fourteen principals made special mention of the negative effects of declines in student enrollment and/or finances. The following comment was typical of many

others: "The decline in finances has had a chilling effect on curricular growth."

Movement toward middle school.--Fourteen principals indicated their buildings had recently undergone a grade reorganization to enhance development as a middle school. Another seven indicated a recent push toward the middle school concept although no grade reorganization was involved. Typical of the kinds of comments was this one: "The biggest change . . . was the return to 6-7-8 schools from single grade junior high."

Grade and/or program reorganization.--Eleven principals described other types of program and grade reorganizations and refocusings that had been both positive and negative.

Loss of programs and personnel.--Ten mentioned loss of programs, such as exploratory and elective classes, team teaching, and individualized programs, and the problems created by this. Another seven identified loss of personnel as something that has moved them away from a middle school. One principal simply stated, with emphasis, "Continuous cutbacks in every area!"

Reassignments and high school influence.--Eight noted that transferred and reassigned secondary staff had been problems. Five mentioned how destructive the high school influence was with shared staff and schedules dictated by the high school.

Parent and board of education pressures (back to basics).--Seven principals noted various problems experienced from parents and/or board members. Typical of the comments was this one: "Pressure from

school board (apparent pressure) directs emphasis to more academic (back to basics) and less humanistic dealing with middle school and elementary children in this district."

New administration.--Seven principals mentioned that recent administrative changes had had an effect. Two said the effect was negative, while the other five noted the positive influence. Typical of the latter was this one: "The decline in enrollment money has hurt, but the change in administration has helped to create a more positive attitude for coping."

Other changes.--Several other changes, such as difficulties with contract language and a recent strike, were mentioned on the negative side. Five noted the positive effects of adding programs such as computer-assisted instruction. Three others mentioned positive effects of other changes. A typical comment was, "Quality improved slightly but not due to the above identified [in the questionnaire] changes."

Most of the comments were of a negative nature and reinforced principals' responses to the questionnaire. One principal summed up her/his questionnaire responses with the following comments: "Sorry to be so negative but last year I lost my assistant principal position and this year I was given the job of K-12 special education coordinator to do along with being the only administrator in the building. Financial cuts in program and poor high school staff members being assigned to our building [because of layoffs] have moved us away from the middle

school concept. Lack of millage and declining enrollment have badly hurt us!"

Summary

Tables 50 through 57 summarize the important findings of this study. Table 50 shows the direction of change, decreases or increases, that had occurred in the 54 characteristics that were measured in the three main sections of program, staff, and climate. There were more decreases than increases, both statistically significant and otherwise. Overall, 64.8 percent of the changes were significant at the .05 level.

Table 50.--Numbers and significance of changes--overall summary totals.

Total No. of characteristics: N = 54			
			% of N
No. showing decreases	= 32		59.3
No. showing increases	= 22		40.7
			<hr/>
Totals	54		100.0
<hr/>			
		% of n_1	% of N
Total No. showing change significant at .05:	$n_1 = 35$		64.8
No. showing sig. decreases	= 19	54.3	35.2
No. showing sig. increases	= 16	45.7	29.6
		<hr/>	<hr/>
Totals	35	100.0	64.8

Table 51 shows the impact of these changes. Close to two-thirds of the changes, 64.8 percent, had a significant impact on the school's

development as a middle school. Nearly two-thirds, 65.7 percent, of these impacts were negative.

Table 51.--Numbers and significance of impacts--overall summary totals.

Total No. of characteristics		N = 54			
				% of N	
No. showing negative impact		= 34		63.0	
No. showing positive impact		= <u>20</u>		<u>37.0</u>	
Totals		54		100.0	
				% of n_1	
Total No. showing impact significant at .05		$n_1 = 35$		64.8	
No. showing sig. negative impact		= 23		65.7	
No. showing sig. positive impact		= <u>12</u>		<u>34.3</u>	
Totals		35		100.0	
				64.8	

Tables 52 and 53 display the summaries of changes and impacts, respectively, when each subsection and section of the questionnaire is examined by variable categories. From these tables, it is clear that middle school staff have experienced the greatest amount of significant change, in a decreasing direction, and these changes have had a significantly negative impact. Program has changed and been impacted second greatest, and there are some differences across the variable categories. School climate has had the least amount of change and impact.

Table 52.--Change summary: Direction and significance.

Subsection/Section	School Size			District Funding		District Economic Change				School Enrollment Change				Overall
	Sm.	Med.	Lg.	In	Out	Lg.↓	Mod.↓	Sm.↓	Same or ↑	Lg.↓	Mod.↓	Sm.↓	Same or ↑	
II.A. Selected Middle School Characteristics	D	I	D	D	I*	D*	D	I*	I	I	D	I	I	I
B. Other Characteristics and Materials	D	D	D*	D*	I*	D*	D*	D	D	D	D*	D	D	D*
II. Middle School Program--Overall	D	I	D	D*	I*	D*	D	I	D	D	D	I	I	D
III.A. "Basic" Classroom Staff	D*	D*	D*	D*	D*	D*	D*	D*	D*	D*	D*	D*	D*	D*
B. Other Certificated Staff	D*	D*	D*	D*	D*	D*	D*	D*	D	D*	D*	D*	D*	D*
C. Non-Certificated Staff	D*	D*	D*	D*	D*	D*	D*	D*	D*	D*	D*	D*	D	D*
III. Middle School Staff--Overall	D*	D*	D*	D*	D*	D*	D*	D*	D*	D*	D*	D*	D*	D*
IV. Middle School Climate--Overall	I	I	D	D	I*	D	D	I*	I	D	I	I	D	I

*Significant at .05.

D = Decrease

I = Increase

Table 53.--Impact summary: Direction and significance.

Subsection/Section	School Size			District Funding		District Economic Change				School Enrollment Change				Overall
	Sm.	Med.	Lg.	In	Out	Lg.↓	Mod.↓	Sm.↓	Same or ↑	Lg.↓	Mod.↓	Sm.↓	Same or ↑	
II.A. Selected Middle School Characteristics	P	P	N	N	P*	N*	N	P*	P	P	N	P	P	P
B. Other Characteristics and Materials	N	N	N*	N*	P*	N*	N*	N	N	N	N*	N	N	N*
II. Middle School Program--Overall	P	P	N	N*	P*	N*	N	P	N	P	N	P	P	P
III.A. "Basic" Classroom Staff	N*	N*	N*	N*	N*	N*	N*	N*	N	N*	N*	N	N*	N*
B. Other Certificated Staff	N*	N*	N*	N*	N*	N*	N*	N*	N	N*	N*	N*	N*	N*
C. Non-Certificated Staff	N*	N*	N*	N*	N*	N*	N*	N*	N*	N*	N*	N*	N	N*
III. Middle School Staff--Overall	N*	N*	N*	N*	N*	N*	N*	N*	N	N*	N*	N*	N*	N*
IV. Middle School Climate--Overall	P	P	N	N	P	N	N	P	N	N	P	P	N	P

*Significant at .05.

N = Negative

P = Positive

Results of the univariate analyses of variance, Tables 54 and 55, show that for both change and impact, principals' perceptions vary most greatly as a function of district economic change and district funding. School size and school enrollment change show change significance in only the area of other certificated staff. School size shows impact significance in other certificated staff and school climate.

Table 54.--Change: Summary of significant variables in univariate one-way ANOVAs.

Subsection	School Size	District State Funding	District Economic Change	School Enrollment Change
<u>Program Subsections</u>				
II.A. Selected Middle School Characteristics		Sig.	Sig.	
B. Other Program Characteristics & Materials		Sig.	Sig.	
<u>Staff Subsections</u>				
III.A. "Basic" Classroom Staff			Sig.	
B. Other Certificated Staff	Sig.	Sig.	Sig.	Sig.
C. Non-Certificated Staff			Sig.	
<u>Climate Subsection</u>				
IV. School Climate		Sig.	Sig.	

Table 55--Impact: Summary of significant variables in univariate one-way ANOVAs.

Subsection	School Size	District State Funding	District Economic Change	School Enrollment Change
<u>Program Subsections</u>				
II.A. Selected Middle School Characteristics		Sig.	Sig.	
B. Other Program Characteristics & Materials		Sig.		
<u>Staff Subsections</u>				
III.A. "Basic" Classroom Staff			Sig.	
B. Other Certificated Staff	Sig.	Sig.	Sig.	
C. Non-Certificated Staff			Sig.	
<u>Climate Subsection</u>				
IV. School Climate	Sig.		Sig.	

Results of the more rigorous multivariate tests are summarized in Tables 56 and 57. The variables that have significant variance regarding principals' perceptions of change are district state funding and district economic change, but none of the interactions regarding change is significantly different (Table 56). The only variable of significance regarding impact is district state funding, and again there are no significant interactions (Table 57).

Table 56.--Change: Summary of multivariate ANOVAs.

	Sig. at .05?
<hr/>	
<u>One-Way ANOVAs: Variable</u>	
School Size	no
District State Funding	yes
District Economic Change	yes
School Enrollment Change	no
 <u>Two-Way ANOVAs: Interaction</u>	
School Size x District Funding	no
Enrollment Change x District Funding	no
Enrollment Change x School Size	no

Table 57.--Impact: Summary of multivariate ANOVAs.

	Sig. at .05?
<hr/>	
<u>One-Way ANOVAs: Variable</u>	
School Size	no
District State Funding	yes
District Economic Change	no
School Enrollment Change	no
 <u>Two-Way ANOVAs: Interaction</u>	
School Size x District Funding	no
Enrollment Change x District Funding	no
Enrollment Change x School Size	no

The remaining data, summarized in the preceding section on other patterns and findings, expanded on the questionnaire responses.

It is interesting that although nearly two-thirds of the significant impacts were negative, most of the comments made to the final question by 90 respondents underscored problems and negative impacts, and only a little over one-half, 51.5 percent, felt they have a middle school now. Just under one-half, 49.5 percent, indicated at least some improvement in the overall quality of their school program. The final chapter provides a review of the study, along with a discussion of findings and recommendations for further study.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

This study sought to examine the effects of economic and enrollment decline on public middle schools in Michigan for the period 1979-1983, as perceived by middle school principals. This exploratory study attempted to determine whether any patterns exist in principals' perceptions of the effects of economic and enrollment decline on changes in program, staff, and climate, and whether any patterns exist regarding the impact these changes have had. The study further examined whether perceptions vary as a function of school size, district state funding, district economic change, and school enrollment change, and whether they vary as a function of interactions among selected variables.

Literature Reviewed

The literature reviewed addressed the major areas of decline, effects of decline, and middle schools. Studies regarding current enrollment figures and projections were cited, along with data that linked economic and enrollment decline. All available studies regarding the effects of decline nationally and in Michigan were cited, especially where the effects on school programs were involved.

Dembowski (1979) conducted the most frequently cited study at the national level, while Nelson's (1983) study for the Michigan Department of Education was the major source for Michigan.

Literature regarding specific effects, including school closures and reductions in force nationally and in Michigan, was reported. A separate section on middle schools, and an explanation of basic middle school program characteristics, was also included.

The literature reviewed made it clear that although much change has already occurred in public schools, much more is yet to come, especially at the middle and high school levels in Michigan. The review showed that there is little research data regarding the effects of decline on middle school programs. It was also shown that good data are one of the necessary ingredients for successful administrative decision making. With accurate data, principals may actually be able to make improvements in spite of the environment of decline.

Design of the Study Reviewed

This study attempted to determine any patterns that might exist in principals' perceptions about the changes, and impact of those changes, on middle schools. The population included the principals of all 348 public middle schools in Michigan on the Michigan Department of Education's list. The full census was surveyed. Responses from 204 principals were used in the analysis.

Since no known instruments existed to measure program, staff, and climate characteristics, one was developed and validated. The total questionnaire consisted of four main sections: general

background information, middle school program, middle school staff, and school climate. There was also a fifth, overall effects, section that consisted of two questions plus a final open-ended question. In all, there were 66 questions, but since 54 asked for two sets of responses (change and impact), there were actually 120 questions.

The statistical treatments used were the t-ratio (Research Questions 1, 2, 3, and 4), one-way univariate and multivariate analyses of variance (Research Questions 3 and 4), and the Wilks two-way multivariate analysis of variance (Research Questions 5 and 6). In addition, frequency distributions and other summary statistical techniques were employed. The questionnaire responses were entered into the Michigan State University computer, and the statistical procedures were part of the Statistical Package for the Social Sciences (SPSS).

Findings

Results of the statistical tests performed to answer the research questions, as well as results of additional data gathered for Chapter IV, led to the following findings:

1. While there was an almost equal number of small, medium, and large middle school principals responding to the survey, nearly 70 percent of the schools were in districts that receive state per pupil formula aid.

2. Over 86 percent of the schools had experienced enrollment decreases, while close to 96 percent of the districts had experienced decline in their economic condition.

3. Principals indicated that while all characteristics measured showed some change over the past five years, nearly two-thirds of these changes, 64.8 percent, were significant. Of the significant changes, a majority of them, 54.3 percent, were in the direction of decrease or decline.

4. Nearly two-thirds, 64.8 percent, of the changes that had occurred in middle schools over the past five years had significant impacts on the school's development as a middle school. Of the significant changes, nearly twice as many had a negative impact, 42.6 percent compared to 22.2 percent.

5. Principals perceived that the most significant changes were in the areas of staff, and these changes were overwhelmingly in the direction of decline. Significant change was evidenced in one of the two program subsections, other characteristics and materials. School climate showed no significant change.

6. The most significant impacts of changes over the past five years were on school staff, and all of the impacts overall were negative. Changes in school climate had no significant impact on the development of middle schools. Changes in other program characteristics and materials had a negative impact on middle schools.

7. Although principals' perceptions of change varied as a function of school size and school enrollment change for other

certificated staff, the greatest variances in change patterns were seen in district state funding and district economic change.

8. Principals' perceptions of impact varied as a function of school size in other certificated staff and school climate, and as a function of district economic change in all of the subsections except other program characteristics and materials. Perceptions varied as a function of district funding in selected middle school characteristics, other program characteristics and materials, and other certificated staff. The greatest variance in impact patterns was seen in district funding.

9. Principals' perceptions did not vary on either change or impact as a function of interactions between school size and district funding, enrollment change and district funding, and enrollment change and school size.

10. Principals reported that 5 of the 18 basic middle school characteristics had never existed in over 25 percent of the middle schools in Michigan. These characteristics are continuous progress, flexible schedules, team teaching, independent study, and a security factor.

11. Eleven of the 12 changes that resulted in a positive impact on middle schools were increases that had occurred in the past five years.

12. A majority of the principals perceived that the overall quality of their school programs had deteriorated, at least slightly, or had stayed the same as a result of changes in their school over the

past five years. A majority, however, maintained that their school was probably or definitely a middle school now.

Discussion of Findings

Middle schools in Michigan have indeed been greatly affected by the declining environment that has occurred over the past five years. More important, the changes that have occurred have had a decidedly negative impact on schools' development as middle schools. This bodes ominously since projections previously cited indicate there are still several years of decline in store for middle schools and even more for high schools, which often affect middle schools.

There have been some positive effects, like the incorporation of computer-assisted instruction and the influx of former elementary school staff into the basic classrooms, to name two. By and large, however, decline has had a negative effect on middle schools. Since the number of middle school buildings continues to climb, there are some serious implications for administrators and the decisions they make.

It is not surprising that staff, both certificated and noncertificated, have borne the brunt of the changes. Most school districts spend as much as 85 percent of their budget on personnel. It is somewhat surprising that there were not greater changes and impacts on selected program characteristics. The writer suspects that had respondents not been given the opportunity to cross out characteristics that had never existed, there may have been significant results in this questionnaire subsection also.

Also somewhat surprising was the principals' perception that there was no change or impact in the area of school climate. Generally, when a staff faces upheaval, it is difficult to maintain a positive, productive climate. Perhaps it is still too early to tell in some schools, or perhaps a more rigorous and sophisticated measure of school climate needs to be applied. Perhaps since principals set the climate in the building, they are reluctant to indict themselves.

The preceding point also applies to the responses to overall program quality. How many principals, who are the instructional leaders of the school, are willing to admit that the school program has deteriorated under their leadership? After examining the responses to the rest of the questionnaire, the responses to this question do not follow, especially in light of the generally negative tone of the responses to the final question and the finding that only a slight majority feel they now have a middle school. Perhaps principals became tired, more cautious, or less candid as they reached the end of this 120-item questionnaire. Perhaps it is too difficult to see clearly from inside a situation.

The finding that district state funding and economic change caused the greatest variance in principals' perceptions is not surprising. It should be noted, however, that both of these variables are tied to enrollment in many ways, especially in the districts that receive state per pupil formula aid. The finding that the level of state funding is the most significant variable should provide

ammunition for further assaults on the "haves" versus "have-nots" debate regarding the state aid formula.

Many schools are striving to do the best they can, given their available resources. The fact that many principals indicated a strong desire to incorporate more of the middle school characteristics and to a greater degree speaks well for their intentions. It is hoped they can find the courage and the means to reach these goals in the face of continued decline.

Recommendations

Based on the findings and conclusions of this study, as well as the literature and research reviewed, the following recommendations are offered to middle school administrators:

1. Be sensitive to the needs of staff and involve them in building decisions at every opportunity. Staff are the best resources available in a school. They can dictate climate, make or break programs, and they have tremendous impacts on students. The fact that staff are being hard hit by the period of decline means that a concerted effort must be made to identify their needs and provide for them as much as possible. Staff-development activities must emphasize professional renewal.

2. Be ever alert to the importance of the model being set by all school personnel and the effect this has on public relations. Since money has such a significant impact on schools, it is increasingly important to pass millage and bond-issue elections. Since less than one-quarter of the registered voters in Michigan have

children in school (Paslov, 1980), public relations becomes that much more important. Show the community what a positive impact a good middle school can have. Help to mold, if you will, the opinions of the community about their schools. Instead of simply finding out what the community wants, find out what they think so you can attempt to increase their horizons and spur them to consider more desirable goals, be they millage, personnel, or program.

3. Carefully scrutinize the changes that have occurred and the impact they have had over the past few years. Use the results of this study as one piece of information, but also do your own research in your immediate area and building. The future is likely to require cutbacks, transfers, and changes of many kinds. Make sure you know which ones will do the most good, or at least the least damage. Reliving the mistakes of the past could be bad, but enduring a future that could have been changed could be worse.

4. As you decide which changes to recommend or make, gathering as much accurate data as possible is important, but so, too, is taking the long-range view and planning creatively. Short-term solutions are frequently not the best as far as the school's development and the impact on children are concerned. Reducing or eliminating an elective class or reassigning a teacher may seem like the easiest and most painless path to take today, but consider what the long-range impact will be. The long-range view may not be the most popular decision, but if you involve people in the decision-making process and are convinced it is right for the school, stick to it. Maintaining a balanced

curriculum requires deep, creative thought and clear communication.

5. Strive to further develop those aspects of the school that are weak. The need to make changes can afford an opportunity to reexamine school goals and focus on those that will do the most good. It can be an opportunity to strengthen programs, renew staff, and develop a leaner, more efficient organization. Adversity can be an opportunity. It can provide a climate that is accepting of change. In this respect, adversity can abet and support leadership (Culbertson, 1977). Identify the strengths of the school and build on these. Look hard for the silver lining.

6. Be proactive rather than reactive. Schools are generally slow to respond to change, so make the most of the current opportunities. It should also be kept clearly in mind that it was easy to keep children's needs in mind during periods of growth. Make sure children continue as the highest priority during periods of decline. If we allow today's events to push us into a reactive tomorrow, we will also be determining the tomorrows of thousands of children. It has been said that you "have to take life as it happens, but you should try to make it happen the way you want to take it" (Campbell, 1974).

Recommendations for Further Research

The following areas are offered as suggestions for further research:

1. Although the principal of every public middle school on the Michigan Department of Education's list was included in this study,

some middle schools were not on the list. Others that were on the list were not yet middle schools, even in grade organization or name. A study to identify all middle schools in Michigan, along with their grade organization, student population, programs offered, special features, and other demographic information, should be conducted.

2. Since Michigan is currently in such a depressed condition, replication of this study in another state may provide different results.

3. A replication of this study with middle school staff, rather than principals, may provide different results.

4. District state funding and district economic change were the variables that made the most difference in principals' perceptions. Since there were only two categories within district funding, it is clear where the differences are. Further research needs to be done to determine the effects of each of the economic change categories. Enrollment change and school size could also be subjected to further scrutiny.

5. Analysis of the data collected using the variables of district size and location, as well as additional interactions among variables, may provide valuable additional information.

6. A separate study of school climate, using a more complete or sophisticated instrument for measurement, may conclude that significant changes and impacts have in fact occurred at the middle school level.

APPENDICES

APPENDIX A

LETTER TO NATIONAL PANEL OF MIDDLE SCHOOL EXPERTS



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October 19, 1983

To: Dr. Tom Erb, U.Kansas
Dr. Tom Gatewood, Virginia Polytechnic
Dr. Nick Georgiady, Miami Univ.
Dr. Glen Gerard, Forest Hills Schs.
Dr. Bill Powell, Georgia State
Dr. Joe Raymer, Rockford Schs.
Dr. Jack Riegle, Ball State

From: Bob Cross

re: Ph.D. Dissertation Questionnaire

Gentlemen,

I am currently on a one year unpaid educational leave of absence from my job of the past six years--middle school principal in Fowlerville. I've had my Ph.D. course work completed for over a year and I'm now working on the dissertation, under the direction of Lou Romano.

I've been working with Lou on a questionnaire that will get me the most complete and necessary information for my study. I'm researching the following topic: The Effects of Cutbacks and Declining Enrollment on Non-Urban, 6th-8th Grade Middle Schools in Michigan Since 1979. I'm looking for:

1. the actual effects on the schools during the past 5 years;
2. the effects that teachers and administrators perceive as having had a negative impact on the implementation of middle school programs & philosophy;
3. differences in perceptions between teachers and administrators; and
4. whether school size makes a difference.

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-2-

As you can see from the rough draft of the questionnaire, there's also a considerable amount of information (too much?) from which future conclusions can be drawn. I don't, however, want to chew off too much or make the questionnaire too cumbersome. I would appreciate it if you would take a few minutes to react to the enclosed. Should items be added, deleted, worded differently, etc.?

Once I receive your reactions, I'll work with some of the statisticians and computer people to get the questionnaire in a form that will be most efficient to analyze. I'll then field test it on a single middle school staff, make any necessary revisions, then send it to my full sample (an administrator & a teacher, with more than 5 years in the school, from 50 randomly selected non-urban, 6-8 middle schools in Michigan).

Since I'm currently trying to do several tasks at the same time, (proposal, literature review, questionnaire, etc.), I'll gladly welcome any additional information and/or advice you may care to pass along.

I've promised Lou a second draft of this by early November, so please try to slip this into your already busy schedules as soon as you can. Incidentally, I think this information will be very helpful to MAMSE, and to the middle school movement in general, as we meet the challenge of doing what's best for kids during the years of decline.

Thanks so much for your help!

Sincerely,

Bob Cross
1547 Otsego Dr.
Okemos, MI. 48864

Ph. 517/349-2244

GOOD MIDDLE SCHOOLS MAKE COMMUNITIES BETTER
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APPENDIX B

SURVEY INSTRUMENT

GENERAL INFORMATION AND INSTRUCTIONS

1. Data from this survey will be reported on the basis of averages. No individual schools or districts will be identified. The number in the corner is only to insure the return of each survey.
2. All questions refer to your perceptions about numbers, percentages, changes and impacts for the period 1979 through 1983.
3. For purposes of this study, "middle school" is defined as "an educational unit with a philosophy, structure and program which will realistically and appropriately deal with 11 to 14 year olds as they are and behave. Its commitment is primarily to the youth it seeks to serve."
4. Please answer all questions completely and candidly.

1. GENERAL BACKGROUND INFORMATION : Please check the appropriate blank for each question.

- | | | |
|--|--|---|
| 1. School Size: <input type="checkbox"/> 0-499
<input type="checkbox"/> 500-699
<input type="checkbox"/> 700 or more | 2. District Size: <input type="checkbox"/> 0-1,999
<input type="checkbox"/> 2,000-3,999
<input type="checkbox"/> 4,000 or more | 3. District Location: <input type="checkbox"/> Urban
<input type="checkbox"/> Suburban
<input type="checkbox"/> Rural |
|--|--|---|
4. District State Funding: ☐ "In-formula" (receives state per pupil aid)
 ☐ "Out-of-formula" (does not receive state per pupil aid)
5. Overall School Enrollment Change over the past 5 years: ☐ Decreased more than 15% ☐ Increased more than 15%
 ☐ Decreased between 5% and 15% ☐ Increased between 5% and 15%
 ☐ Decreased less than 5% ☐ Increased less than 5%

6.-9. District Economic Changes over the past 5 years:

- | | |
|--|---|
| 6. Per pupil costs: <input type="checkbox"/> Increased substantially
<input type="checkbox"/> Increased somewhat
<input type="checkbox"/> Little or no change
<input type="checkbox"/> Decreased somewhat
<input type="checkbox"/> Decreased substantially | 7. Replacing texts and materials: <input type="checkbox"/> Much less frequently than 5 years ago
<input type="checkbox"/> Somewhat less frequently
<input type="checkbox"/> With about the same frequency
<input type="checkbox"/> Somewhat more frequently
<input type="checkbox"/> Much more frequently |
|--|---|
8. Employee salaries and benefits: ☐ Substantial reductions
 ☐ Moderate reductions
 ☐ Stayed about the same/freezes
 ☐ Moderate increases
 ☐ Substantial increases
9. Percentage of the 1979 district staff now laid off: ☐ More than 15% ☐ Added more than 15%
 ☐ Between 5% and 15% ☐ Added between 5% and 15%
 ☐ Less than 5% ☐ Added less than 5%

NOTE: For each question in the following three sections, you will be asked for two (2) responses:

Change: your perceptions about the level and intensity of change, if any, that has occurred in your school over the past 5 years as a result of decline in enrollment and/or finances; and

Impact: your perceptions about the level and intensity of impact this change (or lack of change) has had on your school's development as a "middle school."

Remember: You are being asked for your perceptions of what has happened over the past 5 years.

For each of the questions the following two (2) scales apply:

CHANGE

- 1 = Substantial Decrease (SD)
- 2 = Moderate Decrease (MD)
- 3 = Unchanged (U)
- 4 = Moderate Increase (MI)
- 5 = Substantial Increase (SI)

IMPACT

- 1 = Substantially Negative (SN)
- 2 = Moderately Negative (MN)
- 3 = None (N)
- 4 = Moderately Positive (MP)
- 5 = Substantially Positive (SP)

CHANGE: 1 = Substantial Decrease (SD)
2 = Moderate Decrease (MD)
3 = Unchanged (U)
4 = Moderate Increase (MI)
5 = Substantial Increase (SI)

IMPACT: 1 = Substantially Negative (SN)
2 = Moderately Negative (MN)
3 = None (N)
4 = Moderately Positive (MP)
5 = Substantially Positive (SP)

II. MIDDLE SCHOOL PROGRAM : Please respond in one of the following two (2) ways to each characteristic in Section A:

For each characteristic that has never existed in your school during the past 5 years, draw a line through the name of the characteristic and go on to the next question.

<u>CHANGE</u>						<u>IMPACT</u>				
<u>SD</u>	<u>MD</u>	<u>U</u>	<u>MI</u>	<u>SI</u>		<u>SN</u>	<u>MN</u>	<u>N</u>	<u>MP</u>	<u>SP</u>
1	2	3	4	5	A. Selected Middle School Characteristics	1	2	3	4	5
1	2	3	4	5	10. Continuous Progress -- students progressing at their own rate regardless of chronological age	1	2	3	4	5
1	2	3	4	5	11. Multi-material Approach -- wide range of instructional materials used in classrooms v. a single text approach	1	2	3	4	5
1	2	3	4	5	12. Flexible Schedules -- based on educational needs of students, not standardized time periods	1	2	3	4	5
1	2	3	4	5	13. Social Experiences -- school sponsored activities appropriate for 11-14 year olds	1	2	3	4	5
1	2	3	4	5	14. Physical Education Experiences -- phys. ed. class activities based on the needs of 11-14 year olds	1	2	3	4	5
1	2	3	4	5	15. Intramural Activities -- broad range for all students	1	2	3	4	5
1	2	3	4	5	16. Team Teaching -- and team planning	1	2	3	4	5
1	2	3	4	5	17. Planned Gradualism -- school experiences provided to help students make the transition from childhood dependence to adult independence	1	2	3	4	5
1	2	3	4	5	18. Exploratory and Enrichment Studies -- broad enough to meet individual student interests	1	2	3	4	5
1	2	3	4	5	19. Guidance Services -- group and individual	1	2	3	4	5
1	2	3	4	5	20. Independent Study -- opportunities for all students	1	2	3	4	5
1	2	3	4	5	21. Basic Skill Repair and Extension -- to extend basic skills from the elementary school	1	2	3	4	5
1	2	3	4	5	22. Creative Experiences -- student-centered, student-directed, student-developed activities such as dramatic creations, student newspapers and musical programs	1	2	3	4	5
1	2	3	4	5	23. Security Factor -- security group with a teacher who knows students well - often called an advisor-advisee program	1	2	3	4	5
1	2	3	4	5	24. Evaluation of Student Achievement -- positive in nature and strictly individualized	1	2	3	4	5
1	2	3	4	5	25. Community Relations -- varied program for students to develop awareness & understanding of the community & vice-versa	1	2	3	4	5
1	2	3	4	5	26. Student Services -- broad spectrum of local, county and state services	1	2	3	4	5
1	2	3	4	5	27. Auxiliary Staffing -- volunteers (parents & students) and aides to augment the teaching staff	1	2	3	4	5

NOTE: For the remaining sections, unless otherwise noted, circle the appropriate response in both the change and impact columns for each item.

CHANGEIMPACT

<u>SD</u>	<u>MD</u>	<u>U</u>	<u>MI</u>	<u>SI</u>	<u>B. Other Program Characteristics and Materials</u>	<u>SN</u>	<u>IN</u>	<u>N</u>	<u>MP</u>	<u>SP</u>
1	2	3	4	5	28. Class size in English, math, science and social studies classes	1	2	3	4	5
1	2	3	4	5	29. Class size in all other classes	1	2	3	4	5
1	2	3	4	5	30. Computer assisted instruction (Draw a line through if it never existed.)	1	2	3	4	5
1	2	3	4	5	31. Level of library / media center services	1	2	3	4	5
1	2	3	4	5	32. Length of the school day	1	2	3	4	5
1	2	3	4	5	33. Sufficient quantity of textbooks for each student	1	2	3	4	5
1	2	3	4	5	34. Availability of instructional supplies (paper, tape, workbooks, etc.)	1	2	3	4	5
1	2	3	4	5	35. Sufficient quantity of capital outlay items (desks, chairs, tables, etc.)	1	2	3	4	5
<u>III. MIDDLE SCHOOL STAFF</u>										
<u>A. "Basic" Classroom Staff (English, Math, Science, Social Studies)</u>										
1	2	3	4	5	36. Number of "basic" classroom teachers	1	2	3	4	5
1	2	3	4	5	37. Percentage of teachers with an elementary certificate	1	2	3	4	5
1	2	3	4	5	38. Percentage of teachers with a secondary certificate	1	2	3	4	5
1	2	3	4	5	39. Percentage of teachers with both an elementary and secondary certificate	1	2	3	4	5
1	2	3	4	5	40. Percentage of former high school staff transferred/reassigned to middle school in English,math,science & social studies	1	2	3	4	5
1	2	3	4	5	41. Percentage of former high school staff transferred/reassigned to middle school in areas <u>other than</u> English, math, science and social studies	1	2	3	4	5
1	2	3	4	5	42. Percentage of former elementary staff transferred/reassigned to middle school in English,math,science & social studies	1	2	3	4	5
1	2	3	4	5	43. Percentage of former elementary staff transferred/reassigned to middle school in areas <u>other than</u> English, math, science and social studies	1	2	3	4	5
1	2	3	4	5	44. Percentage of the staff reassigned <u>within</u> the building to areas outside their areas of strength	1	2	3	4	5
<u>B. Other Certificated Staff</u>										
1	2	3	4	5	45. Number of administrators (principals and assistant principals)	1	2	3	4	5
1	2	3	4	5	46. Number of counselors	1	2	3	4	5
1	2	3	4	5	47. Number of unified arts (home economics, industrial arts, art) teachers	1	2	3	4	5
1	2	3	4	5	48. Number of music teachers (vocal and instrumental)	1	2	3	4	5
1	2	3	4	5	49. Number of physical education teachers	1	2	3	4	5
1	2	3	4	5	50. Number of librarians / media specialists	1	2	3	4	5

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 5 = Substantial Increase (SI)

IMPACT: 1 = Substantially Negative (SN)
 2 = Moderately Negative (MN)
 3 = None (N)
 4 = Moderately Positive (MP)
 5 = Substantially Positive (SP)

SD MD U MI SI C. Non-Certificated Staff

- 1 2 3 4 5 51. Number of secretaries
- 1 2 3 4 5 52. Number of instructional aides : classroom, library, special education
- 1 2 3 4 5 53. Number of non-instructional aides : lunchroom, hallway, office, clerical

SN MN N MP SP

- 1 2 3 4 5
- 1 2 3 4 5
- 1 2 3 4 5

IV. SCHOOL CLIMATE

- 1 2 3 4 5 54. Percentage of teachers who seem to have a decreasing concern for children
- 1 2 3 4 5 55. Percentage of students absent from school each day
- 1 2 3 4 5 56. Percentage of students tardy to school each day
- 1 2 3 4 5 57. Percentage of parents in attendance at conferences and open houses
- 1 2 3 4 5 58. Percentage of students reaching the office for misbehavior
- 1 2 3 4 5 59. Percentage of teachers who spend time at school beyond the minimum required
- 1 2 3 4 5 60. Percentage of teachers who sponsor and/or chaperone after school activities
- 1 2 3 4 5 61. Morale of the teachers
- 1 2 3 4 5 62. Morale of the administrator(s)
- 1 2 3 4 5 63. Morale of the students

- 1 2 3 4 5
- 1 2 3 4 5
- 1 2 3 4 5
- 1 2 3 4 5
- 1 2 3 4 5
- 1 2 3 4 5
- 1 2 3 4 5
- 1 2 3 4 5
- 1 2 3 4 5

V. OVERALL EFFECTS

64. As a result of the changes in your school over the past 5 years, has the overall quality of your school's program
 ___ Deteriorated Considerably; ___ Deteriorated Slightly; ___ Stayed the Same; ___ Improved Slightly; or ___ Improved Considerably ?
65. Do you feel your school is a "middle school" now ? ___ Definitely Yes; ___ Probably Yes; ___ Not Sure;
 ___ Probably Not; ___ Definitely Not
66. Have any other important changes occurred that have moved your school away from, or toward, a middle school in the past 5 years?

Please help me by returning this questionnaire by Jan.12 in the self addressed envelope provided. Thank you for your cooperation.

Results of this questionnaire will be published in the Michigan Middle School Journal.

If you would like a separate summary, please complete the following address information:

Bob Cross
 1547 Otsego Ph: 517 / 349-2244
 Okemos, MI. 48864

Name: _____

Address: _____

APPENDIX C

INITIAL LETTER TO SURVEY CENSUS



MICHIGAN ASSOCIATION OF MIDDLE SCHOOL EDUCATORS

President
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Tah Middle School
19501 Berg Road
Detroit, MI 48219
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President-Elect
Jim Hieftje
Fremont Middle School
500 Woodrow
Fremont, MI 49412
Region 12

Treasurer
Mike Samulski, Principal
Wyandot Middle School
39490 Garfield Road
Mt. Clemens, MI 48044
Region 6

Secretary
Lorraine Hull
Michigan State University
419 Erickson Hall
East Lansing, MI 48824-1034
Region 8

Past President
Bob Cross
1547 Otsego
Okemos, MI 48864
Region 8

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Dr. Louis Romano
Michigan State University
418 Erickson Hall
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(517) 353-5461

January 4, 1984

Dear Middle School Colleague,

I need a few minutes of your valuable time to gather some information that could prove helpful to all of us in middle school education.

Many of us have had to make decisions, sometimes unpleasant ones, over the past few years that have been necessary because of declines in student enrollment and/or district finances. These decisions have often had considerable impact on our school's development as a middle school. Unfortunately, there has not been any documented research regarding the overall effects of these declines on Michigan's middle school programs.

I'm currently on leave from my middle school principalship in Fowlerville to research this topic. I'm surveying principals because our position and perceptions are so crucial to the ultimate success of middle schools.

One of my hopes in doing this research is to identify the reductions that have the least negative effect on middle schools. This should prove valuable information, since the years ahead hold a great likelihood of substantial enrollment declines. The Board of Directors of MAMSE has endorsed this project. Results will be published in the Michigan Middle School Journal, which is a free publication to all MAMSE members.

Please take some time right now to fill out the enclosed questionnaire. It should take less than 15 minutes. Two types of responses are requested for most questions, so please read all directions through carefully. If you have any questions, give me a call. A prompt response from all principals surveyed is critical to the success of this project.

Thanks so much for your help. Have a good 1984.

Bob Cross
1547 Otsego
Okemos, MI. 48864

Ph: 517 / 349-2244

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APPENDIX D

FOLLOW-UP LETTER TO PRINCIPALS OUTSIDE OF DETROIT



MICHIGAN ASSOCIATION OF MIDDLE SCHOOL EDUCATORS

President
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EXECUTIVE DIRECTOR

Dr. Louis Romano
Michigan State University
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(517) 363-5461

January 18, 1984

To: Middle School Principals
From: Bob Cross
re: "Effects of Decline" Study

Recently you should have received a letter and questionnaire from me. Your help was needed to determine how declining enrollment and declining finances have affected your middle school during the past 5 years. The study was endorsed by MAMSE because it will provide information that should be helpful to all of us in middle school administration.

It has come to my attention that although the material was mailed on Jan. 4, many of you did not receive it until Jan. 10 or later. Since there was a request to return the questionnaire by Jan. 12, some of you may not have had enough time to respond.

Please ignore the Jan. 12 deadline! Having responses from as many of you as possible is more important than meeting a deadline. In fact, a high rate of return will minimize the possibility of the data being improperly skewed. Since you were part of a carefully chosen sample, your response is critical.

If you haven't already done so, please take some time to fill out the questionnaire as soon as you can. Return it to me in the self addressed stamped envelope that I originally sent. If you need another copy of the questionnaire, or if you have any questions, please give me a call.

With everyone's help, the data will be helpful to all of us. Thanks for your assistance.

Bob Cross
1547 Otsego
Okemos, MI. 48864

Ph: 517/349-2244

GOOD MIDDLE SCHOOLS MAKE COMMUNITIES BETTER
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APPENDIX E

FOLLOW-UP LETTER TO DETROIT PRINCIPALS



MICHIGAN ASSOCIATION OF MIDDLE SCHOOL EDUCATORS

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Michigan State University
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(517) 353-5461

January 18, 1984

To: Detroit Middle School Principals
From: Dr. Peggy Gaskill, Asst. Principal *PG*
Rosa Parks Middle School
re: "Effects of Decline" Study

Recently you should have received a letter and questionnaire from Bob Cross, one of our middle school colleagues. The questionnaire asked for information regarding the effects of declining enrollment and declining finances on your school during the past 5 years. MAMSE endorsed the study because information will be provided that should be helpful to all of us in middle schools throughout the state.

To date, Bob has received little response from the urban areas, especially Detroit. Unfortunately, without a balanced sample, the results are likely to reflect only what has happened in rural and suburban districts, many of which have not dealt with the severe declines that we have. Data from the largest district in the state is extremely important! Your response is doubly important since you are part of a carefully chosen sample.

If you haven't already done so, I urge you to take a few minutes to fill out the questionnaire. Another copy is enclosed. Ignore the Jan.12 printed deadline, but return it as quickly as possible. Bob enclosed a self addressed stamped envelope in the original mailing. If you have any questions, give Bob a call. His phone number and address are:

Ph: 517/349-2244 Bob Cross
1547 Otsego
Okemos, MI. 48864

Thank you for helping out with this project. We will all gain valuable information from it.

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