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THE DETERMINANTS OF STUDENT ACHIEVEMENT AND HIGH SCHOOL COMPLETION IN MICHIGAN

by

CLEO MICHELE MOODY

DISSERTATION

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

in partial fulfillment of the requirements

for the degree of

DOCTOR OF EDUCATION

2010

MAJOR: EDUCATIONAL LEADERSHIP
AND POLICY STUDIES

Approved by:

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Advisor Date

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DEDICATION

THIS STUDY IS DEDICATED TO THE MEMORY OF MY PARENTS, THE LATE

GEORGE W. MOODY AND GEORGETTA D. MOODY

You were proud Wayne State University graduates that instilled in me the value of an education. Thanks Daddy for all the times you sat around the kitchen table reading me and the newspaper and thanks Ma for taking me by the hand as a child and leading me around the campus of WSU! To their children:

Beverly, George, John, Miriam, Donald, Scott, and Karen

AND

TO FLOYD E. ALLEN

Thank you for all of your support and guidance.

You have always inspired me to reach my goals and aspirations.

You have impressed upon me the importance of time management, hard work, and making time for the fun things that life has to offer!

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CHAPTER

INTRODUCTION

Background of the Study

Policy and practice regarding in-grade level retention and their effects on high school graduation rates and successful student academic outcomes have currently assumed great importance in the education reform debate. Further, the effectiveness of our public schools and the achievement of our students have implications that can affect individuals and the communities in which they live. Now, more than ever, individual economic success and economic growth depend crucially on academic achievement and human capital. A skilled workforce is indispensable in today's global economy.

The issues of high school graduation rates, incidences of in grade retention and the use of standardized testing have been widely discussed. Many school districts have used social promotion, the practice of allowing students who have failed to meet performance standards and academic requirements to pass on to the next grade instead of completing or satisfying the requirements of that declared grade, to avoid retaining students in grade. District policies regarding social promotion may be explicit or, more likely, implicit. In either case, this widespread practice raises important questions about in-grade retention and the requirements that must be met in order for a student to meet graduation and grade level promotional standards. The social promotion research performed by Owings and Kaplan (2001) has found that in the 1960s and 1970s, social promotion appeared to hold a research-based, humane alternative to in grade retention and in many circumstances is still in use by school districts.

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Grade level retention may have a positive or negative impact on students, parents, teachers, and administrators. Adults may think that students, who are retained, will be given additional opportunities to gain knowledge. Perhaps, the student will have a different learning experience. Perhaps, the student will attend tutoring or summer school. Perhaps, the student will have a different teacher. Often it is the contention that retained students will have an opportunity to be better prepared to meet academic requirements. However, according to research performed on Chicago and New York City Public Schools (Roderick, 1995), it was found that "one grade retention increases the risk of dropping out by forty to fifty percent and being two grades behind increases the risk by ninety percent". Roderick stated that retention, as a form of remediation, does not appear to repair the problems that it was intended to address regarding poor student achievement.

Retained students are older than their classmates. They may experience social pressures that could negatively result in depressed environments for learning both for themselves and for the other students. The typical eighth grade student that has experienced two grade level retentions by all likelihood could turn sixteen years old during his eighth grade year. While other students that are their same age are acquiring driver's licenses, they are going to school with fourteen year olds. If no other retentions or educational deficits occurred, this same student would be twenty years old at the time of high school graduation, assuming that this student does not become a school dropout. Will school district revenues allow students to remain in school for up to fourteen and fifteen years in a regular education environment? Would current school district revenues allow for remediation programs? How beneficial would these

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programs be to families and stakeholders in the state of Michigan? If districts do in fact fund these programs, how long would it take Michigan to experience the benefits involved? Retention and promotional policies along with high school completion rates will continue to have a substantial impact on the future of Michigan as well as society in general. The formation of sound policies and the improvement of Michigan's high school graduation rate require clear achievement benchmarks for Michigan's students and accurate calculations of high school graduation rates.

Achievement Benchmarks and Curriculum Alignment

Some school district curriculum guidelines may not be aligned to state achievement benchmarks. If the available curriculum does not meet the achievement needs of students, they may not be adequately prepared for examinations that measure instructional progress or state educational objectives. Currently, research is being conducted on the relationship between state standards and the school curriculum and how this affects in grade retention rates and successful student achievement. The Governor's Transition Team for Detroit Public Schools (Anthony, 2005) has found that many times the curriculum of a school district is not aligned to state standards and benchmarks that would satisfy various grade level content expectations. Many districts are also failing to comply with state standards required under the 2001 No Child Left Behind legislation. Many school districts are failing to clearly state what a student is expected to know at various grades or at various achievement levels, and when the standards are specified, the district's curriculum may not reflect the specified objectives. The state's curriculum framework allows for the alignment of the state's standardized test. This does not ensure that the curriculum of the various school districts is also

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aligned. School districts must conform to the standards and expectations of the state. In order for students to be adequately prepared for their futures as well as for state examinations, it is essential that school districts align their curriculum to the state curriculum framework.

Calculating Graduation Rates

School districts under No Child Left Behind legislation are required to use graduation rates as an indicator of Adequate Yearly Progress (AYP). According to Michigan's Center for Educational Performance and Information (CEPI) (Overview, 2006), numerous events have influenced the calculation of graduation rates in the state of Michigan. The State School Aid Act directed CEPI to establish "graduation and dropout rates pursuant to national standards" (2006). Furthermore, the National Governors Association (NGA) has established a uniform methodology for calculating graduation rates that has been adopted by Governor Granholm, the Michigan Department of Education (MDE) and the Department of Management and Budget (DMB) as the national standard (2006).

The National Governors Association recommends the following formula for states to adopt:

> Graduation rate = [on-time graduates in year x] ÷ [(first-time entering ninth graders in year (x – 4) + (transfers in) – (transfers out)]

Michigan is currently changing over from a persistence rate that utilized the Education Data Network (EDN) to a cohort method of measuring retention and graduation rates. This cohort method will follow each individual student for four consecutive years (four year cohort) using the Single Record Student Database (SRSD)

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(Details, 2005). The result of this change should be more accurate measures of retention and graduation rates. CEPI, which has announced plans to publish a four-year cohort rate for the 2006 - 2007 school year, has stated the following in its Senior Cohort Report Users Guide (Center, 2006):

> In order to comply with The No Child Left Behind Act of 2001 and to meet the national standards set forth in the National Governors Association (NGA) "Graduation Counts Compact," the state of Michigan is moving to an accountability system for high schools in which a graduation rate includes only "on-time" graduates who earn diplomas. The NGA "four-year adjusted cohort graduation rate" must be calculated by tracking individual students from the time they were enrolled as first-time ninth-graders.

When Michigan completes the transition from the estimated persistence rate to a cohort rate, the results may indicate a lower graduation rate for some school districts that counted all students earning a diploma, including those that left school and later returned. The estimated persistence rate has included students that have taken over four years to graduate. The estimated persistence rate has also included students that have dropped out of school and later returned to adult education or alternative education programs operating within school districts.

While Michigan completes the transition from the estimated persistence rate to the National Governor's Association (NGA) cohort rate, a general understanding of the changeover must be provided to school districts (see Table 1). CEPI provides guidelines that can be utilized to gain a better understanding of the calculations that will be in place.

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According to CEPI, the following definitions will assist in the understanding of the cohort rate calculations:

Table 1

Graduation and Dropout Methodology Definitions

Word	Description
Continuing	A student who is still enrolled in the school district
Dropout	A student who has been assigned to a graduating class and does not graduate, or does not receive a General Educational Development (GED) certificate, or is not considered a transfer, or whose enrollment is otherwise unknown
Dropout rate	The percentage of unaccounted-for students at the secondary level for a school year.
General education completer	A student who completes his/her general education experience with a GED certificate.
Graduate	A student who has successfully completed his/her general education requirements and received a diploma.
Graduation rate	The 2004-2005 graduation rate is a four-year estimated graduation rate that is derived by multiplying the four graduating class retention rates.
Located student	A student who would have been identified as a dropout however, the student was subsequently located in another school/facility in the state.
New enrollee	Any student who enrolls on or after the fall 2004 count day and before the fall 2005 count day.
Not a completer or graduate	A student who completes his/her general education experience with a certificate other than a diploma or GED certificate.
Special education completer	A student who receives a certificate of completion, finishes his/her Individual Education Program (IEP) requirements, or reaches the age of 21.
Transfer-out	A student, who exits the school/facility or district, is not a dropout and is removed from the graduating class for purposes of calculating the graduation and dropout rates.
Transfer-in	A student who is added to a graduating class for purposes of calculating the graduation and dropout rates.

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Currently, Michigan's graduation rates are determined "by taking one graduation class (grade) at a time and dividing the fall enrollment in year t by the fall enrollment in year t-1, after all the transfers-in and transfers-out have been identified (See Table 2).

Table 2

Example Calculation of Graduation and Retention Rates

	Class of 2008	**Class of 2007**	**Class of 2006**	**Class of 2005**	**Total**
Fall 2004 enrollment (+)	280	275	273	259	1087
Net transfer (+)	-24	30	- 10	- 27	- 31
Net retained in grade (+)	0	25	-25	0	0
Students located (-)	5	25	7	9	46
Expected fall 2005 enrollment	251	305	231	223	1010
Fall 2005 enrollment	247	299	225		771
Graduates (-)	0	0	0	220	220
Unaccounted for (Dropouts)	4	6	6	3	19
Class retention rate	247/251 = .984	299/305 = .980	225/231 = .974	220/223 = .987	991/1010 = .981

Michigan's Graduation Rate:											
Class of 2008 Retention Rate	X	Class of 2007 Retention Rate	X	Class of 2006 Retention Rate	X	Class of 2005 Retention Rate					
.984	X	.980	X	.974	X	.987	=	.927	X	100	= 92.7

Adapted from "Details of Michigan's 2004-2005 Graduation and Dropout Methodology", 2005, Center for Educational Performance and Information.

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According to CEPI (2005):

> Retained-in grade is an end of the year transaction. This number should reflect the number of students who did not attain enough credits to be promoted with their class to the next grade level. If a student is in the same grade in the fall 2006 submission as he was in the previous school year, then the student is considered retained in grade. The retention rate is the percentage of students who are accounted-for within a graduating class. The class retention rate is determined by taking the fall 2006 enrollment and dividing by the fall 2005 enrollment, after all the transfers have been processed. (p.6)

The following is an example calculation of Michigan's dropout rate based on Table 2: the total retention rate would be 991/1010 = .981 X 100 = 98.1 percent therefore, the dropout rate would be: 100 – 98.1= 1.9 percent.

There are several distinct differences between the retention rate and the graduation rate. The class retention rate is a measure of academic progression of a group of students from one period of time to the next. The retention rate is determined by taking one grade at a time and dividing the fall of the current year's enrollment by the fall of the previous year's enrollment. The graduation rate is a four year estimated rate that is derived by multiplying the four graduating class retention rates together. The graduation rate is the percentage of students in a given year graduating within a specified period of time. The number of students in the given grade level is the denominator of the rate; the number of students graduating is the numerator of the rate.

Statement of the Problem

The purpose of this research is to identify the determinants of student performance on the Michigan Education Assessment Program test and high school completion. In particular, my model of academic achievement will include estimated rates of in grade retention as an independent variable that impacts high school

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completion. The model will be estimated with district level data. Currently, various school districts within states have published graduation rates calculated by different methods. These inconsistencies have resulted in disagreements over the validity of the results and the scope of the "dropout problem". This research will emphasize the importance of school districts accurately and consistently reporting student data related to graduation and retention rates, while stressing the relevance of student achievement as a predictor of future high school success.

Justification of the study

Because of the federal requirements instituted by the No Child Left Behind Act of 2001, which was signed into law in 2002, many school districts are now instituting new policies to evaluate teachers, student achievement, and school curricula. In Michigan, schools are presently receiving letter grades that determine whether they are meeting the requirements that have been imposed upon them. Public schools are in the position to receive this "grading" because they receive federal financial assistance.

State educational standards are being established that school districts can use to assist them with the process of establishing clear educational guidelines, curriculum goals, and objectives. Along with the current educational standards, many cities and public school districts are instituting promotional policies. These promotional policies must be based on clear standards that must be met if students are to be promoted to the next grade. This study will allow school districts the opportunity to examine variables that may determine or assist with the academic success of students. Through the results of this study, educational stakeholders will have viable information that can

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be utilized to assist in setting school and district policies that relate to testing and successful school completion.

Issues of Policy and Practice

As previously stated, the issues of high school completion, grade retention, testing, and the promotion of students are not new. Social promotion and grade retention have gone in and out of the policy debate for many years. According to Owings and Magliaro (1998), "It was not until about 1860 that it became common in U.S. elementary schools to group children in grade levels, with promotion dependent on a mastery of content" (p. 86). Before the middle 1800's, many students were taught in one room classrooms with many students of various age and ability levels.

Many school districts may utilize the practices of retaining and/or socially promoting students but may have no clear guidelines or explicit policies to follow. In addition, questions may arise regarding the practice of an individual student passing or failing a grade and completing high school requirements. Within the boundaries of a classroom, a teacher may ask: How is the student achieving when compared to others in the class? How is the student's attendance? Is the student showing effort? Is the student achieving on grade level? How is his/her performance in core academic subjects such as reading, math, and science?

Outside of the boundaries of a classroom, other factors are being considered. These issues concern the student's academic achievement on standardized tests. When and if a school district or a governmental agency establishes a promotional policy, what factors will be considered? Presumably, a district policy on retention-in-

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grade would be based on an understanding of the relationship between such retentions and high school graduation rates.

Purpose of the Study

Through this study, the history, trends, and conflicts that have been associated with grade retention (grade level failure), standardized testing, and their impact on student performance and graduation completion rates will be examined. The study will then analyze observational data to determine if there is a significant relationship between grade retention and both the achievement levels of students on the Michigan Education Assessment Program (M.E.A.P.) test and successful high school completion.

The statistical study will estimate two district level models. The first model will relate MEAP results to teacher characteristics (the status of being highly qualified) and school district resource levels. The average socioeconomic status of the students in each school will be included in the model of student achievement to control for the background of the sample studied. It is theorized that, all else equal, high socioeconomic status students will achieve higher MEAP test results and higher graduation rates, although exceptions may exist. The second model will relate graduation rates of public high school students in Michigan as the dependent variable to the independent variables of retention rate, Michigan Education Assessment Program (MEAP) results, socioeconomic status (percent of free or reduced lunch students), teacher status of being highly qualified, and school district revenue per pupil.

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Research Questions

This study focuses on the determinants of academic achievement in Michigan school districts as measured by the performance level of school districts on the M.E.A.P. test and the district's high school graduation rate. In addition to estimated school district retention rates, independent variables will consist of measures of school district resources, average years of teacher's experience, percent of teacher's with graduate degrees, and the socioeconomic level of the district's families as measured by the percentage of free or reduced lunch recipients within districts.

The following questions will be examined:

1. Is there a relationship between retention rates and graduation rates?

2. Is there a relationship between a district's average student achievement scores on the M.E.A.P. test and the district's high school graduation rates? It is hypothesized that districts with high MEAP scores have high graduation rates.

3. Is there a relationship between the districts' MEAP score performance and the socioeconomic level (i.e., free or reduced lunch status) of its students? A strong positive relationship between district MEAP scores and socioeconomic status (SES) students is hypothesized. Certainly exceptions may occur. These exceptions would possibly be on the school level rather than on the district level when schools with low socioeconomic status students perform very well on the MEAP test due to the presence of exceptionally talented

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school staff whose qualities are not captured in the district level data used in this study. This study will focus on district level data, but many districts in Michigan have only one high school. At the same time, however, important teacher qualities like verbal skills, creativity, and empathy are not captured in standard administrative data.

4. Do high school graduation rates relate to district performance on the 11th grade MEAP test when controlling for socioeconomic status? It is hypothesized that that there is a strong positive relationship between districts' graduation rates and the socioeconomic status of their students.

Definition of Terms

For the purpose of this study the following definitions will apply:

- Adequate Yearly Progress- a formula required by No Child Left Behind (NCLB) legislation, and used by states, districts, and schools to ensure that a minimum percentage of students are achieving grade level standards in core academic subjects.

- Early Retainees- refers to students retained in the early elementary grades; that is, the retentions that occur from kindergarten to fifth grade.

- Grade Level Retention (failure) - the practice of requiring a student who has been in a given grade level for a full year to remain at that same grade level in the subsequent year.

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- Grade Level Retention (failure) - students retained (failed) beyond the elementary school grades or beyond fifth grade.

- No Child Left Behind Act of 2001- the education reform effort that President Bush proposed his first week in office and that Congress passed into law on January 8, 2002. The NCLB Act of 2001 is based on four principles: accountability for results, more choices for parents, greater local control and flexibility, and an emphasis on doing what works in schools based on scientific research.

- Persistence Rate- the percent of students who remain in school from grades nine through twelve. This rate may be calculated using information on the percentage of students not dropping out at a specific grade level or the percentage of students estimated to be promoted from grade to grade (Keeping Count, 2006).

- Social Promotion- the practice of allowing students who have failed to meet performance standards and academic requirements to pass on to the next grade instead of completing or satisfying the requirements of that declared grade.

- Student Performance- measurable student achievement assessments used to demonstrate the academic and cognitive abilities of students.

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Scope and Limitations of the Study

1. This study sample consists of all traditional K-12 public school districts in the state of Michigan. Unlike the results of a controlled experiment, the results of this statistical analysis of administrative data are subject to possible bias from omitted but relevant variables.

2. This study focuses on the successful educational progression of traditional public school students in the state of Michigan.

3. The limitations of the study are the constraints that exist in the available grade retention (failure) data as well as the available lack of consistency of states calculating graduation rates. According to the No Child Left Behind Act of 2001, each individual state has the freedom to "propose its own method for calculating graduation rates and to set its own goals for how much improvement schools and districts must make each year" (Keeping Count, 2006).

4. It would be difficult to apply the findings from this study to other states that do not use the persistence rate to calculate high school completion rates. Uniformity across states will not be possible until the National Governor's Association (NGA) Senior Cohort data are reported. Further, Michigan's economy as well as the present socioeconomic differences that exist within the state could be vastly different from that of other states.

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At the time of this research, Michigan is one of three states that use the Persistence Rate to calculate graduation rates. The Persistence Rate is the percent of students who remain in school from grade nine through grade twelve. This rate is calculated using information on the percent of students estimated to be promoted from grade to grade. This method fails to properly measure high school completion rates (Keeping Count, 2006). Previously utilized Persistence Rate data also did not account for students who have dropped out of school. This problem related to the Persistence Rate's methodological failure to employ a rigorous tracking system to follow the educational outcomes of students.

Many students that have dropped out of school and then reenrolled may be considered transfer students if they are attending alternative education facilities that may be provided by that same local school district. As a result, students are still considered high school students although they have exceeded the traditional four school years of enrollment at the high school level.

Traditionally, in grade retention studies have focused on survey data that has been collected by the United States Department of Labor Statistics. By applying a cohort formula as well as an estimated retention rate formula to student level data available with the SRSD, the accuracy of district graduation rates as well as the accuracy of dropout and retention rates will be greatly improved upon for the state of Michigan. Currently, many districts in Michigan do not report in grade retention rates which create a limitation for this study. Therefore, an estimated retention rate formula will be used. That formula is presented in Chapter 3.

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Significance of the Study

This study should improve our understanding of the determinants of graduation rates and their relationships to district retention rates and student achievement for Michigan school districts as measured by MEAP scores. This study will also examine the quality of student retention data in Michigan. It is essential for districts to accurately report the number of students that pass on to the next grade as well as the number of students that fail a grade, in order for graduation and dropout rates to be accurately calculated. Calculations of grade level failure, also identified as grade level retentions, can have an enormous impact on school districts' calculated graduation rates. The National Governor's Association (NGA) is attempting to provide consistency to the graduation rate formulas used by school districts. It must be noted that as school districts begin to report more accurate and precisely defined graduation data, their numbers will likely change. This information can be used to accurately predict the future number of graduates of the state of Michigan based on aggregate data gathered at the district level. Of course, accurate retention data are also needed to properly evaluate the effects of retention on student performance.

This research will also add to the available information that educational policy makers at the state level can employ when seeking political support for educational agendas such as: the Great Start early childhood preschool program,[1] raising Michigan's compulsory age for school attendance, the implementation of rigorous high school graduation requirements, the requirement that all eleventh grade students take the American College Test (ACT), and the Michigan Promise scholarship, which provides $4,000 for high school graduates pursuing post-secondary education. The

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effectiveness of these and other programs in assisting the students of Michigan achieve scholastic and future economic success depends on our understanding of the determinants of academic performance and high school graduation.

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[1]. The Project Great Start (PGS) program (Great Start, 2003) was started by Michigan's Governor Jennifer Granholm in 2003. The goal of Project Great Start is to coordinate both public and private efforts to achieve common objectives and measurable results for Michigan's children. PGS created a blueprint, or strategic plan, for Michigan's early childhood system of programs, services, and supports for all children from birth to age five.

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CHAPTER 2

REVIEW OF RELATED LITERATURE

Many discrepancies and inconsistencies exist between research and practice regarding grade retention. The theory of grade retention involves the concept of providing remediation for underachievers. Educational remediation may involve tutoring, summer school, and other forms of enrichment that would assist students. If a student has not demonstrated the ability to perform various tasks that are being required at a particular grade level, retention is thought of as a possible solution to the educational deficit.

Meisels and Liaw (1993) have performed empirical studies that have demonstrated a clear example of the failure of educational research to reflect educational practice. The students in this sample were analyzed from the National Education Longitudinal Study (NELS) data set. The NELS study was to provide data about "pivotal transitions experienced by young people as they develop, attend school, and embark on careers" (p. 69). Students who were Asian, Native American, and other racial and ethnic groups other than Black, White, or Hispanic were excluded. In addition, students whose parents did not report retention history were not included. The sample, therefore, contained a relatively socioeconomic and academically advantaged group of students. The study investigated associations between retention and academic and socio-emotional outcomes. A multivariate analysis (grades, composite test scores, learning problems, emotional problems, behavioral problems, and special education placement) was used.

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Meisels and Liaw found that Black and Hispanic students were retained in significantly higher proportions than the white students were. Males, inclusive of White, Black, or Hispanic, significantly outnumbered females in the frequency of retentions. Students with lower socioeconomic status families were more likely to be retained. Most retention occurred during the first four years of school. The data indicated that more retentions were instigated by the school than by the families. However, the parents more often instigated early retentions. Early retainees, students retained in elementary school, had higher grades than higher retainees did. The early retainees were also more likely to have parent reported learning problems and to be placed in special education programs. Higher-grade level retainees, those students retained after elementary school, were more likely to have emotional or behavioral problems.

Based on the research performed by Meisels and Liaw, retention as an educational tool appears to have substantially more negative than positive results. Despite the research about the negative results of retention, it is still widely practiced by educational professionals. The Meisels and Liaw study states that new approaches involving individualized student instruction, such as tutoring and summer school, should become the focus of efforts to improve academic outcomes.

As school districts face community and governmental pressure to improve student achievement, it appears that the practice of grade retention has increased. “President Clinton in his 1997 and 1998 State of the Union Addresses called for increased retention of students with low scores on standardized tests, stating that a child should not move from grade to grade” (Owings & Magliaro, 1998), until he or she achieves academically. President George W. Bush has called for an end to social

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promotion through the No Child Left Behind Act of 2001. Currently in New York City, Mayor Michael Bloomberg is in the process of trying to persuade New York City education officials to approve his plan to end social promotion. In his annual State of the City speech, Mayor Bloomberg announced a hard-hitting new promotional policy for third graders (Herszenhorn, 2004). Although the plan proposed reducing class size, it also would mean failure for students that did not meet the necessary criteria. Because of financial costs and the possibility of increased grade level retentions, the plan quickly became the most controversial of the Mayor Bloomberg's education initiatives. As social promotion goes out of popularity, the practice of grade retention will begin to increase.

Research has been performed regarding the practice of grade retention. The results of the research do not coincide with current educational practices. At this point, most research refutes the idea that grade retention benefits students, yet the practice appears to be increasing. Research performed by Grant (1997) states that it is imperative to consider the following when making the decision to retain students: chronological age, gender, developmental readiness, physical size and ability, social, emotional & behavioral problems, prematurity & low birth weight, exposure to environmental hazards, learning disabilities, attendance, linguistic differences and poverty.

Chronological age refers to the age of a child in comparison to other children in the same grade. If a child is one of the youngest in his class he is more likely to be retained because of maturity differences. He may not be at the same level of ability as related to fine motor skills as other students in the class. Students that are older than

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their classmates may have problems related to their social interactions in the classroom. If a student is one or more years older than his classmates, it is suggested that this individual not be retained in grade again. Grant (1997) stated that:

> When a child is a year older and still experiencing severe school problems, there are undoubtedly other causes that need to be addressed directly. In addition, the social and emotional problems that result from being two years older are very likely to undermine the child's academic performance and have a negative impact on classmates. (p. 76-77)

Gender refers to the sex differences that exist for students. Grant (1997) stated that "boys tend to develop more slowly than girls" and as a result are retained in grade at a higher rate. It is discussed that school entrance policies based on chronological age may discriminate against males because of their developmental differences. Because of their developmental differences it is believed that boys will need additional educational support services and interventions. These support services and programs will require additional financial expenditures if they are to be utilized.

Developmental readiness refers to a child's readiness to learn within an educational environment. A child's readiness to learn may relate to physical well-being and motor development, emotional health and maturity, social skills, language skills, as well as general knowledge and cognitive skills. Grant (1997) stated that "a lack of developmental readiness is one of the most common causes of wrong grade placement and resulting school failure, even though the intelligence of many late bloomers is average or above".

Grant (1997) stated the following in relation to a child's physical size and ability:

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> A child's physical development may directly affect his or her ability to read and write, complete tasks, pay attention, and perform certain mental functions. Children whose physical development is proceeding more slowly than most of their peers' may therefore be incapable of succeeding in a particular grade, unless they have more time to develop. In addition, the social and emotional development of such children may also suffer as a result of the way they are treated by their supposed peers on and off the playing field. (p. 67-68)

While parents may focus primarily on the academic achievement of their children, because of the composition of a classroom, teachers may focus on the social, emotional, and behavioral issues of children as well. Social competence and emotional well-being are issues for some children. A child's concerns with being liked, feeling accepted by the other children, and having self-confidence are all related to their social skills and development. When a teacher faces the question of whether or not to promote a student, the concerns regarding social, emotional, and behavioral maturity becomes part of the discussion. This may also bring upon issues related to special education and grade placement.

According to Grant, prematurity and low birth weight "can be linked years later to developmental delays" (1997) and poor school performance. Low birth weight and premature births are also related to individuals with a low socioeconomic status.

Another factor that is related to poor school performance is related to a child's exposure to environmental hazards. Grant (1997) found the following:

> Prenatal exposure to tobacco smoke, alcohol, illegal drugs, and other toxic substances as well as postnatal exposure to them may result in a range of physiological problems that can dramatically affect a child's growth, development, and school performance. In more than a few cases the exposed students have an extensive array of severe problems which require a corresponding number of interventions and support services of which retention may be one.

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One environmental hazard that has affected some of the students of Michigan is exposure to lead paint poisoning ("State Slow to Act," 2003). Some of the symptoms of lead poisoning can be related to headaches, irritability, abdominal pain, vomiting, anemia, weight loss, poor attention span, learning difficulties, impaired speech development, and hyperactivity. Some of the effects of lead poisoning may be related to reading and learning disabilities, lowered intelligence quotient (I.Q.), neurological deficits, and behavior problems.

When a teacher, parent, or administrator is considering options for a student that is not progressing in school, there should be an evaluation or screening process in place to determine if the student is experiencing any learning disabilities. The disabilities that may affect the placement options of a child can range from attention deficit disorder (A.D.D.), learning disabled (L.D.), emotionally impaired (E.I.), physically and otherwise health impaired (P.O.H.I.), to attention deficit hyperactivity disorder (A.D.H.D.). In these types of situations retention would be ineffective unless appropriate support services for the disability have been provided.

School attendance must be considered when educators make the decision that a student graduate, be promoted, or be retained in grade. Many school districts mention attendance criteria in their promotional policies and guidelines. Local school districts set attendance policies that determine the recommended number of excused or unexcused absences that a student may have and still move to the next grade or be considered a graduate of the district. Michigan's revised school code requires parents with a child between the ages of six and sixteen to send that child to school. The "child's attendance shall be continuous and consecutive for the school year fixed by the

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school district in which the child is enrolled" (The Revised School Code, 1976). Many students in the state of Michigan view age sixteen as an age in which they can legally end their education (See Table 3).

An attempt to raise Michigan's dropout age is an issue that has currently and previously been initiated in the Michigan Senate. Legislation was previously introduced during the administration of former Michigan Governor John Engler. Now, this issue has gained new support in Michigan.

Individuals support raising Michigan's compulsory age for attendance from sixteen to eighteen to hopefully improve the state's dropout rate and increase the number of high school graduates in the state. The bills that have been proposed (Senate Bill, 2003) would amend the 1976 Public Act 451, entitled "The revised school code". Governor Jennifer Granholm, as well as State Senator Elizabeth Brater, a Democrat from Ann Arbor, supports the idea of raising Michigan's compulsory education age from age sixteen to age eighteen. This idea has the support of many parents and political leaders as well as top educators. Parker (2006) mentions some of the arguments against raising the compulsory age of attendance:

> Older children who do not want to be in school can cause classroom disruptions or violence, making learning harder for students who truly want to learn, some students are not academically inclined and might benefit more from gaining work experience rather being forced to sit in a classroom. Raising the compulsory attendance age removes parents' freedom to decide if their 16-year old is ready for the workforce. Raising the compulsory attendance age will lead to an inevitable tax increase to pay for more classroom space and teachers to accommodate the additional students required to attend public schools. It's a waste of taxpayer money. We need to focus on better strategies to keep students in school rather than simply raising the compulsory attendance age. Raising the compulsory attendance age will not reduce the dropout rate. Raising the compulsory attendance age will actually increase the dropout rate instead of improving it. (p. 9-14)

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According to the National Center for Education Statistics, the goal of reducing the dropout rate is to increase the percentage of youths who finish high school. "Despite the increased importance of a high school education for entry to postsecondary education and the labor market, the high school completion rate has shown limited gains over the last three decades and has been stable throughout the 1990s (Dropout Rates in the United States, 2000)." There also have been limited gains in the dropout rate of the young adults throughout the United States.

According to the Digest of Education Statistics (1996), only fourteen states have the required age of compulsory education set at 18. Seven states have 17 as their legal dropout age based on compulsory education laws. As of September, 2006 fourteen states have compulsory attendance ages (CAA) set at 18, ten states are set at 17, and 26 states are set at 16. These compulsory attendance ages have changed as states are beginning to correlate the relationship between compulsory attendance laws and graduation rates.

Educational leaders and policy makers are going to have to consider how any changes to compulsory education attendance legislation would impact schools. All schools may be affected in some way. Educators, parents, and political leaders will have to know that these changes can occur within the financial as well as social infrastructures of our school dynamics. Some of the changes that may occur would bring about several critical questions that may affect schools. Some of the issues may be: What kinds of special programs will have to exist for some of the more nontraditional students? Will this change occur all at once or will the legislation allow for

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a gradual implementation? How will new age requirements effect the financial situations of local school districts?

Based on research of the history of education, compulsory education laws were instituted as a means of keeping children off the streets and away from the abuses of child labor. These laws usually coincide with child labor laws that exist around the world. Education and child labor laws should not only strengthen, but also balance one another. Education laws and policies can reinforce child labor laws by keeping children in schools and away from the work place. Child labor laws, in turn, can be useful tools for retaining children in school and helping local and state governments achieve their worldwide essential education objectives.

According to the United States Department of Labor (2002), compulsory education laws exist as a method of monitoring children's involvement with the labor force. The United States Department of Labor contends that twelve of the 16 countries studied have national laws that make primary education compulsory: Bangladesh, Brazil, Egypt, Guatemala, Mexico, Nicaragua, Peru, the Philippines, South Africa, Tanzania, Thailand, and Turkey. A number of these countries, including Egypt, South Africa, and Turkey, have recently passed laws extending their years of compulsory education.

Based on the research from the Digest of Educational Statistics (1996) and the U.S. Department of Labor (2002), it appears that the United States is further ahead than many other countries in regards to the number of years of education that are required of its students. However, are the educational requirements instituted by our own state enough to keep us competitive with other industrialized nations?

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Many educators are beginning to question the effectiveness of compulsory education laws. Various questions have come about regarding the enforcement of compulsory education laws. Will our legislatures provide the finances that would be necessary to implement new programs? What would be the parent's role? How would the actions of a child of sixteen and seventeen be a parental responsibility?

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Table 3

Ages for compulsory school attendance by state

Alabama	16	Montana	16
Alaska	16	Nebraska	18
Arizona	16	Nevada	17
Arkansas	17	New Hampshire	16
California	18	New Jersey	16
Colorado	17	New Mexico	17
Connecticut	18	New York	16
Delaware	16	North Carolina	16
District of Columbia	17	North Dakota	16
Florida	16	Ohio	18
Georgia	16	Oklahoma	18
Hawaii	18	Oregon	18
Idaho	16	Pennsylvania	17
Illinois	17	Rhode Island	16
Indiana	16	South Carolina	17
Iowa	16	South Dakota	16
Kansas	18	Tennessee	17
Kentucky	16	Texas	18
Louisiana	18	Utah	18
Maine	17	Vermont	16
Maryland	16	Virginia	18
Massachusetts	16	Washington	18
Michigan	16	West Virginia	16
Minnesota	16	Wisconsin	18
Mississippi	17	Wyoming	16
Missouri	17		

Adapted from “Update on Compulsory Attendance Age (CAA) Research”, 2006, Center for the Future of Arizona.

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Obstacles to Achievement

Grant (1997) found that linguistic differences could affect a student's ability to advance to the next grade level. "Children who are learning English as a second language may have trouble learning material needed to succeed in the next grade [*sic*]" (p. 69).

Students from middle-class non-minority backgrounds with both parents present and who speak a standard version of English are much more likely to be successful in school than those from poor, minority, immigrant, nonstandard English, and single-parent backgrounds (Levin, 1996).

Poverty may have a substantial effect on a child's ability to be successful in school, increasing the likelihood that they become candidates for grade level retention or will later become school dropouts. "Young adults living in families with incomes in the lowest 20 percent of all family incomes were six times as likely as their peers from families in the top 20 percent of the income distribution to drop out of high school" (Dropout Rates in the United States, 2000).

Grant (1997) stated that children who have grown up in poverty many times lack the experiences and exposure that lead to educational accomplishments "such as exposure to books and access to high quality preschool and Head Start programs" (p. 70). Variables that may be used to determine the success of a high quality preschool program may be "grade retention, special education placement, and high school graduation" (Barnett, 1992).

Research performed by Belfield, Nores, Barnett, & Schweinhart (2006) presented a "cost-benefit analysis of the High/Scope Perry Preschool Program, using new data on

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the careers and livelihoods of the participants and control group up to age 40" (p. 1). The cost of the program was compared to its benefits. The benefits or advantages ranged from increased career earnings, fewer incidences of being involved in crimes, and declines in the participation of social welfare programs. The individuals that participated in the program were more likely to be employed, and had higher lifetime earnings than those individuals from the control group. Also program participants experienced less "grade level retention and less frequent placement in special education classes" (p. 177)

This research has found that enhanced parental involvement encouraged by the program was associated with a lower likelihood of grade retention beyond other factors (e.g., school adjustment, cognitive readiness). Cognitive readiness, when children are able to form a strong knowledge base sufficient to support comprehension, drawing inferences, and making predictions, did not directly affect grade retention significantly but only indirectly through parent ratings and parent involvement. Parent involvement, teacher ratings of school adjustment, and school mobility significantly predicted grade retention, which in turn affected school achievement 1 year later. (See Table 4)

In addition to the Perry Preschool Project, Belfield, Nores, Barnett, & Schweinhart compared seven additional studies of researcher initiated preschool programs. One program that was quite notable was the Early Training Project which was given in Murfreesboro City Schools in Murfreesboro, Tennessee from 1963-1964. The Early Training Project attempted to improve the academic performance of culturally underprivileged youths. The Tennessee Early Training Project utilized ten week long summer school experiences and home visitations. This Project individually

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administered its own test rather than relying on school administered achievement tests. The Early Training Project was the only program studied that could be used to provide similar estimates to the Perry Project, although it consisted of a much smaller sample size.

Research performed by Dawson (1998) found that students "who participated in the Head Start" preschool program were less likely to be retained. The students who were retained "scored lower on measures of self-concept and attitude toward school" (1998). Empirical research performed by Reynolds (1996) included 360 low income, minority children (95% black, 5% Hispanic). These children graduated from a government funded kindergarten program in the Chicago Public Schools. In 1967, the federal government provided Title I funds for the establishment of Child Parent Center (CPC) programs in the Chicago Public Schools for economically and educationally disadvantaged children. This study reports on six original sites of the program that had all day kindergarten programs. The Child Parent Centers emphasized parental involvement, comprehensive services, and a child-oriented approach to literacy development. The model specifications for the study involved cognitive readiness at kindergarten entry, teacher ratings of school adjustment, parent involvement in school, school mobility, and grade retention. Two of the five conditions must be present for mediated effects to occur. The preschool participation must be significantly associated with an intervening factor such as parental involvement. In addition, the intervening factor must be significantly associated with an outcome variable controlling for prior factors in the model. Overall, it was found that the operation of Child Parent Centers

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(CPC) for preschoolers resulted in students who were less likely to be retained in school and much less likely to be placed in special education.

Table 4

Descriptions of Studies of Researcher Initiated Programs

Name and Location	**Program Description**	**Age at Entry (in years)**	**Program Length (in years)**	**Years of Program**	**Design**	**Initial *N*'s Exp, Comp**	**Follow-up *N*'s Exp, Comp**
Perry Preschool Project, Ypsilanti, MI	Two and a Half hour preschool class, five days/week, and weekly home visits, Fall to Summer	3 or 4	1 or 2	1962-67, five waves	Randomized	58, 65	58, 65
Early Training Project, Tennessee	Four hour preschool class, five days per week, 10 weeks of Summer, and weekly home visits, Fall to Summer	3.8 or 4.8	14 or 26 months	1962-65	Randomized	44, 21	41, 21

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Table 4 Continued (Experimental versus Control Group)

Name and Location	Percent Retained	Percent in Special Education	Percent High School Graduates	Time of Follow – Up
Perry Preschool Project, Ypsilanti, MI	15 v. 20 (86)	37 v. 50 (112)	67 v. 49* (58, 63)	Post high school
Early Training Project, Tennessee	58 v. 61 (58)	5 v. 29* (62)	68 v. 62 (41, 21)	Post High School

Note. *N*s in parenthesis. *N*s are smaller for grade retention analysis because children are excluded from retention count after placement in special education.

* indicates significant difference at .10 level (2- tailed test) in both chi- square and regression analysis.

Adapted from “Benefits of Compensatory Preschool Education,” by W. S. Barnett, 1992, The Journal of Human Resources, 27, p. 2

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Achievement Concerns

Educators, parents, and policy makers are concerned with the essential issue of low student academic achievement. Because of the No Child left Behind Act of 2001, high stakes testing has become "more pervasive than ever before" (Amrein & Berliner, 2003) as a method to measure a student's academic progress. Amrein & Berliner studied policies that used the results of standardized tests as the assessment that determines whether high school seniors will receive diplomas. It was concluded that high-stakes tests do not lead to higher student achievement. In addition, such tests can decrease student motivation to learn and lead to higher student retention and dropout rates. Research performed by Bracey (2002) has found that when students are threatened by a test being used as the criterion to determine if they will be retained, the students could be placed in four groups. The students reported that they either "worked hard in school, worried a lot but did not do more work" or "worked on skills outside of class only, and did not worry or were confidant" (p. 432). The tests did not have a positive impact on student achievement, although students responded positively to the policy of mandatory graduation tests.

Research performed by Allensworth (2004) illustrated that Chicago Public Schools have been at the forefront of research involving the implementation of high-stakes testing. The students of Chicago public schools, beginning with the 1995-1996 class, had to "meet a minimum score on the Iowa Tests of Basic Skills (ITBS)" (p.157). The Chicago program is a model for other school districts that are interested in using standardized testing as a basis of determining the promotion of students. When students receive a low achievement score, they in turn do not meet the promotional

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standard. Therefore, they are retained in the same grade. After the implementation of the eighth grade promotional policy requirements, the dropout rates remained at the pre-policy levels for the first two cohort groups and declined with the next two cohort groups. Although the dropout rates did not worsen as thought by critics of the program, they did not in turn improve by very much either.

Hartke (1999) found that students lose a large amount of self confidence when they have been retained or when they fear the possibility of retention. Many students feared retention to the point where it ranked third “in a list of anxieties” (p. 22). The two fears that were directly above the fear of grade retention were blindness and the death of a parent. Research by Hartke stated that many norm- referenced tests are used as the requirement for grade retention decisions. It was stressed that many norm-referenced tests have measurement errors that inaccurately define a students’ aptitude in a particular subject matter.

Research on high stakes testing policies and retention performed by Morris (2001) stated that there was a linear relationship between socioeconomic status (SES) and achievement measured by the Stanford Achievement Test. Morris focused his research on the relationship between high stakes testing and retention by performing ordinary least squares regressions. Morris found that retentions for the elementary grade students had no statistically significant relationship to socioeconomic status among poorer schools, although there was a positive relationship in more affluent schools.

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Although there has been an increase in the practice of using standardized tests as a tool in making the decision to retain students, it has been suggested that various forms of student and staff support should also accompany these tests. This procedure could include various forms of staff development, tutoring, looping, the practice of teachers keeping their students for multiple years, and multi-age grouping, the practice of students of various age groups being together for instruction or course work.

Research compiled by Belfield & Levin (2007) stated that there is reasonable agreement across data sets on the high school graduation rate for public school students. Rather than focus on the precision of the estimates they were concerned with the overall consensus. Specifically, they concluded with reasonable confidence that roughly three of every ten students in the United States are not graduating from high school on time. Belfield & Levin found that the following factors contribute to a high likelihood that an individual may drop out of high school:

> Family problems frequent residential moves and school mobility, limited cognitive or physical abilities, psychological problems, pregnancies, and financial constraints all exert pressure on students to drop out. Experts agree that a more complete response will require changes not only in schools but also in the combined support and additional resources of families and communities. In addition, some of the dropouts are immigrants, many of whom did not attend U.S. schools throughout childhood. Their educational deficiencies cannot be fully addressed by educational reforms within the United States. On the basis of our reading of the literature and on expert opinions, we believe that perhaps half the school dropout rate can be influenced by school interventions that have been proven to be effective.

Although staff development, summer school, and tutoring may better prepare some individuals for school preparedness, research by Grant (1997) finds that although exceptions may exist, some students may not benefit academically or socially from retention. These may include the following groups of students: low-ability students,

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unmotivated students, emotionally disturbed students, bored students, transient and high absentee students, students who have unsupportive parents, and students who are already one year older than their oldest classmates.

Behavioral Issues

Rodney, Crafter, Rodney, & Mupier (1999) performed a retention study of 243 African-American males that were between the ages of thirteen and seventeen. This study investigated the variables that would contribute to grade retention. This empirical research of predictors of grade retention hypothesized that there would be a "significant positive relationship" (Rodney, Crafter, Rodney, & Mupier, 1999) between a lack of discipline within the home and grade retention, school suspensions and grade retention, and conduct disorders (violence) and grade retention. The results of the study confirmed the stated hypothesis. There was a positive relationship between grade retention and home discipline, school suspensions, and violent conduct disorders.

Research has stated that when it comes to the issue of retention, all parents may be concerned about the possibility and effects of grade retentions. However, the effects of retentions focus primarily on particular ethnic and socioeconomic groups at a higher frequency than on others. A student is more likely to be retained, if that child is 'male'… 'African-American'… or 'Hispanic'… (Owings & Magliaro, 1998). Retained students had "parents who were less educated than the parents of non-retained students" (p. 87). In addition, students are more likely to be retained if their family lives below the poverty level (p. 87).

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Holmes (2000) found that children who have been retained develop a low self-concept, may develop a negative attitude toward school and toward other children, and may develop poor decision-making abilities. This result was evident by the increased likelihood of these students to smoke, chew tobacco, and use alcohol. Because of grade level retentions, these students, if they have not dropped out of school, may be older than other students within the same grade. These older students suffered from high levels of emotional distress, substance use, were more likely to be involved in acts of violence, and engaged in sexual intercourse at earlier ages (Resnick, 1997).

Current Graduation and Grade Retention/Promotional Policies

Because of state and local educational standards and requirements, it is imperative for local school districts to implement graduation, promotion, and retention policies. These policies can be used as a tool for school personnel and parents to set the requirements of the learning objectives that students should have. If policies are in place, it should be expected that educators would be more consistent in determining whether a child has met grade level, testing, and attendance requirements for that school district. State and federal governments can use these policies as a means to hold schools responsible for meeting standards.

Under No Child Left Behind legislation, states were given the freedom to select their own methods for calculating graduation completion rates (see Table 5). According to information provided by state departments of education (Hoff, 2006), there are seven methods utilized to calculate graduation rates:

1. Cohort Rate- the percentage of students from an entering ninth grade cohort who graduate with a standard diploma within four years. This method can account for transfers and students retained in a grade.

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This student data may be tracked on a statewide or local basis. This method is used by ten states.

2. Leaver Rate- the percentage of students leaving high school with a standard high school diploma, as expressed as a proportion of all those documented leaving with a diploma or other completion credential or as a dropout. This method is sometimes referred to as a departure classification index. This method is used by thirty-three states.

3. Completion ratio- the number of diploma recipients divided by an approximation of the starting ninth grade class. This method cannot fully account for entering cohort membership, net transfers, and grade retentions. This method is used by two states.

4. Dropout rate- the percentage of students enrolled in grade nine through twelve who dropped out during any given school year. High school completion is not measured. This method is used by one state.

5. On-time rate- the proportion of all high school graduates in a given year that has received a standard diploma within four years. This method is used by one state.

6. Persistence rate- the percentage of students who remain in school from grades nine through grade twelve. This rate is calculated using information on the percent of students not dropping out at specific grade levels or the percentage of students estimated to be promoted from grade to grade. This method does not measure high school completion. This method is used by three states including the state of Michigan.

7. Composite rate- the proportion of students estimated to remain in high school until grade twelve and receive a diploma. The rate for a given year is calculated by multiplying the rate of persistence between grades nine and twelve and a percent of completers who receive a diploma rather than another credential. This method is used by one state.

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Table 5

State Methods Used for Calculating Graduation Rates (2005)

Leaver Rate	Cohort Rate	Persistence Rate	Dropout Rate	Completion Ratio	On-Time Rate	Composite Rate
Alabama	Arizona	Arkansas	Louisiana	Massachusetts	North Carolina	New Hampshire
Alaska	Colorado	Indiana		New Mexico		
California	Florida	Michigan				
Connecticut	Hawaii					
Delaware	Illinois					
District of Columbia	Mississippi					
Georgia	New York					
Idaho	South Carolina					
Iowa	Texas					
Kansas	Washington					
Kentucky						
Maine						
Maryland						
Minnesota						
Missouri						
Montana						
Nebraska						
Nevada						
New Jersey						
North Dakota						
Ohio						
Oklahoma						
Oregon						
Pennsylvania						
Rhode Island						
South Dakota						
Tennessee						
Utah						
Vermont						
Virginia						
West Virginia						
Wisconsin						
Wyoming						

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Many school districts such as Chicago, Boston, New York as well as Detroit have instituted promotional policies even when they are not required by the state (Heubert, 2003). These policies typically look at standardized test results, attendance, and grades when making the decision on retaining students.

Paul Valles, previously of Chicago Public Schools, started a crusade against the practice of social promotion. His exit skills or required student outcomes involved the use of the Iowa Test of Basic Skills. Detroit Public Schools previously implemented an exit skills program involving the use of standards based on reading, math, and science outcomes. Like Chicago, Detroit is using and will continue to use summer school to assist students in their efforts to succeed. In the Detroit Public Schools a student may have the opportunity to pass to the next grade from their successful participation in summer school at the fifth grade, eighth grade, and high school levels. If a fifth or eighth grade student receives failing grades, has poor attendance, or scores below grade level in reading and math on the Terra Nova Test, he or she will be required to attend summer school. Promotion to the next grade depends on attendance, class work, and successfully passing the Terra Nova Test, which is given again at the end of the summer session.

Chicago Public Schools, in its attempt to end social promotion, has instituted a required Summer Bridge program. This program was designed for students who tested two years below grade level in reading and math on the Iowa Test of Basic Skills (ITBS). At the end of summer, the students were required to take the Iowa Test again. If they failed on their second attempt they were assigned to transition centers. Transition centers were new schools designed specifically for students who failed the

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eighth-grade standards but were too old to remain in elementary school (Allensworth, 2004). It is anticipated that promotional policies such as Chicago Public Schools' will motivate and encourage students to work harder in order to achieve in school. It also allows parents and teachers an option for students that need additional academic support. Like Detroit, Chicago Public Schools did offer summer school. It also offered additional opportunities for students to pass the standardized test, in this case the Iowa Test of Basic Skills. In addition, Chicago also offered its students the opportunity to participate in after school tutoring programs.

Because of the No Child Left Behind Act of 2001, many local government officials are trying to revise graduation and promotion policies. The current revisions, such as additional academic standards and requirements, focus primarily on test results in many large urban cities such as New York and Chicago.

Limitations with current graduation data relate to the inconsistencies in the various methods that exist within states. In order for states to be able to effectively track students, a unique student identification code must be in place. At the present time, very few states have the capability to track this type of student level data. School Matters (2005), a service of Standard and Poor's, uses three of the seven nationally standardized graduation rate estimates. (See Table 6) The three rates used are the Cohort Rate, Enrollment – based Cumulative Promotion Index (Urban Institute), and the Leaver Rate.

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Table 6

Nationally Standardized Graduation Rates

Rate	Methodology	Considerations
Enrollment – based Cohort Graduation Rate (Manhattan)	This rate is calculated by dividing the number of students who receive a regular high school diploma by the number of students enrolled in ninth grade four years earlier. This method considers state population changes, as well as the tendency of ninth grade students to be held back more than students in other grades	• Requires enrollment data from five consecutive years, as well as the number of graduates for the latest year • Requires census population data • Does not use dropout data
Enrollment – based Cumulative Promotion Index (Urban Institute)	This method assumes that graduation is a process composed of three grade – to – grade promotion transitions (9 to 10, 10 to 11, and 11 to 12) in addition to the graduation event (12 to diploma). Each of the transitions is calculated as a probability by dividing the enrollment of the later year by the enrollment of the previous year. These separate probabilities are then multiplied to produce a probability that a student in that school system will graduate.	• Requires enrollment data from two consecutive academic years, as well as the number of graduates for the latest year • Requires the calculation of district-level rates to determine the state rate. • Does not use dropout data
Leaver – based Graduation Rate	This rate is calculated by dividing the number of high school diploma recipients by the number of students known to	• Requires dropout data from four consecutive years, as well as the number of

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	leave school by dropping out, graduating or otherwise completing high school. This rate does not account for students who have not yet graduated but are still enrolled in the system or other non-completers.	graduates for the latest year • Relies on the accuracy of dropout data • Does not use enrollment data

Note. Adapted from "School Matters, a service of Standard and Poor's", 2005.

Heubert (2003) has stated that if, in fact, students are going to be required to take tests that will determine whether they will pass or fail, then states and school districts must meet their own requirements of:

- Setting the same high standards for all students
- Including all students in statewide assessments –including, with appropriate accommodation, students with disabilities and English-language learners: and
- Reporting scores disaggregated by race, disability, English proficiency, and family income.

Heubert (2003) also states that many school districts are yet to align their curricula with state and national standards. If the school curriculum does not coincide with what students are tested on, then these standardized test results are not fair, accurate measurements of what children know or of what they have been taught. While Heubert is not against the use of standardized tests as a diagnostic tool, he does not feel that they should be used as a method to punish students for what they have failed to learn. This means that the results of these tests can be interpreted as punitive. He

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stated that using tests to determine student competency may be used by politicians and policy makers as an inexpensive tactic to measure student progress, rather than the use of more effective educational practices such as making changes in the school curriculum. Changing a school's curriculum may be viewed as a more effective yet more expensive method used to increase student achievement. Heubert stated that using tests to determine grade retention or denial of diplomas would largely affect students of color, students with disabilities, English language learners, and students with families with low incomes. Perhaps these students should be offered additional opportunities, such as tutoring, summer school and other forms of remediation that would have a positive impact on achievement and graduation.

Rothstein (1998) has stated that the quandary of what to do with children who do not progress normally is not new, and did not take place because educators cultivated a hesitation to maintaining academic standards. The problem is an unavoidable outcome of required education. Advantages of social promotion still outweigh the complexities of grade retention. The deterioration of school standards should not be blamed on the practice of social promotion. Some of the political figures that were mentioned by Rothstein who were vocalizing an opposition to social promotion were: Mayor Richard Riordan of Los Angeles, California Governor Pete Wilson, former Mayor of New York Richard Giuliani, and Presidents Bill Clinton, George H. W. Bush, and George W. Bush. Rothstein emphasized that until what is meant by grade level performance is clearly defined, the whole end of social promotion crusade will be considered yet another political cliché.

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Rothstein (1998) stressed that the whole idea of measuring student progress with the percentiles that are used with norm-referenced tests is greatly flawed because of the fact that within any group and its test score results, some individuals will always fall within different ranks. Rothstein defined grade level performance or average performance as a standardized test score at the 50th percentile. This has also been emphasized with the debate on Adequate Yearly Progress where some schools fail to meet progress even if their test results are in the 90th percentile rank because of the fact that some students did not take the standardized test given by the particular state. Some schools will always be at the 50th percentile and some will always be at the top and near the bottom because of statistical average percentiles.

Thomas (2000) has stated that "throughout the 1970's", social promotion was more commonly used as a method by educators for low performing students. This disappeared for a short while in the early 1980's, with the Nation at Risk educational reforms. Toward the end of the 1980's, the Nation at Risk policies began to be discredited and lose political support, and the practice of socially promoting students had began to reappear. Now, the pendulum has begun to swing back in the opposite direction (p. 30).

Thomas' (2000) findings, similar to other research, have also pointed out that, of the students studied, boys were retained more often than the girls, and the African-American students in the study were retained more often than Caucasians. Of all students entering kindergarten, 50 percent are "likely to be retained at least once" (p. 31).

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With the current trend being to end social promotion, educational administrators may be required to ensure that clear, strong, and challenging academic standards are in place. Politicians and policy makers may be challenged to discover factors that contribute to underachievement. Perhaps true interventions will be funded and in place to assist with student achievement. New interventions designed to prevent student failure will have to be investigated, and if intervention programs are put in place to assist teachers, there should be strong priorities placed on educational leaders to deal with cultural, ethnic, and socio-economic inequalities that exist within education.

Standards/Reform Efforts

Empirical research by Morris (2001) has focused on the reform efforts that were implemented in the Miami-Dade County School District. The Morris study looked for a "relationship between high stakes testing and retention, controlling physically [*sic*] for socioeconomic status" (p. 20). This research concentrated on the percentage of students who scored below the 50th percentile on the Stanford Achievement Test and the percentage of students retained by grade. If the correlations were positive, then the grade retention, high stakes testing, reform efforts of the Miami-Dade county school district would prove to be successful. The study concluded, "high-stakes approaches to improving student performance have a low probability of successful implementation" (P.21). The practice of retention and remediation for students was only "feasible" in better performing, more affluent schools. In addition, the costs of running this type of program proved to be extremely expensive in all schools involved.

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Owings and Kaplan (2001) reviewed the history of standards, grade retention and social promotion. Owings and Kaplan stated that the use of standards as an educational measurement tool is not a 'new'… phenomenon. Standards had been used in the city of 'Boston'… as well as New York as early as the middle 1800's (p.57). Some of the affirmative attributes of the use of standards and the tests that accompany them are the costs involved. Norm referenced tests are not as expensive as other forms of educational reforms such as tutoring, summer school, and other forms of remediation. Owings and Kaplan (2001) concluded that the "standards movement" could possibly result in punitive actions toward students such as not being allowed to graduate from high school (p.57).

The retention research performed by Owings and Kaplan (2001) has found that the literature and investigations performed during the past decade have remained consistent. Research has demonstrated that retention negatively affects student achievement and students who are retained are more likely to drop out of school. They also found that while grade retention may damage a child's self esteem, social promotion did not. However, passing on students who have not met academic standards would prove to be detrimental and has occasionally led to educational malpractice suits.

Currently Jennifer Granholm, the Governor of Michigan, has called for new rigorous standards for students (Watson, 2006). The latest high school curriculum requirements will require the following of students:

- Four credits of math and English language arts;

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- Three credits of science and social studies;
- Two credits of foreign language;
- One credit of physical education and health;
- One credit of visual, performing, or applied arts;
- One online learning experience

As reform efforts such as Michigan's are implemented, they will begin to add new requirements for students. Now another issue ensues. These efforts will create questions of cost. What will be the added costs to taxpayers as schools grapple to meet the requirements of new educational standards? Research performed by Alexander (2003) stated that the costs and benefits of grade level retention are not always simply determined. One year of additional schooling could add approximately ten billion dollars to the nation's school bill. This cost would easily escalate even further with additional services such as special education. Another cost would be a "deferred one: school discontinuation". When a student fails a grade, it may lead to an increase in the possibilities of that student dropping out of high school. This in turn would lead to the possibility of that student experiencing a decrease in lifetime earning potential.

Ravitch (2010) emphasized that No Child Left Behind (NCLB) introduced reform that was applauded by both Democrats and Republicans. In this new era, school reform was characterized as accountability, high-stakes testing, data-driven decision making, choice, charter schools, privatization, deregulation, merit pay, and competition among schools. Whatever could not be measured did not count. The standards

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movement fell apart in the 1990s. The passage of NCLB made testing our national educational strategy.

According to research performed by the United States Census Department (Cheeseman-Day and Newburger, 2002) that focused on the relationship between educational attainment and lifetime earnings, there is a positive correlation between future economic success and higher educational achievement. (See Table 7)

Table 7

Work Experience and Average Annual Earnings of Workers 25 to 64 Years Old by Educational Attainment: 1997-1999

Level of Education	*Annual Earnings*	*Lifetime Earnings*
Professional	$109,600	$3,013,000
Doctorate	$89,400	$2,142,000
Masters	$62,300	$1,619,000
Bachelors	$52,200	$1,421,000
Associate	$38,200	$1,062,000
Some College, no degree	$36,800	$993,000
High School Graduate	$30,400	$821,000
Not a High School Graduate	$23,400	$609,000

Note. Adapted from "United States Census Bureau, Current Population Surveys", by Jennifer Cheeseman Day and Eric C. Newburger, March 1998, 1999, and 2000, P23-210.

Clearly, a student could be compelled to graduate from high school or college if the possibility of future economic success based on positive educational attainment is made apparent. On the average, as one advances through school, he or she in all likelihood should expect to make economic gains in terms of their annual and lifetime earnings.

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School Intervention

The empirical studies performed by Westbury (1999) assessed the reliability and validity of Light's Retention Scale. Light's Retention Scale is an instrument commonly used to evaluate whether a student would benefit from grade level retention. Some of the criteria included in the Light's Retention Scale are: sex of student, student's age, knowledge of the English language, present grade placement, previous grade retention, parent's school participation, transience, school attendance, history of learning disabilities, present level of academic achievement, student's attitude about possible retention, motivation to complete school tasks, emotional problems, history of delinquency, and others.

This research suggests that Light's Retention Scale is not a consistently reliable or valid instrument to use in isolation when making the decision to retain students. While many of the factors included in Light's Retention Scale may be presumed to be valid and objective, such as age and attendance, some of the other criteria such as history of delinquency, and attitude may be considered more subjective when used to make the decision to pass or fail a student. While this tool may not be considered valid when used in isolation, it may be helpful when used with other criteria such as test scores and grades.

Research performed by Clive R. Belfield and Henry M. Levin (2007) reported details on five successful school intervention strategies as well as their costs to implement. To be considered successful the intervention program had to increase graduation rates. The common set of features that lead to increased graduation rates and educational success were (1) small school size, (2) high levels of personalization,

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(3) high academic expectations, (4) strong counseling, (5) parental engagement, (6) extended time school sessions, and (7) competent and appropriate personnel. Table 8 gives a description of interventions that demonstrably raise the high school graduation rate.

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Table 8

Interventions the Demonstrably Raise the High School Graduation Rate

Intervention	Details	Extra high school Graduation if intervention is given to 100 students
Perry Preschool Program	1.8 years of a center-based program for 2.5 hours per weekday, child: teacher ratio of 5:1; home visits; group meetings of parents	19
First Things First (FTF)	Comprehensive school reform based on small learning communities with dedicated Teachers, family advocates, and instructional Improvement efforts.	16
Chicago Child-Parent Center program (CPC)	Center-based preschool program: parental Involvement, outreach and health/nutrition services. Based in public schools.	11
Project STAR: class size reduction (CSR)	4 years of schooling (grades K-3) with class size reduced from 25 to 15.	11
Teacher salary increase (TSI)	10 percent increase in teacher salaries for all years, K-12.	5

Sources: Belfield and others (2006); Finn, Gerber, and Boyd-Zaharias (2005); Loch and Page (2000); Quint and others (2005); Reynolds and others (2001).

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Summary

The studies researched provided a great deal of information surrounding the determinants of student performance and high school completion. It was quite surprising that there appeared to be no long-term advantages to student grade retention mentioned in any of the articles, yet the practice of retaining students is once again becoming popular. The reasons that were stated, as to why students were retained, generally related to low academic achievement or poor social/personal adjustment. Younger students were retained because of school achievement concerns and older students, oftentimes, had behavioral problems. Social promotion, the often used alternative to grade retention, did not prove to be very advantageous for students either. Promoting students who were not prepared for the next grade did not help the students in terms of achievement or maturity.

Some of the earlier research did not look at the long-term effects of retention but most of the newer research considered long-term effects in their conclusions. None of the articles that were cited indicated that the practice of grade level retention was a far better educational practice than social promotion. However, some research did mention that social promotion without any form of remediation for students was not beneficial. Nevertheless, it was suggested that socially promoted students did not suffer from low self-esteem as often as retained students.

There was some research available about intervention programs (Heubert, 2003; Morris, 2001). Most of the student intervention programs provided intensive testing, tutoring, summer school, parent involvement, and individualized student instruction.

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There was little mention of class size during the regular school day, although individualized instruction was needed. The use of summer school was mentioned as a valuable educational aid to students. Recommended and/or required summer school has been referred to by many of the more recently designed promotional policies of Detroit, Chicago, Miami, and New York City. While the use of academic standards is considered a relatively new approach, it has appeared and reappeared throughout the last century of education. Although different forms of the approaches to retain or socially promote students have been used in the past, these are still relatively new approaches, in terms of the current political educational arena. While some research (Hartke, 1999; Morris, 2001) has stated that norm-referenced tests are inexpensive methods used to measure student progress, retaining and holding back students is not considered an inexpensive tactic.

Some of the questions that remain relate to: How will the government pay for remedial educational programs for retained students? Many of the schools that will be affected the most are large, urban, school districts that provide education to many disadvantaged youths. Urban districts in Michigan such as Detroit and Pontiac are already facing huge budgetary crises precipitated largely by declining enrollments and Michigan's economic problems.

Questions also remain regarding: When will political stakeholders and educational policy makers join educational research to educational practice? Current as well as past research has revealed that there are few if any advantages to retaining students. Nevertheless, this practice is commonly used, and will be used with greater

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frequency in the near future, according to the policies currently being instituted in our major cities.

Further research will be necessary if valid and measurable gains are to be made regarding the issue of graduation rates, grade retention and standardized tests. This research should consider the long term and short-term results involving current school reform. This research will have to consist of the results of reform acts such as those now underway in major urban areas such as Chicago, New York, Miami, and Detroit. Based on the research performed, there is very little evidence that retention in grade contributes to academic achievement or improves high school graduation rates. It has also been illustrated that social promotion may marginally improve high school graduation rates but contributes little to true learning and achievement. If educators, administrators, and parents are going to accept educational reform, changes in current practices will have to be evaluated for educational costs and benefits. More attention to alternative education policies must be instituted inclusive of the possibilities of the implementation of an extended school day which may include after school tutoring. The institution of an extended school year may also become necessary which may include summer school, opportunities for student remediation, and tutoring.

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CHAPTER 3

Methodology

This chapter discusses the methodology used in this research study. Chapter two provided a review of the research literature on the determinants of student achievement, with particular emphasis on the effects of grade retention. "Historically, a large number of students are retained each year" (Rumberger, 2004). While grade level retention is not a new phenomenon, high stakes testing or using standardized tests to determine the passing or failure rate of students is. The primary purpose of this study is to identify the determinants of academic achievement and high school graduation rates, with particular attention to the impact of grade level retention on high school graduation rates.

Measuring Achievement: The Michigan Education Assessment Program

Michigan requires the MEAP test for grades 3 through 12 in all of its 515 traditional K-12 schools. The MEAP test measures student performance levels in the following subjects for grades three through eight: mathematics, reading, writing, and English Language Arts (ELA). Science is tested in the fifth and eighth grades, while social studies is tested in the sixth and ninth grades. At the high school level, the MEAP test measures mathematics, science, social studies, reading, and writing. The test is given to all eleventh grade students who had not previously taken the MEAP High School Assessment. Additionally, eleventh and twelfth grade students who had taken

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the assessment previously have the option of retaking assessments in reading, writing, mathematics, science, and/or social studies (MEAP Guide, 2006).

The MEAP test has four performance level descriptors at the high school level:

1. Level 1: exceeded standards (the student's performance exceeds proficiency standards and indicates substantial understanding and application of key curriculum concepts defined for Michigan students).

2. Level 2: met standards (the student's performance is proficient and indicates sufficient understanding and application of key curriculum concepts defined for Michigan students).

3. Level 3: basic (the student's performance is not yet proficient, indicating a partial understanding and application of key curriculum concepts defined for Michigan students).

4. Level 4: apprentice (the student's performance is not yet proficient and indicates minimal understanding and application of key curriculum concepts defined for Michigan students).

A typical high school student will usually repeat a section of the MEAP test if he/she does not receive an endorsement. The scale scores for the MEAP are: Level 1- endorsed (exceeded Michigan standards), Level 2- endorsed (met Michigan's standards, Level 3- endorsed (at basic level), and Level 4- not endorsed (MEAP Guide, 2006).

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A Model of Achievement for the MEAP Test

The achievement status of traditional public school districts in the state of Michigan can be based on scaled scored test results. It is sometimes assumed that school districts that perform well on the MEAP test will also have elevated high school graduation rates.[2] However, it could be the case that a district that performed well on the eleventh grade MEAP test has poor graduation rates because of high incidences of low achieving students dropping out of high school before taking the eleventh grade assessment. This could in effect result in a self selected graduating student body that is better equipped and prepared for the MEAP and the challenges of school.

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[2]. Michigan's MEAP test was first given during the 1969-1970 academic school year. According to the Center of Educational Performance and Information (2006):

> The Michigan Educational Assessment Program (MEAP) was initiated by the State Board of Education, supported by then-Governor William G. Milliken, and funded by the Michigan legislature through Public Act 307 of 1969 (Section 14). The MEAP tests were first administered during the 1969-70 school year for the purpose of determining what students know and what students are able to do, as compared to standards set by the State Board of Education, at key checkpoints during the students' academic career. Hundreds of educators from throughout Michigan continue to be involved in the development and ongoing improvement of these tests. No other tests measure what is expected of Michigan students, nor measure the performance of Michigan students against established academic standards. (p.1)

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Research Design

Regression analysis will be used to estimate a district-level model of student achievement. The dependent variables (Y) or outcomes of interest will be school district high school graduation rates and average district achievement on the Michigan Education Assessment Program test. The dependent variable is assumed to be influenced by the independent variables (X_1, X_2, …X_n). Five regression models will be estimated in this study of academic achievement in Michigan public schools.

The dependent variable in the model of achievement measures district achievement results for traditional K-12 public school districts in the state of Michigan based on MEAP data for grades 8 and 11 in the subjects of reading and mathematics. A model for achievement on the MEAP test is written as:

$$A = b_0 + b_1 \text{ SES} + b_2 \text{ RESOURCES} + b_3 \text{ RETENTION}$$

where

A = The percentage of district high school eleventh grade students achieving at Level 1 or level 2 on the MEAP test.

SES = Socioeconomic Status (proxied by the percentage of students qualifying for free or reduced lunch)

RESOURCES = Resources that could impact learning. They are district foundation allowance, percent of highly qualified teachers, average years of

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experience of teachers, percent of teachers with a graduate degree and pupil/teacher ratio

RETENTION = Percent of district students who have repeated a grade

A Model of District Retention Rates in Michigan

According to information provided by the Michigan Department of Education (2006), public school districts are not currently required to report in- grade retention rates. Therefore, a simple formula will be used to estimate each district's retention rate. The estimate of district in-grade retention rates for traditional K-12 public school districts in Michigan is based on district enrollment data for grades seven and eight. The model assumes all grade retentions occur in 8th grade, primarily because many students are not deemed ready for 9th grade, when most dropouts occur.[3]

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[3]. Students are often held back in the 9th grade as well. However, many students also drop out after the 9th grade, thereby confounding the estimation of student retentions. That is, in the absence of student-level data, it is impossible to disentangle the retention and dropout numbers from 9th grade enrollments. This problem is much less severe in the 8th grade, when students are generally too young to leave school.

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In the absence of individual student data, a district's retention rate is estimated as follows:

RETR = [(b-a)/a] for year t+1

In the absence of individual student data, a district's retention rate is estimated as follows:

where

RETR = Estimated district retention rate

a = 7^{th} grade enrollment in year t

b = 8^{th} grade enrollment in year t+1

This model of school district retention rates is based on two simplifying assumptions: 1. Districts' 8^{th} grade retention rates are proportional to their overall retention rates; and, 2. Rates of "transfers – out" and "transfers – in" (i.e., net transfers) are equal across districts. Certainly, these assumptions are restrictive and other formulations could be used. For example, if one believes that 1^{st} grade is also characterized by relatively high retention rates, district retention rates could be modeled as:

RETR = ½[(a-b)/a + (c-d)/c]

where

a = 1^{st} grade enrollment in year t

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b = 2nd grade enrollment in year t+1

c = 7th grade enrollment in year t

d = 8th grade enrollment in year t+1

Such a formulation would employ more data but would also require more simplifying assumptions, as would more elaborate models (i.e., more year to year grade comparisons). The model presented above is preferred for its simplicity.

Modeling Academic Achievement

A regression analysis using weighted least squares (WLS) will be used to estimate the relationship between student achievement (high school graduation or completion rates and MEAP proficiency rates) and the explanatory variables. Each case (district) will be weighted by the square root of the district's enrollment.[4]

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[4]. Weighted least squares is an appropriate estimation technique when one suspects that the error terms are not of equal variance for each observation (heteroskedasticity). The most common instance of heteroskedasticity is with aggregate data, such as the district-level data examined here, where the dependent variable is a mean value for the individuals in the observational unit. The accuracy of the dependent variable will be a function of the number of individuals in the aggregate; that is, observations for the more populous units (e.g., school district) are presumably more accurate and should exhibit less variation about the true value than the data drawn from smaller districts. This leads to different values of the error term variance for each observation – the heteroskedastic problem. For discussion see, for example, Eric Hanushek and John Jackson, *Statistical Methods for Social Scientists* (San Diego, CA: Academic Press) 142-153.

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The following models consist of the coefficients of a four to five variable regression equation. The following general model of high school graduation rates will be estimated:

$$GRADRATE = b_0 + b_1\ SES + b_2\ RESOURCES + B_3\ RETENTION$$

where

GRADRATE = According to the Center for Educational Performance and Information (CEPI) the graduation rate is a four-year estimated rate, calculated by the state, that is derived by multiplying four consecutive graduating class retention rates together for a given school and district. The state uses students movements based on district count days reported from local school districts from fall 2004 and fall 2005. The Unique Identification Code (UIC) is used to follow the students.

The following general model of eighth and eleventh grade reading and math MEAP scores for Michigan's traditional public school districts will also be estimated:

$$MEAP = b_0 + b_1\ SES + b_2\ RESOURCES + B_3\ RETENTION + B_4\ GRADRATE$$

where

MEAP = Percent of students within districts achieving at the Level 1 (exceeded standards) and Level 2 (met standards) performance descriptors for eighth and eleventh grade reading and math

SES = Socioeconomic Status (the percentage of student qualifying for free or reduced lunch)

RESOURCES = School resources consisting of district foundation allowance, percent of highly qualified teachers, average years of experience of teachers, percent of teachers with a graduate degree and pupil/ teacher ratio

RETENTION = District's proportion of students repeating a grade for the given school year

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GRADRATE = According to the Center for Educational Performance and Information (CEPI) the graduation rate is a four-year estimated rate, calculated by the state, that is derived by multiplying four consecutive graduating class retention rates together for a given school and district. The state uses students movements based on district count days reported local school districts from fall 2004 and fall 2005. The Unique Identification Code (UIC) is used to follow the students.

Data

The sample consists of 515 traditional K-12 public school districts in Michigan. Each district had to consist of a student population that was composed of elementary, middle, and high school students. In order to meet Michigan's Adequate Yearly Progress goals under the No Child Left Behind (NCLB) requirements, schools must test at least 95% of their students. The districts were selected because of their participation in MEAP testing for elementary and secondary students.

The dependent variables or outcomes of interest are district graduation rate and district achievement on the MEAP test. Explanatory variables include student socioeconomic status (the percentage of students qualifying for free or reduced lunch), school resources (district foundation allowance, enrollment, school expenditures per pupil, pupil/teacher ratios), and teacher characteristics (percent of highly qualified teachers).

Data Sources

The MEAP data were obtained from the Michigan Educational Assessment Program of the Michigan Department of Education for traditional public school districts in Michigan. Data was also obtained from the Center for Educational Performance and

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Information (CEPI), School Matters (a service of Standard and Poor's), the United States Census Bureau, and the National Center for Education Statistics.

Limitations

In true experimental research, the researcher establishes treatment and control groups through randomization and then studies the treatment effects. Through randomization, the researcher can be confident that observed differences between treatment and control groups can be attributed to the treatment. In contrast, this study must utilize an observational sample and administrative data from Michigan school districts. Consequently, the results may be subject to unidentified threats to validity.

Instrumentation Validity and Reliability

This study will utilize district data from the Michigan Educational Assessment Program (MEAP). The MEAP test is a criterion referenced test in which the information is measured from student knowledge and performance based on an educational standard. Many standardized tests are norm-referenced, measuring a student's performance when compared to other students.

According to The State of Michigan Department of Education, (Design and Validity, June 3, 2004) the MEAP office looks at test data in a variety of ways. The MEAP office examines the test based on p-value, differential item functioning, range, and other factors. The p-value is the percentage of students who answered the item correctly. Differential Item Functioning (DIF) illustrates if a test item is potentially biased. An item may be considered biased if it is considered inappropriate for Michigan's students. A test item may also be considered biased if an accompanying graph is confusing,

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ambiguous, or unclear or if a test item is poorly worded. The MEAP office also looks for item discrimination. Item discrimination, "examines performance between students who score high on the test as compared to those who score low. If an item discriminates poorly, it means that low-scoring students did as well or better than high-scoring students" (Design and Validity, June 3, 2004).

Range of testing has to do with the test having a wide range of difficulty. A wide range of difficulty is used consistently throughout the tests. Testing staff also examine the consistency of the scoring committee in the scoring of constructed response items and other matters regarding validity and reliability. All financial data are taken from school districts' annual financial reports ("Local District Financial Report, or Form B") filed with the Michigan Department of Education. These data are audited and in the public domain. All remaining school district data are reported by the districts to the Michigan Department of Education or to the Center for Educational Performance and Information located in the Office of the Budget, Michigan Department of Management and Budget. A sample case record is presented in Table 9. [5]

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[5]. Michigan is now changing its data collection system. The new Single Record Student Database (SRSD) contains information about individual students that is supplied by school districts. This database includes the Unique Identification Code (UIC) for individual students as well as information such as age, gender, race and ethnicity as well as free or reduced lunch status. Previously, Michigan used the Education Data Network which used one year of data to estimate a four year graduation rate. The SRSD will allow districts to more accurately report graduation data from cohorts of students that are followed over four years. The SRSD will be specific in identifying student enrollments, transfers, and retentions.

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Table 9

Sample 1- Record: 2005-2006 Data

District	GradRt	MEAP8RD	MEAP8MA	MEAP11RD	MEAP11MA	Found
Detroit	67.9	53.8	32.8	48.3	20.2	$7,469
%HIQual Teach	PupilTea Ratio	%Free ReduLu	Enrollment	TotalGeneral FundEx	Retention Rate	
96.1	28	72.0	131,639	$10,668	To be estimated	

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Table 10

Statistical Analysis

Hypothesis	Variables	Statistical Analysis
1. There is a significant relationship between school district graduation rates and retention rates.	Dependent Variable Graduation rates of public high schools in the state of Michigan Independent Variable • retention rate • percentage of students qualifying for free or reduced lunch) • foundation allowances • enrollment • expenditures per pupil • pupil/teacher ratios • percent of highly qualified teachers	Weighted least squares (WLS) regression analysis
2. There is a significant relationship between a district's average student achievement scores on the MEAP test and the district's retention rate and high school graduation rate.	Dependent Variable Average district performance on the MEAP, grades 8 and 11 Independent Variable • retention rate • graduation rate • percentage of students qualifying for free or reduced lunch) • foundation allowances • enrollment • expenditures per pupil • pupil/teacher ratios • percent of highly qualified teachers	Weighted least squares (WLS) regression analysis

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Chapter 4

Results of Data Analysis

This chapter presents the results of the data analysis undertaken to answer the research questions associated with grade level failure, student achievement on standardized Michigan Educational Assessment Program (MEAP) testing and their impact on student performance and graduation completion rates. The core of the analysis utilized weighted least squares regression analysis.

The data regarding graduation rates, MEAP scores, foundation allowances, percent of highly qualified teachers, pupil/teachers ratios, percent of students receiving free or reduced lunch, enrollment and total general fund expenditures per-pupil for the 2005-2006 school year were generated from the Michigan Department of Education, the Center for Educational Performance and Information (CEPI), School Matters (a service of Standard and Poor's), the United States Census Bureau, and the National Center of Educational Statistics. The data on retention rates (grade level failure) were estimated from a simple model that was discussed in Chapter 3.

Data were gathered from 515 traditional local public school districts in the State of Michigan for the 2005-2006 school year. This number included all traditional school districts that offered a K-12 program for students. Charter schools, or public school academies as they are called in Michigan, were not included in the data collection process. Very few public school academies offer high school instruction. Intermediate school districts and other traditional public schools were also omitted if they failed to include students that take the Michigan Educational Assessment Program test at both

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the elementary and secondary level. According to www.michigan.gov Michigan has 838 school districts. This consists of 57 Intermediate School Districts (I.S.D.), 552 Local Education Agencies (L.E.A.), and 229 Public School Academies (P.S.A.). Of the 552 traditional public school districts that tested for the MEAP, 37 consisted of a K-8 program but did not offer high school to their students. These students were directed to neighboring school districts in order to fulfill high school or secondary educational requirements. This left 515 traditional public schools that offered K-12 programs to their students.

A weighted least squares estimation technique was utilized to estimate the relationship between student achievement (high school graduation or completion rates and MEAP proficiency rates) and the explanatory variables. Each case (district) was weighted by the square root of the district's enrollment. This was necessary because of the differences that existed in the enrollment of the various districts. Some school districts in the State of Michigan may consist of one high school while Detroit Public Schools has forty-four. This creates a possible heteroskedasticity problem, where there is a higher chance that the error term will not have a constant variance across observations. The weighted least squares method transformed the original regression model in order to achieve constant variance in error terms across observations, a basic assumption of the least squares method.

Descriptive statistics for the data obtained on the 515 school districts are presented in Table 11.

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Descriptive Statistics

School District Demographic Variables

Table 11

Descriptive Demographic Variable Statistics for all Districts

	N	Minimum	Maximum	Mean	Std. Deviation
Total.Enrollment.All	515	119.00	131568.00	3113.04	6578.44
GradRt	510	34.94	100.00	90.88	7.90
RETENTION.RATE	515	-2.18	.43	-.0012	.12
MEAP8RD	512	23.00	100.00	74.59	11.97
MEAP8MA	512	15.20	94.70	66.15	14.28
MEAP11RD	515	25.30	98.90	71.21	11.02
MEAP11MA	515	4.60	89.80	53.37	14.66
Percent.FreeReducLunch	501	3%	94%	37%	18%
Foundation.Allowance	515	6700.00	11835.00	6992.36	668.14
PupilteachRatio	515	13.00	32.00	21.83	2.71
Percent.HiQualTeach	515	80.00%	100.00%	98.11%	3.52%
Total.Expenditures.PerPupil	515	6856.00	16569.00	8592.66	1243.76
Valid N (listwise)	494				

District Total Enrollment. The mean number of students in the school districts was 3113.04 (sd = 6,578), with a median of 1,799 students. The number of students in the districts ranged from 119 for Port Hope Community Schools to 131,568 for Detroit Public Schools.

Graduation Rate. The mean graduation rate was 90.881 (sd = 7.90), with a median graduation rate of 90.88. The minimum graduation rate was 34.94 for Mt. Morris Consolidated School District and the maximum was 100.00 for twenty-two school districts. Of the districts with 100 percent graduation rates, Port Hope Community Schools had the lowest total enrollment at 119 total students. Jefferson Schools (Monroe) had the highest enrollment with a total of 2,393 students. The average

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enrollment for the twenty-two districts is 557 total students enrolled. This is much smaller than the mean enrollment of the included 515 traditional school districts which is 3,113.04. While the mean for free or reduced lunch for the 515 school districts was .3674, the average for the twenty-two school districts was .355. This illustrates that although these districts may be small in enrollment number, the amount of students that receive free or reduced lunch is very close to the state average for traditional K-12 public schools within the state of Michigan.

Retention Rate. The mean retention rate was -.0012 (sd = .12). The minimum retention rate was -2.18 and the maximum was .43. There was no significant difference in districts with average enrollments although there were higher retention rates as enrollment increased. The results of zero mean retention rates and negative retention rates are obviously problematic, indicating that the retention model was too restrictive. Table 10 estimated retention rate for the full sample (N_1=494) and Table 11 estimated retention rates with districts with growing enrollments (N_2=245). Table 12 estimated retention rates with districts with decreasing enrollments (N_3=219). The districts with districts with growing enrollments had a mean of .05 which is statistically significant while the districts with decreasing enrollments had a mean of -.05.

MEAP 8th Grade Reading and Math. The mean for MEAP 8th Grade Reading Scores was 74.588 (sd = 11.97), with a median score of 76.50. The minimum score obtained was 23.00 for district number 73080, Buena Vista schools, and the maximum score obtained by any school district was 100 percent for district number 52110, Republic-Michigamme Schools. This district had a total enrollment of 146 students with 12 total eighth grade students that took the MEAP. The mean for MEAP 8th Grade Math

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Scores was 66.147 (sd = 14.28), with a median score of 67.70. The minimum score obtained was 15.20 for district number 25240, Beecher Community Schools and the maximum score obtained by any district was 94.70 for district number 16070, Mackinaw City Public Schools.

MEAP 11th Grade Reading and Math. The mean for MEAP 11th Grade Reading was 71.210 (sd = 11.02), with a median score of 71.700. The minimum score obtained was 25.30 for district number 82070, Highland Park City Schools and the maximum score obtained by any district was 98.90 for district number 63010, Birmingham City School District. The mean for MEAP 11th Grade Math was 53.369 (sd = 14.66), with a median score of 54.600. The minimum score obtained was 4.60 for district number 82070, Highland Park City Schools, and the maximum district score was 89.80 for district number 63010 Birmingham City School District. Although these districts are only geographically eleven miles apart they have a huge disparity of differences in terms of student test scores.

Percent Free or Reduced Lunch. The mean for district free or reduced lunch 36.74% (sd = .18), with a median score of 37.00%. The range is enormous, reflecting great stratification by class across Michigan's K-12 school districts. The minimum amount was 3.0% for district 63010, Birmingham City School District and the maximum was 94.00% for district 80040, Covert Public Schools.

Foundation Allowance. The mean foundation allowance was 6,992.36 (sd = 668.14), with a median amount of 6,700. The minimum foundation amount was 6,700.00 for 338 school districts and the maximum amount was 11,835.00 for district

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63080, Bloomfield Hills School District. This distribution reflects the "leveling up" effect of Michigan's school finance reforms enacted in 1994 ("Proposal A") for the state's lower-spending districts but also the revenue advantage that is still enjoyed by the state's wealthiest districts.

Pupil Teacher Ratio. The mean pupil teacher ratio was 21.83 students per each teacher (sd = 2.71) with a median of 22.00. The minimum was 13.00 for district 16070, Mackinaw City Public Schools, district 27080, Watersmeet Township Schools, and district 52110, Republic-Michigamme Schools. The maximum was 32.00 for district 50070, Clintondale Community Schools.

Percent Highly Qualified Teachers. The mean percent highly qualified teachers was 98.11% (sd = 3.52), with a median of 100%. The minimum was 80.00 for district 11033, River Valley Schools, and district 82120, River Rouge School District. The maximum percentage of Highly Qualified Teachers was 100.00% for three hundred twenty-three school districts. Under Michigan rules very few teachers are not highly qualified; therefore the status of highly qualified does not distinguish teacher quality.

Total Expenditures Per Pupil. The mean total expenditures per pupil was 8,592.66 (sd = 1243.76), with a median of 8245. The minimum was $6,856.00 for district 25050, Goodrich Area Schools. The maximum amount of total expenditures per pupil for any school district was $16, 569 for district 43040, Baldwin Community Schools.

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Table 12

Descriptive Statistics for the Districts with Increased Enrollment

	N	Minimum	Maximum	Mean	Std. Deviation
Total.Enrollment.All	257	146	29562	3213.97	3706.159
GradRt	256	56.12	100.00	91.7839	6.77022
RETENTION.RATE	257	.00	2.18	.05	.14
MEAP8RD	256	44.20	100.00	77.45	9.42
MEAP8MA	256	30.40	94.40	69.48	12.24
MEAP11RD	257	41.20	98.90	72.52	10.65
MEAP11MA	257	7.70	89.80	55.79	13.87
Percent.FreeReducLunch	247	3.0%	77.0%	32.0%	15.0%
Foundation.Allowance	257	6700.00	11835.00	7033.13	730.23
PupilteachRatio	257	13.00	29.00	22.01	2.56
Percent.HiQualTeach	257	80.00%	100.00%	98.03%	3.56%
Total.Expenditures.PerPupil	257	6856.00	14797.00	8450.85	1103.32
Valid N (listwise)	245				

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Table 13

Descriptive Statistics for the Districts with Decreased Enrollment

	N	Minimum	Maximum	Mean	Std. Deviation
Total.Enrollment.All	226	119.00	131568.00	3246.79	9090.51
GradRt	223	34.94	100.00	89.89	8.92
RETENTION.RATE	226	-0.43	.00	-.05	.05
MEAP8RD	225	23.00	95.80	71.62	13.55
MEAP8MA	225	15.20	94.70	62.45	15.68
MEAP11RD	226	25.30	91.70	69.73	11.26
MEAP11MA	226	4.60	83.80	50.73	15.37
Percent.FreeReducLunch	222	5%	94%	41%	19%
Foundation.Allowance	226	6700.00	11011.00	6952.76	611.93
PupilteachRatio	226	13.00	32.00	21.84	2.84
Percent.HiQualTeach	226	80.25%	100.00%	98.12%	3.60%
Total.Expenditures.PerPupil	226	7196.00	16569.00	8714.51	1303.84
Valid N (listwise)	219				

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Table 14

Descriptive Statistics by Increasing and Decreasing Enrollment

		District.Groups.2		
		Increase in Enrollment	Decrease in Enrollment	Total
MEAP8RD	N	256	225	481
	Mean	77.45	71.62	74.73
	Std. Deviation	9.42	13.55	11.89
MEAP8MA	N	256	225	481
	Mean	69.48	62.45	66.19
	Std. Deviation	12.24	15.68	14.38
MEAP11RD	N	257	226	483
	Mean	72.52	69.73	71.21
	Std. Deviation	10.65	11.26	11.01
MEAP11MA	N	257	226	483
	Mean	55.79	50.73	53.42
	Std. Deviation	13.87	15.37	14.79
GradRt	N	256	223	479
	Mean	91.78	89.89	90.90
	Std. Deviation	6.77	8.92	7.89
Percent.FreeReducLunch	N	247	222	469
	Mean	32%	41%	37%
	Std. Deviation	15%	19%	18%
Foundation.Allowance	N	257	226	483
	Mean	7033.13	6952.76	6995.53
	Std. Deviation	730.23	611.93	677.96
PupilteachRatio	N	257	226	483
	Mean	22.01	21.84	21.93
	Std. Deviation	2.56	2.84	2.69
Percent.HiQualTeach	N	257	226	483
	Mean	98.03%	98.12%	98.07%
	Std. Deviation	3.56%	3.60%	3.57%
Total.Expenditures.PerPupil	N	257	226	483
	Mean	8450.85	8714.51	8574.22
	Std. Deviation	1103.32	1303.84	1207.25
RETENTION.RATE	N	257	226	483
	Mean	.05	-.05	.00
	Std. Deviation	.14	.05	.12

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Tables 11, 12, 13, and 14 respectfully shows descriptive statistics for all districts, districts with increased enrollments, districts with decreased enrollments, and total districts reporting MEAP scores for 8th grade MEAP in the tested areas of reading and Mathematics as well as 11th grade MEAP in reading and mathematics. The total number of districts was 512 for 8th grade reading and mathematics and 515 for 11th grade reading and mathematics. Table 12 shows that 256 districts had an increase in enrollment for 8th grade reading and math, and 257 districts had an increase in enrollment for 11th grade reading and math. In Table 14 it is illustrated that 481 districts either increased (256) or decreased (225) in enrollment in 8th grade reading and mathematics. For 11th grade reading and mathematics 483 districts either had an increase (257) or decrease (226) in enrollment. Tables 11, 12, and 13 showed that the included districts had a mean of 98 percent of teachers being highly qualified.

Research Questions and Associated Hypothesis

Two research questions were explored in this study.

Research Question I – Is there a significant relationship between school district graduation rates and retention rates? Stepwise linear regressions were used to perform the data analysis. Weighted least squares (WLS) was used to estimate each regression equation, with each case (i.e., district) weighted by the square root of district enrollment.

Research Question II – Is there a significant relationship between a district's average student achievement scores on the MEAP test and the district's retention rate and high school graduation rate?

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Table 15

Descriptive Statistics[a] for 8th Grade Reading Scores Weighted by the Square Root of Enrollment

	Mean	Std. Deviation	N
MEAP8RD	74.625	86.2628	498
Percent.FreeReducLunch	34.88%	1.325%	498
Foundation.Allowance	7085.23	5410.297	498
PupilteachRatio	22.48	17.693	498
Percent.HiQualTeach	98.07%	23.343%	498
Total.Expenditures.PerPupil	8699.25	8867.178	498
RETENTION.RATE	-.0029	.6175	498

a. Weighted Least Squares Regression - Weighted by SQRT.Enrollment

Table 16

Coefficients[a],b for 8th Grade MEAP Reading Scores Weighted by the Square Root of Enrollment

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
3	(Constant)	120.155	4.212		28.527	.000
	Percent.FreeReducLunch	-46.107	1.918	-.708	-24.040	.000
	PupilteachRatio	-.947	.140	-.194	-6.767	.000
	Total.Expenditures.PerPupil	-.001	.000	-.096	-3.259	.001

Adjusted R Square = .605

a. Dependent Variable: MEAP8RD

b. Weighted Least Squares Regression - Weighted by SQRT.Enrollment

Tables 15 and 16 illustrate weighted least squares regressions for all districts with eighth grade MEAP reading scores as the dependent variable. The three independent variables with the most significance were percent of free or reduced lunch,

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pupil/teacher ratios, and total expenditures per pupil. Total expenditures per pupil had the most significance at .001. The statistically non significant variables were foundation allowances, percent highly qualified teachers, and retention rate.

Table 17

Descriptive Statistics[a],b for 8th Grade Reading Scores Weighted by the Square Root of Enrollment for Districts with Increased Enrollments

	Mean	Std. Deviation	N
MEAP8RD	78.195	67.4438	246
Percent.FreeReducLunch	28.78%	1.115%	246
Foundation.Allowance	7159.61	6152.608	246
PupilteachRatio	22.52	16.213	246
Percent.HiQualTeach	97.98%	24.342%	246
Total.Expenditures.PerPupil	8569.50	8542.656	246
RETENTION.RATE	.0365	.7006	246

a. Weighted Least Squares Regression - Weighted by SQRT.Enrollment
b. Selecting only cases for which District.Groups.2 = 1 Increase in Enrollment

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Table 18

Coefficients[a],b,c for 8th Grade MEAP Reading Scores Weighted by the Square Root of Enrollment for Districts with Increased Enrollments

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
2	(Constant)	109.770	4.534		24.212	.000
	Percent.FreeReducLunch	-41.322	2.812	-.683	-14.697	.000
	PupilteachRatio	-.874	.193	-.210	-4.519	.000

Adjusted R Square = .476

a. Dependent Variable: MEAP8RD

b. Weighted Least Squares Regression - Weighted by SQRT.Enrollment

c. Selecting only cases for which District.Groups.2 = 1 Increase in Enrollment

Tables 17 and 18 illustrate weighted least squares regressions for districts which had an increase in enrollment with eighth grade MEAP reading scores as the dependent variable. The two independent variables with the most frequency of significance were percent of free or reduced lunch and pupil/teacher ratios.

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Table 19

Descriptive Statistics[a],b for 8th Grade MEAP Reading Scores Weighted by the Square Root of Enrollment for Districts with Decreased Enrollments

	Mean	Std. Deviation	N
MEAP8RD	70.645	97.3601	221
Percent.FreeReducLunch	41.66%	1.400%	221
Foundation.Allowance	7017.17	4745.690	221
PupilteachRatio	22.58	19.447	221
Percent.HiQualTeach	98.12%	23.214%	221
Total.Expenditures.PerPupil	8860.55	9367.993	221
RETENTION.RATE	-.0498	.3482	221

a. Weighted Least Squares Regression - Weighted by SQRT.Enrollment
b. Selecting only cases for which District.Groups.2 = 2 Decrease in Enrollment

Table 20

Coefficients[a],b,c for 8th Grade MEAP Reading Scores Weighted by the Square Root of Enrollment for Districts with Decreased Enrollments

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
3	(Constant)	120.743	6.305		19.152	.000
	Percent.FreeReducLunch	-45.324	3.476	-.652	-13.038	.000
	PupilteachRatio	-.850	.219	-.170	-3.871	.000
	Total.Expenditures.PerPupil	-.001	.000	-.131	-2.727	.007

Adjusted R Square = 617
a. Dependent Variable: MEAP8RD
b. Weighted Least Squares Regression - Weighted by SQRT.Enrollment
c. Selecting only cases for which District.Groups.2 = 2 Decrease in Enrollment

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Tables 19 and 20 illustrate weighted least squares regressions for all districts with decreased enrollment with eighth grade MEAP reading scores as the dependent variable. The three independent variables with the most frequency of significance were percent of free or reduced lunch, pupil/teacher ratios, and total expenditures per pupil. Total expenditures per pupil had the most significance at .007. The statistically non significant variables were foundation allowances, percent highly qualified teachers, and retention rate.

When comparing Tables 15, 17, and 19 the relationship between 8th Grade MEAP reading scores and the percentage of students receiving free or reduced lunch becomes apparent. Districts with higher percentages of free and reduced lunch students have lower eighth grade MEAP reading scores. Table 15 had a mean of 74.625 for eighth grade MEAP reading with 34.88 percent of students receiving free or reduced lunch. Table 19 had a mean of 70.645 for eighth grade MEAP reading with a mean of 41.66 percent of students receiving free or reduced lunch. Table 17 had a mean of 78.195 for eighth grade MEAP reading with 28.78% of students receiving free or reduced lunch. Table 17 also consisted of districts with an increase in enrollment. This would illustrate that districts with increased enrollment also had higher eighth grade MEAP reading scores. The percent of highly qualified teachers and grade retention rates were statistically non significant in all cases.

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Table 21

Descriptive Statistics[a] for 8th Grade MEAP Math Scores Weighted by the Square Root of Enrollment

	Mean	Std. Deviation	N
MEAP8MA	65.951	105.1382	498
Percent.FreeReducLunch	34.88%	1.325%	498
Foundation.Allowance	7085.23	5410.297	498
PupilteachRatio	22.48	17.693	498
Percent.HiQualTeach	98.07%	23.343%	498
Total.Expenditures.PerPupil	8699.25	8867.178	498
RETENTION.RATE	-.0029	.6175	498

a. Weighted Least Squares Regression - Weighted by SQRT.Enrollment

Table 21 presents descriptive statistics for all districts, with eighth grade MEAP math scores as the dependent variable. Table 21 had a mean of 65.951 for eighth grade MEAP mathematics with 34.88% of students receiving free or reduced lunch.

Table 22

Coefficients[a],b for 8th Grade MEAP Math Scores Weighted by the Square Root of Enrollment

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
3	(Constant)	130.973	4.929		26.570	.000
	Percent.FreeReducLunch	-55.399	2.245	-.698	-24.680	.000
	PupilteachRatio	-1.372	.164	-.231	-8.376	.000
	Total.Expenditures.PerPupil	-.002	.000	-.144	-5.072	.000

Adjusted R Square = .636

a. Dependent Variable: MEAP8MA

b. Weighted Least Squares Regression - Weighted by SQRT.Enrollment

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Table 22 presents regression results for all districts, with eighth grade MEAP math scores as the dependent variable. The three statistically significant independent variables are percent of free or reduced lunch, pupil/teacher ratios, and total expenditures per pupil. The statistically non significant variables are percent highly qualified teachers and retention rate.

Table 23

Descriptive Statistics[a],b for 8th Grade MEAP Math Scores Weighted by the Square Root of Enrollment for Districts with Increased Enrollments

	Mean	Std. Deviation	N
MEAP8MA	70.269	87.3319	246
Percent.FreeReducLunch	28.78%	1.115%	246
Foundation.Allowance	7159.61	6152.608	246
PupilteachRatio	22.52	16.213	246
Percent.HiQualTeach	97.98%	24.342%	246
Total.Expenditures.PerPupil	8569.50	8542.656	246
RETENTION.RATE	.0365	.7006	246

a. Weighted Least Squares Regression - Weighted by SQRT.Enrollment
b. Selecting only cases for which District.Groups.2 = 1 Increase in Enrollment

Table 23 presents descriptive statistics for all districts with an increase in enrollment, with eighth grade mathematics as the dependent variable. Table 23 had a mean of 70.269 for eighth grade MEAP mathematics with 28.78% of students receiving free or reduced lunch.

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Table 24

Coefficients[a],b,c for 8th Grade MEAP Math Scores Weighted by the Square Root of Enrollment for Districts with Increased Enrollments

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
2	(Constant)	109.658	5.832		18.801	.000
	Percent.FreeReducLunch	-54.116	3.617	-.691	-14.962	.000
	PupilteachRatio	-1.057	.249	-.196	-4.251	.000

Adjusted R Square = .483

a. Dependent Variable: MEAP8MA

b. Weighted Least Squares Regression - Weighted by SQRT.Enrollment

c. Selecting only cases for which District.Groups.2 = 1 Increase in Enrollment

Table 24 presents regression results for districts with increased enrollments, with eighth grade MEAP math scores as the dependent variable. The two statistically significance independent variables are percent of free or reduced lunch and pupil/teacher ratios. The statistically non significant variables are foundation allowances and total expenditures per pupil.

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Table 25

Descriptive Statistics[a],b for 8th Grade MEAP Math Scores Weighted by the Square Root of Enrollment for Districts with Decreased Enrollments

	Mean	Std. Deviation	N
MEAP8MA	60.902	115.8849	221
Percent.FreeReducLunch	41.66%	1.400%	221
Foundation.Allowance	7017.17	4745.690	221
PupilteachRatio	22.58	19.447	221
Percent.HiQualTeach	98.12%	23.214%	221
Total.Expenditures.PerPupil	8860.55	9367.993	221
RETENTION.RATE	-.0498	.3482	221

a. Weighted Least Squares Regression - Weighted by SQRT.Enrollment
b. Selecting only cases for which District.Groups.2 = 2 Decrease in Enrollment

Table 26

Coefficients[a],b,c for 8th Grade MEAP Math Scores Weighted by the Square Root of Enrollment for Districts with Decreased Enrollments

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
3	(Constant)	135.261	6.787		19.930	.000
	Percent.FreeReducLunch	-51.478	3.742	-.622	-13.756	.000
	PupilteachRatio	-1.388	.236	-.233	-5.876	.000
	Total.Expenditures.PerPupil	-.002	.001	-.197	-4.541	.000

Adjusted R Square = .687
a. Dependent Variable: MEAP8MA
b. Weighted Least Squares Regression - Weighted by SQRT.Enrollment
c. Selecting only cases for which District.Groups.2 = 2 Decrease in Enrollment

Table 25 presents descriptive statistics for all districts with decreased enrollments, with eighth grade mathematics scores as the dependent variable. Table

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25 had a mean of 60.902 for eighth grade MEAP mathematics with 41.66% of students receiving free or reduced lunch.

Table 26 presents regression results for districts with decreased enrollments with eighth grade MEAP math scores as the dependent variable. The three statistically significant independent variables are percent of free or reduced lunch, pupil/teacher ratios, and total expenditures per pupil. The statically non significant variable was retention rate.

Tables 21, 23, and 25 illustrated information for eighth grade MEAP mathematics. This information was consistent with the eighth grade MEAP reading scores in terms of free and reduced lunch and districts with an increase in enrollment. Table 23 which consisted of the lower percentage of free and reduced lunch (28.78 percent) while having an increase in enrollment had the highest MEAP mathematics scores (70.269).

Table 27

Descriptive Statistics[a] for 11th Grade MEAP Reading Scores Weighted by the Square Root of Enrollment

	Mean	Std. Deviation	N
MEAP11RD	70.684	78.3239	501
Percent.FreeReducLunch	34.89%	1.321%	501
Foundation.Allowance	7087.25	5407.327	501
PupilteachRatio	22.47	17.753	501
Percent.HiQualTeach	98.07%	23.307%	501
Total.Expenditures.PerPupil	8705.15	8927.993	501
RETENTION.RATE	-.0031	.6189	501

a. Weighted Least Squares Regression - Weighted by SQRT.Enrollment

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Table 28

Coefficients[a],b

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
3	(Constant)	115.140	4.531		25.414	.000
	Percent.FreeReducLunch	-33.565	2.066	-.566	-16.244	.000
	PupilteachRatio	-1.155	.150	-.262	-7.694	.000
	Total.Expenditures.PerPupil	-.001	.000	-.089	-2.535	.012

Adjusted R Square = .443

a. Dependent Variable: MEAP11RD

b. Weighted Least Squares Regression - Weighted by SQRT.Enrollment

Table 27 presents descriptive statistics for all districts, with eleventh grade mathematics scores as the dependent variable. Table 27 had a mean of 70.684 for eleventh grade MEAP mathematics with 34.89% of students receiving free or reduced lunch.

Table 28 presents regression results for all districts, with eleventh grade MEAP reading scores as the dependent variable. The three statistically significant independent variables are percent of free or reduced lunch, pupil/teacher ratios, and total expenditures per pupil. Total expenditures per pupil had the most significance at .012.

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Table 29

Descriptive Statistics[a],b for 11th Grade MEAP Reading Scores Weighted by the Square Root of Enrollment for Districts with Increased Enrollments

	Mean	Std. Deviation	N
MEAP11RD	72.785	73.8903	247
Percent.FreeReducLunch	28.80%	1.113%	247
Foundation.Allowance	7160.23	6141.409	247
PupilteachRatio	22.51	16.288	247
Percent.HiQualTeach	97.99%	24.298%	247
Total.Expenditures.PerPupil	8572.23	8543.275	247
RETENTION.RATE	.0366	.6992	247

a. Weighted Least Squares Regression - Weighted by SQRT.Enrollment
b. Selecting only cases for which District.Groups.2 = 1 Increase in Enrollment

Table 30

Coefficients[a],b,c for 11th Grade MEAP Reading Scores Weighted by the Square Root of Enrollment for Districts with Increased Enrollments

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
3	(Constant)	151.507	17.572		8.622	.000
	Percent.FreeReducLunch	-35.547	3.539	-.536	-10.045	.000
	PupilteachRatio	-1.213	.242	-.267	-5.008	.000
	Percent.HiQualTeach	-.420	.162	-.138	-2.592	.010

Adjusted R Square = .317
a. Dependent Variable: MEAP11RD
b. Weighted Least Squares Regression - Weighted by SQRT.Enrollment
c. Selecting only cases for which District.Groups.2 = 1 Increase in Enrollment

Table 29 presents descriptive statistics for districts with an increase in enrollment, with eleventh grade MEAP reading scores as the dependent variable. Table

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29 had a mean of 72.785 for eleventh grade MEAP reading with 28.80% of students receiving free or reduced lunch.

Table 30 presents regression results for districts with increased enrollments, with eleventh grade MEAP reading scores as the dependent variable. The three statistically significant independent variables are percent of free or reduced lunch, pupil/teacher ratios, and percent highly qualified teachers. Percent highly qualified teachers had the most significance at .010.

Table 31

Descriptive Statistics[a],b for 11th Grade MEAP Reading Scores Weighted by the Square Root of Enrollment for Districts with Decreased Enrollments

	Mean	Std. Deviation	N
MEAP11RD	68.205	81.1700	222
Percent.FreeReducLunch	41.67%	1.397%	222
Foundation.Allowance	7018.91	4749.769	222
PupilteachRatio	22.59	19.428	222
Percent.HiQualTeach	98.11%	23.231%	222
Total.Expenditures.PerPupil	8861.89	9351.220	222
RETENTION.RATE	-.0502	.3575	222

a. Weighted Least Squares Regression - Weighted by SQRT.Enrollment
b. Selecting only cases for which District.Groups.2 = 2 Decrease in Enrollment

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Table 32

Coefficients[a],b,c for 11th Grade MEAP Reading Scores Weighted by the Square Root of Enrollment for Districts with Decreased Enrollments

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
3	(Constant)	116.257	5.742		20.246	.000
	Percent.FreeReducLunch	-31.980	3.171	-.551	-10.087	.000
	PupilteachRatio	-1.121	.200	-.268	-5.604	.000
	Total.Expenditures.PerPupil	-.001	.000	-.122	-2.341	.020

Adjusted R Square = .541
a. Dependent Variable: MEAP11RD
b. Weighted Least Squares Regression - Weighted by SQRT.Enrollment
c. Selecting only cases for which District.Groups.2 = 2 Decrease in Enrollment

Table 31 presents descriptive statistics for districts with decreased enrollments, with eleventh grade MEAP reading scores as the dependent variable. Table 31 had a mean of 68.205 for eleventh grade MEAP reading with 41.67% of students receiving free or reduced lunch.

Table 32 presents regression results for districts with decreased enrollments, with eleventh grade MEAP reading scores as the dependent variable. The three statistically significant independent variables are percent of free or reduced lunch, pupil/teacher ratios, and total expenditures per pupil. Total expenditures per pupil had the most significance at .020.

Tables 27, 29, and 31 for eleventh grade MEAP reading illustrated that the districts with the higher percentage of free and reduced lunch had lower eleventh grade MEAP reading scores. Table 29 had the lowest percentage of free or reduced lunch at

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28.80 percent and the highest eleventh grade reading scores with a mean of 72.785. This table also consisted of districts with an increase in enrollment.

Table 33

Descriptive Statistics[a] for 11th Grade MEAP Math Scores Weighted by the Square Root of Enrollment

	Mean	Std. Deviation	N
MEAP11MA	53.051	107.1612	501
Percent.FreeReducLunch	34.89%	1.321%	501
Foundation.Allowance	7087.25	5407.327	501
PupilteachRatio	22.47	17.753	501
Percent.HiQualTeach	98.07%	23.307%	501
Total.Expenditures.PerPupil	8705.15	8927.993	501
RETENTION.RATE	-.0031	.6189	501

a. Weighted Least Squares Regression - Weighted by SQRT.Enrollment

Table 34

Coefficients[a],b for 11th Grade MEAP Math Scores Weighted by the Square Root of Enrollment

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
4	(Constant)	145.464	15.481		9.397	.000
	Percent.FreeReducLunch	-50.526	2.647	-.623	-19.090	.000
	PupilteachRatio	-1.587	.193	-.263	-8.231	.000
	Total.Expenditures.PerPupil	-.001	.000	-.085	-2.580	.010
	Percent.HiQualTeach	-.308	.145	-.067	-2.130	.034

Adjusted R Square = .513

a. Dependent Variable: MEAP11MA

b. Weighted Least Squares Regression - Weighted by SQRT.Enrollment

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Table 33 presents descriptive statistics for all districts, with eleventh grade MEAP mathematics scores as the dependent variable. Table 33 had a mean of 53.051 for eleventh grade MEAP mathematics with 34.89% of students receiving free or reduced lunch.

Table 34 presents regression results for all districts with eleventh grade MEAP math scores as the dependent variable. The four statistically significant independent variables are percent of free or reduced lunch, pupil/teacher ratios, total expenditures per pupil and percent highly qualified teachers. Percent highly qualified teachers had the most significance at .034. The statistically non significant variable was retention rate.

Table 35

Descriptive Statistics[a],b for 11th Grade Math Scores Weighted by the Square Root of Enrollment for Districts with Increased Enrollments

	Mean	Std. Deviation	N
MEAP11MA	56.755	98.9557	247
Percent.FreeReducLunch	28.80%	1.113%	247
Foundation.Allowance	7160.23	6141.409	247
PupilteachRatio	22.51	16.288	247
Percent.HiQualTeach	97.99%	24.298%	247
Total.Expenditures.PerPupil	8572.23	8543.275	247
RETENTION.RATE	.0366	.6992	247

a. Weighted Least Squares Regression - Weighted by SQRT.Enrollment
b. Selecting only cases for which District.Groups.2 = 1 Increase in Enrollment

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Table 36

Coefficients[a],b,c for 11th Grade MEAP Math Scores Weighted by the Square Root of Enrollment for Districts with Increased Enrollments

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
3	(Constant)	150.915	22.747		6.634	.000
	Percent.FreeReducLunch	-51.709	4.581	-.582	-11.288	.000
	PupilteachRatio	-1.609	.314	-.265	-5.130	.000
	Percent.HiQualTeach	-.439	.210	-.108	-2.094	.037

Adjusted R Square = .361

a. Dependent Variable: MEAP11MA

b. Weighted Least Squares Regression - Weighted by SQRT.Enrollment

c. Selecting only cases for which District.Groups.2 = 1 Increase in Enrollment

Table 35 presents descriptive statistics for districts with increased enrollments, with eleventh grade MEAP mathematics as the dependent variable. Table 35 had a mean of 56.755 for eleventh grade MEAP mathematics with 28.80% of students receiving free or reduced lunch.

Table 36 presents regression results for districts with an increase in enrollment, with eleventh grade MEAP math scores as the dependent variable. The three statistically significant independent variables are percent of free or reduced lunch, pupil/teacher ratios, and percent highly qualified teachers. Percent highly qualified teachers had the most significance at .037.

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Table 37

Descriptive Statistics[a],b for 11th Grade MEAP Math Scores Weighted by the Square Root of Enrollment for Districts with Decreased Enrollments

	Mean	Std. Deviation	N
MEAP11MA	48.714	112.3275	222
Percent.FreeReducLunch	41.67%	1.397%	222
Foundation.Allowance	7018.91	4749.769	222
PupilteachRatio	22.59	19.428	222
Percent.HiQualTeach	98.11%	23.231%	222
Total.Expenditures.PerPupil	8861.89	9351.220	222
RETENTION.RATE	-.0502	.3575	222

a. Weighted Least Squares Regression - Weighted by SQRT.Enrollment
b. Selecting only cases for which District.Groups.2 = 2 Decrease in Enrollment

Table 38

Coefficients[a],b,c for 11th Grade MEAP Math Scores Weighted by the Square Root of Enrollment for Districts with Decreased Enrollments

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
3	(Constant)	132.755	9.149		14.510	.000
	Percent.FreeReducLunch	-54.840	3.518	-.682	-15.589	.000
	PupilteachRatio	-1.440	.252	-.249	-5.718	.000
	Foundation.Allowance	-.004	.001	-.173	-4.119	.000

Adjusted R Square = .618
a. Dependent Variable: MEAP11MA
b. Weighted Least Squares Regression - Weighted by SQRT.Enrollment
c. Selecting only cases for which District.Groups.2 = 2 Decrease in Enrollment

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Table 37 presents descriptive statistics for districts with decreases in enrollment. Table 37 had a mean of 48.714 for eleventh grade MEAP mathematics with 41.67% of students receiving free or reduced lunch.

Table 38 presents regression results for districts with a decrease in enrollment with eleventh grade MEAP math scores as the dependent variable. The three statistically significant independent variables are percent of free or reduced lunch, pupil/teacher ratios, and foundation allowance.

Tables 33, 35, and 37 for eleventh grade mathematics illustrate findings that have been consistent with other tables. Table 35 which has districts that have experienced an increase in enrollment and lower percentages of free and reduced lunch (28.80 percent) has higher MEAP scores at a mean of 56.755 than all districts at 34.89 percent free and reduced lunch with MEAP scores with a mean of 53.051 as well as districts with a decrease in enrollment with 41.67 percent of students receiving free or reduced lunch having MEAP means of 48.714.

Table 39

Descriptive Statistics[a] for Graduation Rate Weighted by the Square Root of Enrollment

	Mean	Std. Deviation	N
GradRt	90.3458	56.23318	497
Percent.FreeReducLunch	34.62%	1.309%	497
Foundation.Allowance	7089.87	5425.157	497
PupilteachRatio	22.48	17.806	497
Percent.HiQualTeach	98.08%	23.012%	497
Total.Expenditures.PerPupil	8700.93	8935.726	497
RETENTION.RATE	-.0025	.6189	497

a. Weighted Least Squares Regression - Weighted by SQRT.Enrollment

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Table 40

Coefficients[a],b for Graduation Rates Weighted by the Square Root of Enrollment

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
5	(Constant)	134.026	9.894		13.546	.000
	Percent.FreeReducLunch	-18.268	1.957	-.425	-9.336	.000
	PupilteachRatio	-.709	.115	-.225	-6.147	.000
	Total.Expenditures.PerPupil	-.002	.000	-.280	-4.454	.000
	Foundation.Allowance	.002	.001	.161	2.600	.010
	Percent.HiQualTeach	-.183	.088	-.075	-2.067	.039

Adjusted R Square = .371

a. Dependent Variable: GradRt

b. Weighted Least Squares Regression - Weighted by SQRT.Enrollment

Table 39 presents descriptive statistics for all districts, with graduation rate as the dependent variable. Table 39 had a mean of 90.3458 for the graduation rate with 34.62% of students receiving free or reduced lunch.

Table 40 presents regression results for all districts, with graduation rate as the dependent variable. The five statistically significant independent variables are percent of free or reduced lunch, pupil/teacher ratios, total expenditures per pupil, foundation allowance, and percent highly qualified teacher. Percent highly qualified teachers had the most significance at .039.

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Table 41

Descriptive Statistics[a],b for Graduation Rate Weighted by the Square Root of Enrollment for Districts with Increased Enrollments

	Mean	Std. Deviation	N
GradRt	91.8403	43.54150	246
Percent.FreeReducLunch	28.74%	1.113%	246
Foundation.Allowance	7161.92	6150.721	246
PupilteachRatio	22.52	16.285	246
Percent.HiQualTeach	98.04%	23.653%	246
Total.Expenditures.PerPupil	8574.84	8555.167	246
RETENTION.RATE	.0367	.7005	246

a. Weighted Least Squares Regression - Weighted by SQRT.Enrollment
b. Selecting only cases for which District.Groups.2 = 1 Increase in Enrollment

Table 42

Coefficients[a],b,c for Graduation Rate Weighted by the Square Root of Enrollment for Districts with Increased Enrollments

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	96.350	.750		128.407	.000
	Percent.FreeReducLunch	-15.693	2.293	-.401	-6.843	.000

Adjusted R Square = .158
a. Dependent Variable: GradRt
b. Weighted Least Squares Regression - Weighted by SQRT.Enrollment
c. Selecting only cases for which District.Groups.2 = 1 Increase in Enrollment

Table 41 presents descriptive statistics for districts with an increase in enrollment, with graduation rate as the dependent variable. Table 41 had a mean of 91.8403 for graduation rate with 28.74% of students receiving free or reduced lunch.

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Table 42 presents regression results for districts with an increase in enrollment with graduation rate as the dependent variable. The one independent variable that is statistically significant is percent free or reduced lunch.

Table 43

Descriptive Statistics[a],b for Graduation Rates Weighted by the Square Root of Enrollment for Districts with Decreased Enrollments

	Mean	Std. Deviation	N
GradRt	88.5264	67.31976	220
Percent.FreeReducLunch	41.33%	1.38%	220
Foundation.Allowance	7020.53	4769.356	220
PupilteachRatio	22.58	19.513	220
Percent.HiQualTeach	98.08%	23.285%	220
Total.Expenditures.PerPupil	8851.55	9350.067	220
RETENTION.RATE	-.0494	.3562	220

a. Weighted Least Squares Regression - Weighted by SQRT.Enrollment
b. Selecting only cases for which District.Groups.2 = 2 Decrease in Enrollment

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Table 44

Coefficients[a],b,c for Graduation Rates Weighted by the Square Root of Enrollment for Districts with Decreased Enrollments

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
3	(Constant)	129.784	5.191		25.000	.000
	Percent.FreeReducLunch	-21.713	2.893	-.447	-7.505	.000
	PupilteachRatio	-.846	.181	-.245	-4.678	.000
	Total.Expenditures.PerPupil	-.001	.000	-.207	-3.631	.000

Adjusted R Square = .456
a. Dependent Variable: GradRt
b. Weighted Least Squares Regression - Weighted by SQRT.Enrollment
c. Selecting only cases for which District.Groups.2 = 2 Decrease in Enrollment

Table 43 presents descriptive statistics for districts with a decrease in enrollment with graduation rate as the dependent variable. Table 43 has a mean of 88.5264 for graduation rate with 41.33% of students receiving free or reduced lunch.

Table 44 presents regression results for districts with a decrease in enrollment with graduation rate as the dependent variable. The three statistically significant independent variables are percent of free or reduced lunch, pupil/teacher ratios, and total expenditures per pupil. Foundation allowance is statistically non significant.

Table 45 is the summary table. It consists of all dependent variables, district enrollment samples, significant predictors, and adjusted R^2. The dependent variables presented eighth and eleventh grade reading and math scores and graduation rate. The sample (N) presented information for all districts, districts with increasing enrollments and districts with declining enrollments. The significant predictors were the percent of free or reduced lunch, pupil teacher ratio, total expenditures per pupil,

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foundation allowances, percent highly qualified teachers, and retention rate. Adjusted R^2 or the coefficient of determination is used to predict future outcomes of the model. The adjusted R^2 ranged from .158 to .687.

Most of the significant predictors consisted of negative numbers with foundation allowance being the exception for graduation rate for all districts.

Table 45

Summary Table

Dependent Variable	*Sample (N)*	*Significant Predictors (P ≤ .10)*	*Adj. R^2*
MEAP8 RD	All Districts (498)	%FREE/RED (-), P-T Ratio (-), Exp. PP (-)	.605
MEAP8 RD	Increasing (246)	%FREE/RED (-), P-T Ratio (-),	.476
MEAP8 RD	Declining (221)	%FREE/RED (-), P-T Ratio (-), Exp. PP (-)	.617
MEAP8 MATH	All Districts (498)	%FREE/RED (-), P-T Ratio (-), Exp. PP (-)	.636
MEAP8 MATH	Increasing (246)	%FREE/RED (-), P-T Ratio (-),	.483
MEAP8 MATH	Declining (221)	%FREE/RED (-), P-T Ratio (-), Exp. PP (-)	.687
MEAP11 RD	All Districts (501)	%FREE/RED (-), P-T Ratio (-), Exp. PP (-)	.443
MEAP11 RD	Increasing (247)	%FREE/RED (-), P-T Ratio (-), %Highly Qual (-)	.317
MEAP11 RD	Declining (222)	%FREE/RED (-), P-T Ratio (-), Exp. PP (-)	.541
MEAP11 MATH	All Districts (501)	%FREE/RED (-), P-T Ratio(-), Exp. PP (-), %Highly Qual (-)	.513
MEAP11 MATH	Increasing (247)	%FREE/RED (-), P-T Ratio (-), %Highly Qual (-)	.361
MEAP11 MATH	Declining (222)	%FREE/RED (-), P-T Ratio (-), Found. Allowance (-)	.618
GRADRATE	All Districts (497)	%FREE/RED (-), P-T Ratio (-), Exp. PP (-), Found. Allowance (+), %Highly Qual (-)	.371
GRADRATE	Increasing (246)	%FREE/RED (-),	.158
GRADRATE	Declining (220)	%FREE/RED (-), P-T Ratio (-), Exp. PP (-)	.456

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Retention rate was non significant in every regression. However, these findings should not be construed as evidence that retention rate is not systematically related to the outcomes examined here. The retention rate formula utilized here probably yielded an invalid proxy measure of the true retention or grade level failure rate in each district. In particular, the proxy did not control for students who transferred into and out of the district. The formula also failed to include students who were not moved along in grades or failed grades other than eighth or eleventh. In Michigan, districts do not have to report student retention rates. The Michigan Department of Education does not collect or compile retention in grade rates for school districts. It may be possible to identify individual students who are retained in grade by comparing a student's grade placement from one year to the next in Michigan's Single Record Student Database (SRSD). However, neither the Michigan Department of Education (MDE) nor the Center for Educational Performance and Information (CEPI) publish any grade retention data.

Summary

A school districts' foundation allowance provides most of the school district's per-pupil revenues for their general operating purposes. Foundation allowances were only significant with the dependent variable being graduation rate and the sample being all districts. School funding before Proposal A created high property taxes for home owners, a tremendous need for district millage elections, and large disparities in per-pupil funding for districts. High millage rate districts such as Detroit, Flint, Lansing, Saginaw, and Grand Rapids have a large proportion of low income children. While these districts have numerous low income students or students receiving free or reduced lunch, they also qualify for federal Title I funds, state 31a funds, and large

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allocations of special education funds. Along with this higher spending these districts also have lower MEAP scores. Districts with lower pupil teacher ratios had better MEAP test scores than districts with higher pupil teacher ratios. This supports proponents of the effectiveness of smaller class sizes. The percent of highly qualified teachers had very little effect on students test scores. In Michigan, all district contracted certified teachers are required to be highly qualified according to the terms of the No Child Left Behind (NCLB) Act of 2001.

Districts with an increase in enrollment had higher high school graduation rates than districts that demonstrated a decrease in enrollment. This could be an indicator of school quality. Those districts that are sought after by parents and students will have an increase in student enrollment through schools of choice options. Students who remain in school will eventually graduate. Students that drop out of school will eventually cause the MEAP proficiency rates to improve.

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Chapter 5

Summary, Conclusions, and Recommendations for Further Research

Summary

The main purpose of this research was to investigate the determinants of successful student MEAP performance, high school completion and the variables that impact the likelihood of student academic success. The current and recently popular practice of grade retention and the call for the end of social promotion have led many educators to wonder what is truly better for children. A simple grade retention model was created. Graduation rates, MEAP scores, foundation allowances, percent of highly qualified teachers, pupil/teacher ratios, percent of students receiving free and reduced lunch, enrollment, and per pupil expenditure data were gathered from the 2005-2006 school year.

A simple formula was used to estimate district retention rates. This model was based on the assumptions that 8th grade retention rates are proportional to overall retention rates and that the rates of net transfers are equal across districts. Retention rate data are not reported by school districts in Michigan. While the results of the retention rate data analysis strongly suggests that the model used was too restrictive, there is a definite need for districts to begin to report this vital information. Clearly this is a variable that can be used in predicting a student's future academic success and a better understanding of its effects on student outcomes is needed for policy making.

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An academic achievement model was used that utilized weighted least squares (WLS) regressions to estimate high school graduation or completion rates and MEAP proficiency rates and the explanatory variables. The explanatory variables included the percentage of students qualifying for free or reduced lunch, district foundation allowances, enrollment, school expenditures per pupil, pupil/teacher ratios, and percent of highly qualified teachers.

The dictated philosophies of education have changed with the political landscape. As the key players of our society set policy it is essential that educational practitioners and researchers lay the groundwork that will assist in setting our children up for success. Results reported in Chapter IV illustrate that the school districts in Michigan have a wide range of differences in terms of enrollment, graduation rate, MEAP scores, percent of students receiving free or reduced lunch, foundation allowances, pupil teacher ratios, and total expenditures per pupil. The previously mentioned variables may be quite disparate, but because of the No Child Left Behind (NCLB) Act of 2001 the percent of highly qualified teachers was not. Districts in Michigan require that all contracted certified employees be highly qualified. This variable had very little to do with predicting MEAP test proficiency. Very few contracted teachers in Michigan are not highly qualified; therefore, this variable was not a true indicator of teacher quality.

In general, educators need better research regarding the cost-effectiveness of educational policies and programs. For example, research performed by Belfield, Nores, Barnett, & Schwein (2006) presented the positive attributes of the High/Scope Perry Preschool Program. This research presented the positive attributes that result

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from an effective preschool program on program participants. These students had higher lifetime earnings, experienced less grade level retention, and had less frequent placement in special education classes.

While Michigan has instituted standards for high school graduation as well as grade level standards for curriculum, legislatures have not put in place promotional policies that illustrate what must be accomplished by students in order to move from one grade level to the next. It has been the practice of various school districts such as Chicago, Boston, New York, Miami, and Detroit to set promotional polices for students.

None of the research indicated that the practice of grade level retention was a better educational practice than social promotion. Retaining students is considered an expensive educational approach, while using norm-referenced tests such as the MEAP test are considered an inexpensive method used by school districts to measure student progress. Schools are now under pressure to improve student achievement. Presidents Bill Clinton and George W. Bush have called for an end of the practice of schools socially promoting students who have not performed on grade level on standardized tests.

Findings

This quantitative study consisted of data from 515 traditional K-12 public school districts in Michigan. Each district had to consist of a K-12 student population that was composed of elementary, middle, and high school students. The dependent variables or outcomes of interest were district graduation rate and district achievement on the MEAP test. Explanatory variables included student socioeconomic status (the

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percentage of students qualifying for free or reduced lunch), school resources (district foundation allowance, enrollment, school expenditures per pupil, pupil/teacher ratios), and teacher characteristics (percent of highly qualified teachers).

Graduation rates and MEAP proficiency rates of level I (exceeded standards) or level 2 (met standards) were utilized to determine district level academic achievement. [6]

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[6]. In the fall of 2009 the MEAP performance level descriptors were changed to the following: level 1 – advanced, level 2 – proficient, level 3 – partially proficient, and level 4 – not proficient.

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According to the Center for Educational Performance and Information (CEPI), Michigan's graduation rate is a four-year estimated rate, calculated by the state, that is derived by multiplying four consecutive graduating class retention rates together for a given school and district. The state uses students' movements based on district count days reported from local school districts from fall 2004 and fall 2005. The Unique Identification Code (UIC) is used to follow students. This format of tracking graduation rate does not include students that take more than four years to complete high school.

Socioeconomic status of students was determined by the percentage of district students qualifying for free or reduced lunch. District foundation allowances were the per pupil amounts of state and local funding that paid for general school operations. The distribution of foundation allowances across districts reflects the leveling up effect of Michigan's school finance reforms enacted in 1994 (Proposal A) for the state's lower spending districts. Pupil Teacher Ratio was determined by the division of the number of students by the number of educators in the district. This number may not take into consideration the educators not regularly in a classroom such as administrators and elective teachers. Therefore, these ratios generally exceed average class sizes in the districts. The percent of highly qualified teachers had very little influence on student achievement because under Michigan rules very few teachers are not highly qualified. This variable did not distinguish teacher quality.

Conclusions

This study researched the determinants of student performance on the MEAP test and variables that could be used to determine high school completion. An emphasis was placed on the importance of districts accurately reporting graduation and

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retention rate data. Observational data were analyzed to determine if there was a significant relationship between grade retention, MEAP proficiency, and successful high school completion. Research was performed to review the relationship between retention rates and graduation rates, as well as the relationship between a district's achievement scores on the MEAP and the district's high school graduation rates. Research was performed to review total enrollment, the relationship between MEAP scores and student socioeconomic status, as well as the relationship between graduation rates and MEAP test scores when controlling for socioeconomic status.

When reviewing total enrollment, smaller districts were very close to the state average for the percent of students receiving free or reduced lunch. This could be an indication of the economic stress occurring throughout Michigan. While it may be hypothesized that smaller districts had a lesser percentage of children receiving free and reduced lunch than larger districts, this was not supported by the results of this research.

These findings, however, strongly support the causal relationship between socioeconomic status and academic achievement. For example, Birmingham City School District had the highest MEAP test scores in both eleventh grade reading and mathematics in the state. Highland Park City Schools had the lowest eleventh grade MEAP score in both reading and mathematics. It is important to note that Birmingham also had the lowest percentage of students receiving free and reduced lunch with Covert Public Schools having the highest percentage of students in this category. Covert Public Schools is a small school district located in southwestern Michigan. It has one elementary school, one middle school, and one high school.

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The independent variables with the most frequency of significance in most cases were percent free or reduced lunch, pupil/teacher ratios, and total expenditures per pupil. Retention rate was non significant in every regression. This does not necessarily mean that retention rate is not important. This may simply mean that the model used for retention rate was too restrictive. As stated earlier, Michigan does not require districts to report retention rate data. This omission should not continue. In addition, the state's current formula for graduation rate is only based on students graduating in four years. Data must be collected to track the academic success of students taking longer than four years to graduate. This would also assist districts in more accurately reporting their graduation rates. Many districts offer extended day programs, second chance programs, and summer school programs to assist students in meeting the requirements for graduation. If their high school program goes beyond four years, under the current formula, their graduation rates are not counted. If Michigan establishes a retention and graduation rate formula that is combined to reflect all high school graduates, the data would more accurately measure school and district performance and could greatly aid policymaking.

Limitations and Implications of the Study

There were several limitations that existed with this study. One limitation was with the retention rate formula. No formula is currently utilized in Michigan so a simple formula to estimate retention rates was devised. Based on the results the formula may have been too restrictive. Although this formula did not illustrate expected significance, it was still valuable in intent. The formula captured district enrollment for 7th graders in the 2005-2006 school year and formulated the numbers with the district's 8th grade

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enrollment during the 2006-2007 school year. The formula also failed to include data on students that transferred in or transferred out of a district. While this was a worthwhile attempt to address a very valid need, improvements must be made at the state level to resolve this lack of data. While our current political policymakers are in the process of calling for an end to the practice of social promotion, there is a lack of retention data available at the district, state, and national level. Data regarding the practice of social promotion were also unavailable.

Another limitation applies to teacher quality data. Currently in Michigan, all contracted certified teachers are required to meet the standards of No Child Left Behind. It was difficult to acquire district level information regarding years of experience, national board certification, continuing education credits, and degrees held by teachers and administrative staff. This information should be readily available. This would require further communication from instructional staff and the human resource departments of school districts with the Michigan Department of Education (MDE). This would also assist in the hiring process of school districts when searching for high quality staff members.

Recommendations for Further Research

Many other variables could have been incorporated into the model to predict academic success for students based on graduation rates and MEAP scores. In addition to retention rate, free or reduced lunch status, retention rate, foundation allowances, enrollment, expenditures per pupil, pupil/teacher ratios, and percent highly qualified teachers there could have been information on special education subgroups, gender, English Language Learners (ELL), and minority status students. Questions

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remain regarding the frequency of retentions for these groups as well as solutions that are used to assist in the achievement of disadvantaged youths. As school districts struggle to meet the requirement of Adequate Yearly Progress, options must exist in assisting students to achieve.

Individual Development Plans (IEP's) for special education students must include information that will allow alternatives for schools to still succeed with these students. Instead of the MEAP test, many special education students are given the MEAP-ACCESS test or the MI-ACCESS test. These students may also have provisions that prevent them from becoming grade level failures. How these students are factored into the graduation rate formula has yet to be explored.

Information regarding gender differences with MEAP scores and graduation rates could have been explored to present valuable insight to parents and districts as they seek school of choice options for students. One example could be the success of same gender schools on graduation rates and MEAP scores.

A Final Word

As this research was performed, it became quite apparent that low socioeconomic status or free or reduced lunch students did not score as well on the MEAP test as their more affluent counterparts. This brings a valid question to school districts and to the state of Michigan. What will be done to counteract these deficiencies? What are the variables that create opportunities for success for individual students, schools, or districts that have been triumphant academically with students receiving free or reduced lunch? While these successes are not the norm, it still occurs in various situations. It would be counterproductive to students to feel that the situation

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is inevitably hopeless. Social supports, health care, and other non-school related services must complement opportunities for educational growth for students and educational accountability and responsibility must be required of parents, educators, administrators, and policy makers if the goals of NCLB are to be achieved and the achievement gap narrowed.

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APPENDIX A

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CONCURRENCE OF EXEMPTION

To: Cleo Moody

College of Education

Ms. Cleo M. Moody

From: Ellen Barton, Ph.D. _____
Chairperson, Behavioral Institutional Review Board (B3)

Date: March 28, 2008

RE:
HIC #: 033008B3X
Protocol Title: The Determinants of Student MEAP Performance and High School Completion
Sponsor:
Coeus #: 0803005809

Risk Level: No greater than minimal risk.

The above-referenced protocol has been reviewed and found to qualify for **Exemption** according to paragraph #4 of the Department of Health and Human Services Code of Federal Regulations [45 CFR 46.101(b)].

- Waiver of consent has been requested and approved.

This proposal has not been evaluated for scientific merit, except to weigh the risk to the human subjects in relation to the potential benefits.

- Exempt protocols do not require annual review by the IRB.
- All changes or amendments to the above-referenced protocol require review and approval by the HIC **BEFORE** implementation.
- Adverse Reactions/Unexpected Events (AR/UE) must be submitted on the appropriate form within the timeframe specified in the HIC Policy (http://www.hic.wayne.edu/hicpol.html).

NOTE:

1. Forms should be downloaded from the HIC website at each use.
2. Submit a Closure Form to the HIC Office upon completion of the study.

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REFERENCES

Alexander, K., Entwisle, D., & Dauber, S. (2003). Grade retention: lingering questions. In On the success of failure (2nd ed., pp. 1-314). Cambridge, United Kingdom: Cambridge University Press.

Allensworth, E. (2004). Graduation dropout rates after implementation of high-stakes testing in Chicago's elementary schools: A close look at students most vulnerable to dropping out. In G. Orfield (Ed.), Dropouts in America (pp. 157-179). Cambridge, MA: Harvard Education Press.

Amrein, A. L., & Berliner, D. C. (2003). The effects of high-stakes testing on student motivation and learning. Educational Leadership, 60(5), 32-38.

Anthony, W. (Ed.). (2005). The governor's transition team for Detroit Public Schools. In Final report, abstract and executive summary (Recommendations for the newly elected school board, pp. 1-87). Detroit, MI: Detroit Public Schools.

Barnett, S. (1992). Benefits of compensatory preschool education. *The Journal of Human Resources, 27*(2), 8-9.

Belfield, C. R., & Levin, H. M. (2007). The education attainment gap: who's affected, how much, and why it matters. In C. R. Belfield & H. M. Levin (Eds.), *The price we pay economic and social consequences of inadequate education* (pp. 6-16). Washington, D.C., Virginia: The Brookings Institution.

Belfield, C. R., & Levin, H. M. (2007). Educational interventions to raise high school graduation rates. In C. R. Belfield & H. M. Levin (Eds.), *The price we pay economic and social consequences of inadequate education* (pp. 177-197). Washington, D. C., Virginia: The Brookings Institution.

www.manaraa.com

Belfield, C., Nores, M., Barnett, S., & Schweinhart, L. (2006). The high/scope perry preschool program [Cost-benefit analysis using data from the age-40 follow-up]. *The Journal of Human Resources, 41*, 162-190.

Bracey, G. W. (2002). Raising achievement of at-risk students--or not. Phi Delta Kappan, 83(6), 431-32.

Center for Educational Performance, & Information. (2006). Michigan education information system senior cohort report user's guide. In *Michigan education information system* (Senior Cohort Report, pp. 1-8). Lansing, MI: Michigan Department of Education.

Center for the future of Arizona. (2006, October 5). *Update on compulsory attendance age* (Presentation to Governor's P20 Council Data, Assessment & Graduation Compact Committee). Phoenix, Arizona: Parker, B. J. Retrieved August 6, 2007, from Center for the Future of Arizona Web site: http://www.arizonafuture.org/gradinitiative/compulsary_attendance_100506_bjp.pdf.

Cheeseman-Day, J., & Newburger, E. C. (2002). The big payoff: educational attainment and synthetic estimates of work life earnings. In *Current population reports* (P23-210, pp. 1-2). Washington, DC: U.S. Census Bureau.

Dawson, P. (1998). A primer on student grade retention: what the research says, from http://www.nasponline.org/pubications/cq268retain.html

Details of Michigan's 2004-2005 Graduation and Dropout Methodology. (2005). Retrieved June 5, 2006, from Center for Educational Performance and Information Web site: www.michigan.gov/documents/gddrpmeth.157282_7.pdf

www.manaraa.com

Design and validity of the MEAP test [An Overview]. (2004). (Original work published June 3, 2004) Retrieved May 16, 2006, from Michigan Department of Education Web site: http://www.michigan.gov/printerfriendly/0, 1687, 7-140-22709_31168-94522--, 00.html

Finn, Jeremy D., Susan B. Gerber, and Jayne Boyd-Zaharias, 2005. "Small Classes in the Early Grades, Academic Achievement, and Graduating from High School. " *Journal of Educational Psychology 97, no 2: 214-23.*

Government Publications. (1996). *The Digest of Education Statistics 1996, Table 149* [Data Table]. Washington, DC. (Government, 1996) Available from: http://www.nces.ed.gov/pubs/d96/D96T149.html

Grant, J. (1997). Ready for a high stakes decision? In Retention and its prevention (pp. 1-128). Rosemont, NJ: Modern Learning Press.

Great start [questions and answers]. (2003). (Original work published 2003) Retrieved July 18, 2007, from www.michigan.gov Web site: http://www.michigan.gov/printerfriendly/0,1687,7-197--81898--,00.html

Hartke, K. (1999). The misuse of tests for retention. Thrust for Educational Leadership, 28(3), 22-24.

Herszenhorn, D. M. (2004, March 29, 2004). Council sends loud message on schools. The New York Times.

Heubert, J. P. (2003). First, do no harm. Educational Leadership, 60(4), 26-30.

Hoff, D. (2006, June 41S). Adding it all up. Education Week, pp. 17-22.

Holmes, C. T. (2000). Promoting the end of retention. Journal of Curriculum and Supervision, 15(4), 300-314.

www.manaraa.com

Keeping count and losing count [Calculating graduation rates for all students under NCLB accountability]. Retrieved June 21, 2006, from Urban Institute Education Policy Center Web site: Http://www.urban.org/publications/410843.html

Levin, M. (1996). Economics of school reform for at risk students. *Improving America's schools: the role of incentives* (Chap. 11). Retrieved April 1, 2003 from http://www.nap.edu/openbook/0309054362/html/225.html

Loeb, Susanna, and Page, M. E. 2000. "Examining the Link between Teacher Wages and Student Outcomes: The Importance of Alternative Labor Market Opportunities and Non-pecuniary Variation. *Review of Economics and Statistics* 82, no. 3: 393-408.

MEAP guide to reports [High school assessment]. (2006). Retrieved July 18, 2007, from Michigan Department of Education Web site: http://michigan.gov/documents/S06_guide_to_reports_final_162925_7.pdf

Meisels, S. J., & Liaw, F. R. (1993). Failure in grade: do retained students catch up? Journal of Educational Research, 87(2), 69-77.

Morris, D. R. (2001). Assessing the implementation of high-stakes reform: aggregate relationships between retention rates and test results. NASSP Bulletin, 85, 18-34.

National Center for Education Statistics (2001). *Dropout Rates in the United States: 2000* [Statistical Analysis Report]. Available from U.S. Department of Education Office of Educational Research and Improvement, http://nces.ed.gov/pubs2002/droppub_2001/

www.manaraa.com

Overview of Michigan's 2004-2005 graduation and dropout methodology. (2006). Retrieved June 8, 2006, from the Center of Education and Information, Web site: www.michigan.gov/documents/web-overview_153742_7.pdf.

Owings, W. A. & Kaplan, L.S. (2001). Standards, retention, and social promotion. NASSP Bulletin, 85, 57-66.

Owings, W. A., & Magliaro, S. (1998). Grade retention: a history of failure. Educational Leadership, 56(1), 86-88.

Quint, Janet and others (2005). *The Challenge of Scaling Educational Reform: Findings and Lessons from First Things First.* New York: Manpower Development Research Corporation.

Ravitch. D. (2010). *The death and life of the great american school system: How testing and choice are undermining education.* New York: Basic Books.

*The revised school cod*e act 451 of 1976 [part 24 compulsory school attendance]. (1976). (Original work published 1976) Retrieved June 17, 2007, from www.legislature.mi.gov

Resnick, M.D., Bearman, P.S., Blum, R.W., Bauman, K.E., Harris, K.M., Jones, J., Tabor, J., Beuhring, T., Sieving, R.E., Shew, M., Ireland, M., Bearinger, L.H., Udry, J.R. (1997). Protecting adolescents from harm: findings from the national longitudinal study on adolescent health. *Journal of the American Medical Association*, 278(10), 823-832.

Reynolds, A. J. (1996). Cognitive and family-support mediators of preschool effectiveness: a confirmatory analysis. Child Development, 67, 1119-1140.

www.manaraa.com

Reynolds A. J. and others (2001). Long term effects of an early childhood intervention on educational achievement and juvenile arrest: A fifteen-year follow-up of low income children in public schools. *Journal of the American Medical Association,* 285(18), 2339-46.

Roderick, M. (1995). Grade retention and school dropouts: policy debate and research questions [Electronic version]. Phi Delta Kappa Center for Evaluation, Development, and Research, 15, 1-9.

Rodney, L. W., Crafter, B., Rodney, H. E., & Mupier, R. M. (1999). Variables contributing to grade retention among African-American adolescent males. Journal of Educational Research, 92(3), 185-90.

Rothstein, R. (1998). Where is lake wobegone, anyway? the controversy surrounding social promotion. Phi Delta Kappan, 80(3), 195-98.

Rumberger, R. (2004). Why students drop out of school. In G. Orfield (Ed.), Dropouts in America (pp. 131-155). Cambridge, MA: Harvard Education Press.

Senate Bill (2003). Senate bill no. 24. In *SB 0024 of 2003* (A bill to amend 1976 PA 451, entitled The Revised School Code). Lansing, MI: Michigan Legislature. Retrieved March 2, 2003, from http://www.michiganlegislature.org/mileg.asp

Standard & Poor's (2005). School Evaluation Services [An analysis of district-level data]. Available from S&P Observations, www.schoolmatters.com, Swanson, C. (2003). State slow to act on lead paint threat [Electronic version]. (2003, January 24). *The Detroit Free Press*, p. 1.

www.manaraa.com

Thomas, V. G. (2000). Ending social promotion: help or hindrance? Kappa Delta Pi Record, 37(1), 30-32.

U.S. Department of Labor. (2002). *Access to Primary Education* [International Research]. Available from the Bureau of International Labor Affairs, www.dol.gov

Watson, H. (2006). Governor applauds passage of rigorous high school curriculum. . (Original work published 2006) Retrieved March 30, 2006, from State of Michigan Web site: http://www.michigan.gov/printerfriendly/0, 1687, 7-192-29939-139907--, 00.html

Weikart, D. P., Deloria, D., Lawser, S., & Wiegerink, R. (1970). Longitudinal results of the Ypsilanti Perry Preschool Project. In High/Scope Educational Research Foundation. Ypsilanti, MI: High/Scope Press.

Westbury, M. L. (1999). Reliability and validity of selected criteria of light's retention scale. Canadian Journal of Education, 24(4), 460-64.

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ABSTRACT

THE DETERMINANTS OF STUDENT ACHIEVEMENT AND HIGH SCHOOL COMPLETION IN MICHIGAN

by

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December 2010

Advisor: Dr. Michael Addonizio

Major: Educational Leadership and Policy Studies

Degree: Doctor of Education

Policy and practice regarding in-grade level retention and their effects on high school graduation rates and successful student academic outcomes have currently assumed great importance in the education reform debate. Further, the effectiveness of our public schools and the achievement of our students have implications that can affect individuals and the communities in which they live. Now, more than ever, individual economic success and economic growth depend crucially on academic achievement and human capital. The purpose of this research is to identify the determinants of student performance on the Michigan Education Assessment Program test and high school completion. Regression analysis was used to estimate a district-level model of student achievement.

District policies regarding social promotion may be explicit or, more likely, implicit. In either case, this widespread practice raises important questions about in-grade retention and the requirements that must be met in order for a student to meet graduation and grade level promotional standards. The typical eighth grade student that has experienced two grade level retentions by all likelihood could turn sixteen years

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old during his eighth grade year. While other students that are their same age are acquiring driver's licenses, they are going to school with fourteen year olds.

Retention and promotional policies along with high school completion rates will continue to have a substantial impact on the future of Michigan as well as society in general. The formation of sound policies and the improvement of Michigan's high school graduation rate require clear achievement benchmarks for Michigan's students and accurate calculations of high school graduation rates. The independent variable with the most frequency of significance was free and reduced lunch. Social supports, health care, and other non-school services must complement opportunities for educational growth for students and educational accountability and responsibility must be required of parents, educators, administrators, and policy makers if the goals of NCLB are to be achieved and the achievement gap narrowed.

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AUTOBIOGRAPHICAL STATEMENT

Education is the Key to the Future

When I was a first year teacher I discovered through observations that many of the more experienced teachers that I grew to admire had educational quotes that they seemed to live by. These quotes seemed to be transformational mantras that later on seemed to be the identifiable stamp in which we recognized the skill, practice, and craft of that individual. After discussing this with my mother, who was at the time a retired Detroit Public School teacher, we brainstormed about what school and education meant to me. We talked about my experiences as a student at Dwyer Elementary, Hutchins Middle School and Northern High School. We also talked about How Western Michigan University had prepared me for student teaching and being a first year teacher, what I hoped to accomplish through education and what my vision was for my students. We made large gold keys that were displayed on the bulletin board for all to see. We displayed "A" papers featuring the great work of the students. I spent fifteen years as an elementary and middle school homeroom and science teacher in the city of Detroit. Along the way I received a Masters of Education degree in Science and an Education Specialist Certification from Wayne State University.

Through education I have had the opportunity of having what I hope has been a positive impact on the lives of thousands of children. I returned to Wayne State University in pursuit of the Doctor of Education degree in Educational Leadership and Policy Studies. This fall begins my twenty-first year as an employee with Detroit Public Schools. I am currently the principal of Hutchins Pre K-8, the school I once attended.

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