



The effects upon the academic achievement of elementary school students transferred due to school closure

by Deborah Ann Jacobsen

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Education
Montana State University

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Abstract:

This study investigated the impact on the academic achievement of transferring elementary students due to closing public elementary schools of students in selected Montana schools. Due to declining enrollment and subsequent decrease in state education funding, several Montana school districts have either closed or are exploring the closure of schools. This study involved second, third and fourth grade students in Helena and Bozeman, Montana school districts. These two districts closed schools in the spring of 1998.

Data was gathered from student test scores in reading, language and mathematics on the Comprehensive Test of Basic Skills 4th and 5TM editions. In addition, student data at the three grade levels included gender, and academic aptitude as measured by the Test of Cognitive Skills. The sampling design of matched pairs was used to exercise some control over the extraneous variables of gender and aptitude. Data was analyzed using a two-way analysis of variance.

Statistical analysis indicated there was no statistically significant difference (at the .05 level) of the academic achievement between transferred students and non-transferred students in reading, language and mathematics sub-tests of the Comprehensive Test of Basic Skills. It was concluded that school closure did not have an impact on the academic achievement of selected Montana elementary students forced to change schools due to school closure.

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APPROVAL

of a thesis submitted by

Deborah Ann Jacobsen

This thesis has been read by each member of the graduate committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.

April 6, 2000
Date

Duane Melling
Dr. Duane Melling
Chairperson, Graduate Committee

Approved for the Major Department

April 10, 2000
Date

Gloria Gregg
Dr. Gloria Gregg
Department of Education

Approved for the College of Graduate Studies

4-13-00
Date

Bruce R. McLeod
Dr. Bruce McLeod
Dean, Graduate School

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Deborah A. Jacobsen

Date

April 5, 2000

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ABSTRACT

This study investigated the impact on the academic achievement of transferring elementary students due to closing public elementary schools of students in selected Montana schools. Due to declining enrollment and subsequent decrease in state education funding, several Montana school districts have either closed or are exploring the closure of schools. This study involved second, third and fourth grade students in Helena and Bozeman, Montana school districts. These two districts closed schools in the spring of 1998.

Data was gathered from student test scores in reading, language and mathematics on the Comprehensive Test of Basic Skills 4th and 5th editions. In addition, student data at the three grade levels included gender, and academic aptitude as measured by the Test of Cognitive Skills. The sampling design of matched pairs was used to exercise some control over the extraneous variables of gender and aptitude. Data was analyzed using a two-way analysis of variance.

Statistical analysis indicated there was no statistically significant difference (at the .05 level) of the academic achievement between transferred students and non-transferred students in reading, language and mathematics sub-tests of the Comprehensive Test of Basic Skills. It was concluded that school closure did not have an impact on the academic achievement of selected Montana elementary students forced to change schools due to school closure.

CHAPTER 1

INTRODUCTION

The 'boom' and the 'echo' have been felt across the nation, and have impacted many aspects of American life. The population burst at the end of World War II, called the baby boom, became a driving force behind rapid growth in many industries and institutions in the United States. Housing and communities were redefined with the building of Levittown on Long Island in New York, and industry and manufacturing scrambled to fill the needs of these growing families. Education too, was forced to grow and expand to accommodate the many new children entering the system. New schools were built and teachers hired to educate what was to become known as the 'baby boomers'.

These 'boomers' passed through our educational system, married and had their own families. These children of the 'boomers', sometimes called the 'echo', have also impacted the systems in our nation. This cycling through of generations has caused great fluctuations in the school enrollment over the decades since the war. When the 'boomers' began exiting the educational system, the first wave of declining enrollment issues surfaced. According to the U.S. Department of Education, National Center of Education Statistics, there was "...declining total enrollment in elementary and secondary schools during the 1970's and early 1980's (from 51.3 million in 1971 to 44.9 million in 1984)"

(National Center for Educational Statistics, 1999, p. 98). Then the 'echo' generation entered school and "total elementary and secondary school enrollment increased considerably during the late 1980's and 1990's, reaching an all-time high of 52.7 million in 1998" (National Center for Educational Statistics, 1999, p. 98).

Elementary and secondary school enrollment (in thousands), by control and grade level of school, with projections: Fall 1970-2008				
Year/Period	Public Schools			
	Grades	Grades	Grades	
	PreK-12	PreK-8	9-12	
1970	45,894	32,558	13,336	
1988	40,189	28,501	11,687	
1998	46,792	35,522	13,270	
	Projected ²			
2008	48,201	33,455	14,746	
	Percentage change			
1970-88	-12.4	-12.5	-12.4	
	Projected percentage change			
1988-98	16.4	17.6	13.5	
1998-2008	3.0	-0.2	11.1	
2Enrollment includes students in kindergarten through grade 12 and some nursery school students.		NOTE: Details may not add totals due to rounding. SOURCE: U.S. Department of Education, National Center for Education Statistics, Digest of Education Statistics 1998 (based on Common Core of Data) and Projections of Education Statistics to 2008, 1998.		
Public elementary and secondary school enrollment (in thousands), by region, with projections: Fall 1980-2008				
Fall of year	Northeast	Midwest	South	West
1980	8,215	10,698	14,134	7,831
1988	7,208	9,846	14,491	8,644
1990	7,282	9,944	14,807	9,184
1995	7,894	10,512	16,118	10,316
1998*	8,215	10,680	16,864	11,033
2008*	8,100	10,344	17,501	12,257
	Projected percentage change			
1988-98	14.0	8.5	16.4	27.6
1998-2008	-1.4	-3.1	3.8	11.1
*Projected enrollment. Enrollment includes students in kindergarten through grade 12 and some nursery students.		SOURCE: U.S. Department of Education, National Center for Education Statistics, Digest of Education Statistics 1998 (based on Common core of Data)		

Figure 1: Elementary and Secondary School Enrollment by Control and Grade Level of School, with Projections: Fall 1970-2008

Source: US Department of Education, 1999, p. 98

The cycling continues and some communities are again faced with enrollment issues as the children of boomers exit the educational system. Between 1998 and 2008, the U.S. Department of Education is projecting only 3% growth in PreK-12 enrollment, compared to a 16.4% increase from 1988 to 1998. In addition, at the elementary level (preK-8) enrollment is expected to decrease by .2% from 1998 to 2008. (National Center for Educational Statistics ,1999, p. 98).

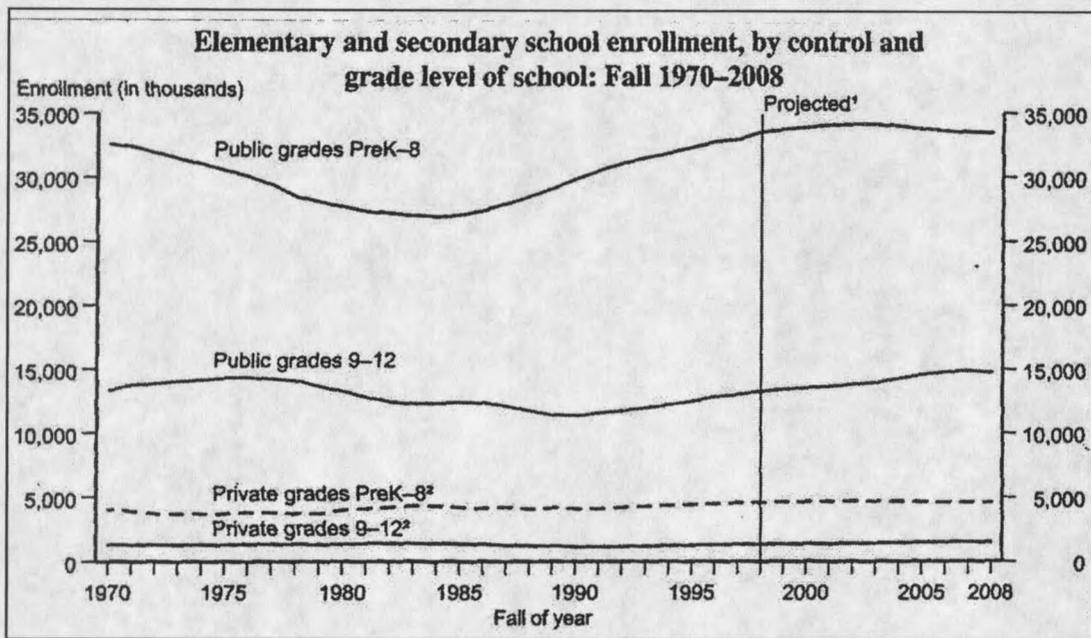


Figure 2: Elementary and Secondary School Enrollment
Source: US Department of Education, 1999, p. 99

David Foot, a professor of economics at the University of Toronto and a private consultant, addresses the concerns of school enrollment in Canada, which faces a similar cycling of populations. "The end of the millennium won't bring good news for 10 Toronto schools. They are slated to close by June, 2000, in the first phase of the new Toronto District School Board's three-year plan to

close as many as 30 schools" (Foot, 1999, p.1). He continues by addressing demographics as the cause.

Yet to hear education officials talk, be they from governments, school boards or teachers unions, you'd think the latest decline in the number of students had come out of nowhere. They seem strangely ignorant of the underlying, and entirely predictable, cause: demographics. Back in the 1950's and 60's we educated the baby boom. As the children made their way through the early grades, then high school, then college...we expanded each system to accommodate them. (Foot, 1999 p.2)

Coupled with the impact of enrollment fluctuations is the additional burden of facility deterioration. Many of the schools built to accommodate the 'boomers' are 50 years old now and evidencing expensive need for renovation, upgrade or demolition. Two years ago, the Washington D.C. school district was forced to make difficult decisions due to declining enrollment and facilities needs. Superintendent Becton, a retired military officer, recommended 16 schools be closed. His choices, based on facility integrity and need, evoked much dialogue within the community.

Mr. Becton argues that a school is just a building, and that instruction can be improved by moving innovative educational programs and good teachers to sounder structures...A few of the 16 schools targeted for closing are considered among the district's best. Lewis Elementary is one-third empty and needs a new roof, but its third graders had the best standardized test scores in the system last year. (Reinhard, 1997, p.2).

Public Education infrastructure has been the subject of congressional debate and presidential initiative. Too few children in run-down schools is a public concern.

In addition to declining enrollment and facilities, educators in the last half of this century also began to subscribe to the industrialists' concept of doing

business. School closures and consolidations were seen as more cost-effective and would render better service to taxpayers.

The logic for consolidating schools springs from an idea born in the late 19th century industrial era: "Economy of scales" is the idea that you can reduce your production cost by increasing the size of the facility. Since that era, school systems have based their organizational structures on the belief that education can contribute to an optimal social order using techniques adapted from industry. (Fanning, 1995, p.1)

The concept of economy of scales was adopted by school districts nation-wide, and contributed to a dramatic reduction in the number of school districts during this century. "In 1931-32 there were 127,531 school districts in the United States...in 1987-88 there were 15, 577 districts. The decades from 1940 to 1970 show the largest declines, most of which can be accounted for by the reorganization of small and rural school districts" (Lutz, 1990, p.2).

The combination of the factors of declining enrollment, facilities deterioration and economy of scales fueled school closures throughout the country. Districts were downsized or eliminated, buildings were closed and enrollments consolidated. This activity made the administration of public education more efficient and cost-effective, yet the question remained for many parents and educators – is this good for children?

Statement of the Problem

The problem of this study was to determine if there was a difference between the academic achievement of transferred students due to the closing of their elementary school and the academic achievement of students able to

remain in their home school. Included in this problem is the interaction between transfer status, socioeconomic status, and gender.

Need for the Study

During the last two decades, district administrators and local school boards have been faced with the difficult dilemma of exercising fiscal responsibility while maintaining small neighborhood schools without sacrificing educational quality. In response to this issue, many school districts across the country have chosen to close and consolidate schools in order to "run schools efficiently and meet national goals" (Fanning, 1995, p.1). The western region of the United States has faced this dilemma with the addition of increasing population. From 1988 to 1998, the western region of the United States had a 27.6% increase in public elementary and secondary school enrollment. From 1998 to 2008, school enrollment in the western region is projected to grow an additional 11.1%. (National Center for Educational Statistics, 1999, p. 98). Montana has not been immune to population fluctuation and consolidation issues. But, because of its western location and appeal, Montana's educational enrollment has been slowly growing along with its population. According to the U.S. Census Bureau, in 1890 Montana's population was 243,329, in 1950 – 591,024; in 1970 - 694,409 and in 1990 the population was 799,065. (Montana Department of Commerce, 1999). Public school enrollment increased also, and Montana schools were not directly impacted by the baby boom exit in the 70's.

In spite of the western states' trend of population growth and increasing school enrollment, Montana is now experiencing declining school enrollments. According to the statistician at the Montana Office of Public Instruction, "After climbing for more than five years, public school enrollment began to decline in 1996-97. The dropping enrollment is driven by falling enrollment in the early grades. The decline in elementary school enrollments began in 1994-95. High school enrollment has grown since 1990, but is projected to begin declining in 1999-2000" (Neilson, 1999, p. 8). The chart on page 8 shows the changes in enrollment in Montana public schools between 1988 and 1999.

As a result of the declining elementary enrollments in many areas of the state of Montana, and the resulting loss of state funding, several school districts have closed or are considering closing schools in the near future. In 1999, Missoula, Montana, School District voted to close three schools over the next three years, and this spring marked the closure of the first two. This closure sparked much community distress and a lawsuit. From the *Missoulian* Newspaper: "Roosevelt and Dickenson Schools are slated to close Friday (6-11-99) as K-5 school buildings." An attorney representing a community group "wrote that the decision to close the schools was 'arbitrary and capricious, not supported by substantial evidence and clearly erroneous and void' " (Jahrig 1999 p.1).

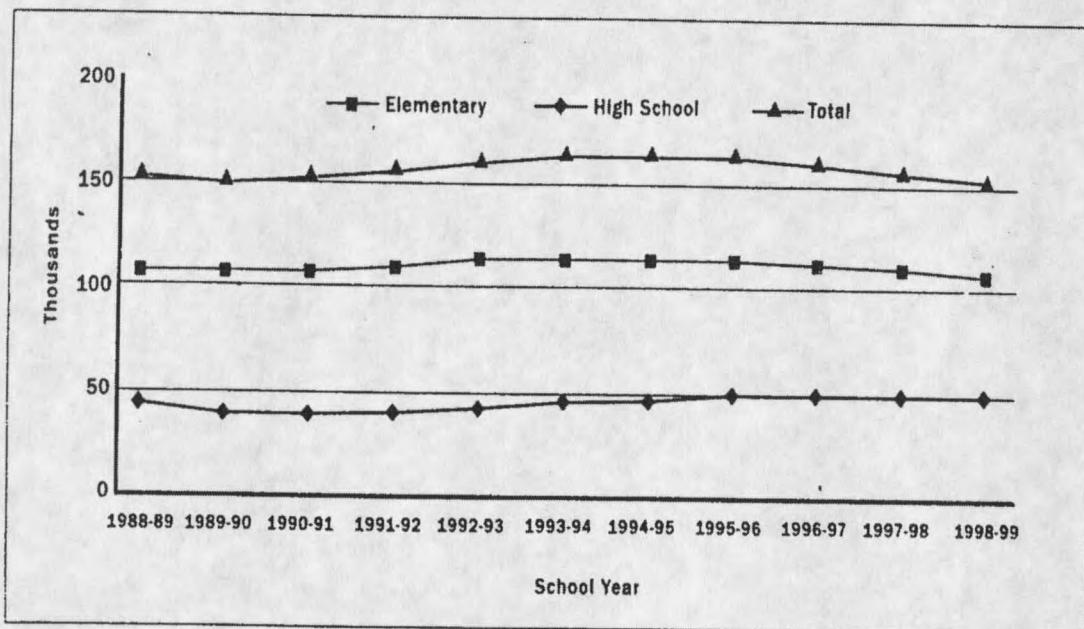
CHART A-1: Public School Enrollment Trends

Figure 3: Chart A-1: Public School Enrollment Trends

Source: Neilson, Montana Statewide Education Profile, 1999, p. 8

At the end of the 1998 school year, Bozeman, Montana, School District closed the Willson Elementary School, due also to enrollment and budgetary issues.

The Billings, Montana, School Board is considering the closure of Garfield Elementary School due to the age of the building and budget constraints. From the *Billings Gazette* : "A new plan to improve educational opportunities for South Side students involves closing Garfield Elementary and moving Garfield's students to an extensively remodeled Orchard Elementary" (Howard, 1999, p.1).

Brian Dunn, superintendent of Great Falls, Montana, Public Schools, indicated in October of 1999, that declining enrollment could cause the district to lose almost \$700,000 in state money. He indicated if "enrollments continue to drop as

projected, the community will have to at least discuss in two years the closing of one or two elementary schools..." (Johnson, 1999, p.1).

The Helena, Montana, Public School district has also been facing declining enrollment at the K-5 level since 1993. In 1999, the district had a K-5 enrollment of 3158 students, down from 3776 in 1993. This decrease of 628 students is approximately 17% of the student K-5 population. The charts on page 10 are graphic representations of the decline of Helena elementary student population since 1993. During the same time, the enrollment at the middle school level has been increasing, from 1831 students in 1993 to 2087 students in 1997. This increase of 256 students partially offset the decline in the K-5 schools, and allowed the district to make less drastic cutbacks until 1997. However, beginning in the 98-99 school year, the middle school population began experiencing the declining enrollment moving up from the elementary grades.

The Helena, Montana, Elementary District was forced to make very difficult decisions in order to maintain quality education within the constraints imposed by the decreasing state funding as a result of declining enrollment. In April of 1998, the Helena Board of Trustees voted to close the district's two smallest schools. Reporter Mark Goldstein wrote in the *Helena Independent Record*, that "...the two schools will shut down after the current school year as part of the district's budget cuts, which were spurred by a decrease in elementary enrollment" (Goldstein, 4/24/98, p.1). Lincoln Elementary School, with an enrollment of approximately 80, and Ray Bjork Elementary School, with an

