

A CASE STUDY OF THE FOUR-DAY SCHOOL WEEK:  
AN ALTERNATIVE SCHEDULE FOR PUBLIC SCHOOLS

by

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A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

Capella University

August 2008

UMI Number: 3320532

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## Abstract

With the pressures of global competition and the adoption of the No Child Left Behind Act, many school districts across the United States are experimenting with alternative school calendars in an attempt to raise student achievement. This poses a dilemma for many school districts as they face societal pressures to increase student achievement with limited funding to do so. In an effort to improve, some schools have adopted a four-day school week schedule in hopes of saving money while improving classroom instruction and raising student achievement. This study gives insight to the impact of the change to a four-day school week schedule on students, teachers, and parents in a particular community through an illustrative case study. Both quantitative and qualitative research methods were used to gather data. Analysis of the data revealed mixed results for the four-day school week schedule. The perceptions of the responding groups pointed toward a positive and overall beneficial impact of the four-day school week. The research provides opportunities for further study and observations. This study could have implications for other school districts with similar demographics.

## Acknowledgments

There are many individuals who have been instrumental in helping me work toward the completion of my dissertation and my Ph.D. program. No words can adequately express my appreciation and my love. It has been a long and difficult journey, and I will be forever grateful to all of you for believing in me and helping me realize this dream.

Special acknowledgement is due to my mentor and my committee chair, Dr. Barry Persky, for his professional and personal support, patience, and guidance. Thank you to my committee members Dr. Howard Jacobs and Dr. Roger Bordeaux for their constructive criticism and words of wisdom as I made my way through this important journey of learning.

I would also like to express my gratitude to all those who participated in this study. Their participation served as the basis for this research and without them, the study would not have been possible. Thank you to the selected school district for all the support that I received from the stakeholders, the administration, the school board, the staff, and the students and their parents. The people of the district opened their doors to me, making time for my questions, and welcoming me like family. I hope to honor them by sharing their wisdom with the outside world of education.

I would like to acknowledge the support and continuous encouragement provided by my friends and my colleagues. Without them, the completion of this project may never have been realized.

Capella University deserves acknowledgement for providing the doctoral program. They afforded an open door to opportunity, making it possible for me to return to graduate school and earn a doctoral degree from a rural area.

I want to thank my children Jack, Dirk, Diana, and Max for many years of support and encouragement as I completed this life-long goal. Thanks for your love and faith in me, for allowing me time, for your support, your patience, and for sharing the responsibilities of our home. Your unconditional love has given me the fortitude to persist. I am forever indebted for the confidence you have inspired in me. I'll spend the rest of my life returning the goodwill. I love you.

Thanks also to my mother, Diann, who is a model of resiliency. She fostered in me a tremendous work ethic and has given me the courage to accomplish great things with little or no sleep. Thanks for instilling in me the importance of a good education and for taking away any excuse to fail. I love you.

Mostly, I need to thank my best friend. He is my soul-mate and my husband, Rodney. Thank you for your unwavering faith, patience, understanding, love, and commitment to me over the years. You are my constant source of strength and hope. I am grateful that we share our children and our lives together, forever. I love you.

And finally, I thank God and will celebrate! "For ye shall go out with joy, and be led forth with peace: the mountains and the hills shall break forth before you into singing, and all the trees of the field shall clap hands." ~Isaiah 55: 12

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## CHAPTER 1. INTRODUCTION

### Introduction to the Problem

According to Chaika (2005), the United States offers students more years of formal education than many other industrialized nations. Although America educates more students, the length of its school year calendar is shorter than most of those nations, averaging about 180 days. The average school calendar for high achieving nations consists of approximately 210 days per school year with Japan leading the way, averaging 243 days per school calendar year. With the pressures of global competition and the adoption of the No Child Left Behind Act (NCLB) many American school districts are experimenting with alternative school calendars in an attempt to raise student achievement (National Education Commission on Time and Learning, 2005).

This poses a dilemma for many school districts as they face societal pressures to increase student achievement with limited funding to do so. Educational leaders believe that learning is important, not only because it leads to better jobs and creates national wealth, but because education advances social health and enriches human life (Cook, 2005). The following proposal outlines an illustrative case study of a small, rural school district located in the upper Midwest, consisting of three schools at one location, with a combined student body of 250 students. Student ethnicity is 88% Caucasian and 12% Native American; 24% of the student population qualifies for free or reduced lunches and 8% qualify for programs of special education. The district has three administrators: a K-5 elementary principal, a 6-12 secondary principal, and a K-12 superintendent. The

instructional staff is comprised of 28 certified staff members and 19 non-certified staff members, of which five are paraprofessionals. The average years of experience for certified instructional staff members is 18 years and 25% of them hold advanced degrees (S. Amiotte, personal communication, May 2, 2007). The school district's mission statement is "To empower all students to fully develop their potential to succeed in an ever-changing world," and their district-wide strategic goals offer a framework from which to devise an action plan to succeed in their mission. The district's goals are as follows: Goal 1 states the district will focus on improving student-teacher relationships, addressing in particular mutual respect and student motivation. Goal 2 states the number of students taking advanced math and science classes in high school will increase significantly. Goal 3 states that teachers will improve instructional strategies to promote increased student achievement.

Research suggests the quality of instructional time is a major influence in student achievement (Marzano, 2003). When combined with good teaching and effective school and student management, time has been determined to be a significant component of student achievement. When students spend more time actively engaged in learning activities that are designed for their appropriate level of difficulty, their achievement increases. At the district level, strategies such as classroom time organization and management, increasing the amount of time spent on academic subjects within those classrooms, protecting that instructional time from disruption, and adopting an alternative academic calendar can maximize the amount of time available for learning (Northeast and Island Regional Educational Laboratory, 1998).

According to Bennett (2005), the traditional school calendar is inconsistent with the needs of today's society. This is demonstrated by the demand for extended daycare, after-school programs, all-day kindergarten, student transportation, and increasing flexibility in family patterns. The traditional agrarian work schedules and school calendars built around them replicate the needs of the past. This being true, the greatest opposition to change is tradition (Cook, 2005).

In 2003, the above-mentioned school district experienced significant budget cuts. In order to offset challenges due to inflationary pressures, declining enrollment, and funding changes, the school board reduced their staff by two fulltime teaching positions. Then again in 2004, the district cut two more fulltime teaching positions, shortened two other teaching positions to 5/7 time, restructured to integrate grades 6 through 8 into the high school, and explored the possibility of closing the district's only country school. Out of concerns voiced by the community, discussion was generated about the possibility of the country school adopting a four-day school schedule for the 2004-2005 school year. In order to protect classroom instructional time, to avoid any more teacher layoffs or future program eliminations such as music and art, and to better meet the needs of this particular rural community, the administration proposed a schedule change for the 2005-2006 school year. The district's main reason for adopting the alternative schedule was not to save money, but rather to meet the needs of the rural stakeholders. Thus being stated, by extending the time spent in school for four days and closing on the fifth day, the district hoped to save approximately 20% on food service, transportation, non-certified staff payroll, substitute teacher pay, and utility costs while maintaining approximately the same amount of classroom instruction time. After one year of research and measuring the

successes and challenges of the country school as it implemented the four-day schedule, the District Board of Education decided to reduce the number of days from 175 to 147, by eliminating school on Fridays. The instructional time for the students remained about the same by increasing the length of the day from approximately 370 minutes to approximately 425 minutes (South Dakota School District).

Until now, the impact of the schedule change on the students, teachers, parents, and the community had not been fully investigated. The cost savings had not been substantiated or reported, and student achievement levels had not been compared. How the schedule change has impacted the district in terms of carrying out the mission statement has not been determined. Therefore, this study was conducted in order to examine the impact of altering the school calendar to a four-day school week on the stakeholders. Through research, a composite identifying the practices within the district highlighting the struggles the district faced and the ways in which they have adapted to work toward improvement has resulted. The purpose behind the study was to provide a source of information for school improvement, future planning for other districts contemplating the adoption of a four-day school week, and a focus for staff professional development in order to improve instruction and increase student achievement (Bennett, 2005). This report will add to the existing literature about schools supporting a four-day school week. The study provides the selected K-12 school district and other districts having like populations and similar characteristics, with important data which may be considered as they examine their own situation regarding teacher recruitment, student and staff retention, and strategic plans for improvement.

## Background of the Study

Prior to implementation of the four-day schedule, the school district investigated the philosophy behind the four-day school week for one year. They informally surveyed the students, but not the staff or the community. The initial survey was used as a baseline against which subsequent assessment data has been compared. The second survey was conducted in the spring of the first year of implementation in 2006. This time the students and parents were surveyed. The results were mostly positive; therefore the district forged forward. A third survey of students, parents, and community members was conducted at the end of the second year of implementation in 2007. The perceptions of those surveyed were used to assess the implementation process, the progress toward the school board's goals, the alignment to the school's mission statement, and the perceptions or views of the stakeholders.

Also prior to implementation in 2005, two community meetings were held. At the second, a high school principal from another district operating on a four-day school week presented their successes and challenges due to the adoption of the alternative calendar. Time was allotted for stakeholder questions and answers. Then the district sent a research team to visit other four-day schools. The team was made up of teachers, students, parents, community business leaders, board members, and school administrators. As a result, in the spring of 2005 an alternative school calendar was generated, adopted, and implementation of the four-day school week began during the fall of 2005.

According to the United States Census Bureau (2000), the small, progressive community where the district is located covers a total area of 2.1 miles and houses a total population of 818 people. The school district serves an additional population living

within its 1360 square mile boundaries. The district is made up of three schools: an elementary school, a middle school, and a high school. The district presently employs 50 certified and non-certified staff members who serve 250 students, ages five to 19 years. Although all the district has earned Distinguished District status by the No Child Left Behind legislation for making Adequate Yearly Progress (AYP) for two consecutive years in both reading and math, and decreasing the achievement gap for one or more subgroups by 10% over a two-year period, or having at least 80% of students in the "All Student" group meet the state's proficient and advanced levels of student performance in both reading and math (SD DOE, 2006), no comprehensive studies of how students attending other schools on four-day school week schedules achieve academically compared with their five-day peers are available to draw on. Administrators' anecdotal evidence suggests the four-day students usually do as well, and sometimes better than the five-day students (Kenworthy, 2004).

### Statement of the Problem

It is known that the United States has transitioned from an industrial era to an information age and from a domestic to a global economy. In light of the rising global competition, there is a pervasive call for higher levels of student achievement. As a result, school districts are challenged to make dramatic changes in the way they operate. School districts must meet the needs of their students, communities, and industries while facing the rising cost of education, due primarily to inflation, salaries, fuels, equipment, and supplies (Waters & Cameron, 2007). With the adoption of the No Child Left Behind Act in 2001, public schools are held accountable for all students' achievement. Efficient



administrators and school boards must be innovative in order to reduce costs of operation while increasing educational opportunities for their students. The four-day school week concept is one innovative alternative schedule that has been adopted by some school districts across the nation to address budget limitations, to increase student achievement, to provide time for teacher collaboration and professional development, and to meet the needs of some rural communities (Wilmoth, 1995).

One particular rural school district adopted and implemented a four-day school week schedule in order to meet the needs of its community, but had not completed a comprehensive evaluation to determine the effectiveness of its alternative schedule. There were no long-term studies of schools operating on a four-day school week to review before the district chose adoption and began implementation. In addition, professional development for the staff was limited and no mentor program support was provided. Although the non-traditional four-day school week calendar was adopted in order to save money, to improve the educational environment, to meet the intended district goals, and to satisfy the needs of the community, the district did not develop an evaluation or an assessment tool to check its progress. Rather, the administration sent out a survey to the students, teachers, and parents. The comments returned were mostly positive, therefore no further decisions were made. The Four-Day School Week Project was not evaluated for continuation or rejection; it was just sustained due to the positive support of the stakeholders.

The following research addresses the efficiency of the four-day school week program in relation to the cost of operation, effectiveness of instructional strategies, student achievement levels, and the overall impact on a particular community at large.

While the primary emphasis was on a qualitative study concerning the four-day school week schedule, some quantitative analysis was conducted to develop a profile of student, staff, and community data that was representative of stakeholders to give a longitudinal overview.

### Purpose of the Study

The purpose of this study was to examine and document a Four-Day School Week Project which has evolved as a district's response to decreasing enrollment, financial constraints, and an individual rural community's needs. This study examined multiple components of the Four-Day School Week Project in order to provide information regarding developmentally appropriate classroom practices, staff and professional development, increased student achievement, and the impact on the community (Nissani, 1993). The resulting data is intended to provide a research base of principle issues as they relate to the district and the four-day school week concept. This information can also be used as a tool from which the administration and staff can generate a better understanding in order to bring about program improvement and maintenance. The study was initiated in order to answer the questions and concerns listed, by collecting and analyzing data, creating a comprehensive report, and providing documentation from which decisions can be made on the journey to improve instruction and raise student achievement while maintaining financial responsibility.

## Rationale

The goal of this study is to provide a careful, detailed analysis of some of the measurable effects that might be related to a four-day school week schedule in one mid-western school district and to contribute to the body of existing knowledge in regard to four-day school week scheduling. A comprehensive study of how an individual district has implemented a four-day school week is explained. Specific advantages and disadvantages are reviewed for practical application by school administrators, school board members or district advisory teams from similar districts having similar demographics, who might be contemplating implementing this alternative school concept.

The research information obtained from this study is intended to enable other school districts to explore the innovative concept of the four-day school week as an option for better managing a school district. This study gathers information for the benefit of school districts and administrators who might want to consider a four-day school week program in the future. Procedures of implementation are included. In completing the study observations were made, surveys were distributed, conversations will took place, interviews were conducted, wisdom was shared, and much was learned. As the data was collected, the focus sometimes shifted from the direction of the proposed questions to other additional questions that arose as the participants' perceptions and concerns influenced the course of this study. The ultimate goal resulting from this study was to conclude with a final report documenting the model of a program that can be followed by other districts investigating alternative school calendars in order to save money and programs, to meet the needs of the communities they serve while maintaining or

increasing student achievement. The research findings are directly relevant to the organization in which the study occurred (Bennett, 2005).

### Research Questions and Hypotheses

Some four-day school week projects have been effective, producing positive results while others were contrary and eventually abandoned (Maynard, 2003). In order to promote district success the following research questions were used to guide this illustrative case study.

1. What impact has changing from a five-day school week to a four-day school week had on the students, the staff, and the community?
2. Has shortening the school week to four days helped the district experience a significant savings in operational costs?
3. Are the district's results sufficient enough to warrant stakeholder support to continue the four-day schedule change?
4. How have teachers changed their instructional practices as a result of the longer class periods?

The four null and alternative hypotheses of this study directly address the research questions presented above:

$H_{0,1}$ : There is not a significant difference in the impact of changing from a five-day school week to a four-day school week on the students, the staff, and the community.

H<sub>A, 1</sub>: There is a significant difference in the impact of changing from a five-day school week to a four-day school week on the students, the staff, and the community.

H<sub>0, 2</sub>: There is not a significant difference in savings in operational costs from the shortening of the school week to four days.

H<sub>A, 2</sub>: There is a significant difference in savings in operational costs from the shortening of the school week to four days.

H<sub>0, 3</sub>: The district's results are not sufficient enough to warrant stakeholder support to continue the four-day schedule change.

H<sub>A, 3</sub>: The district's results are sufficient enough to warrant stakeholder support to continue the four-day schedule change.

H<sub>0, 4</sub>: There is not a significant change in teachers' institutional practices as a result of longer class periods.

H<sub>A, 4</sub>: There is a significant change in teachers' institutional practices as a result of longer class periods.

### Significance of the Study

This illustrative case study provides documentation that can be used to promote a better understanding of the Four-Day School Week Project. The results may be used to provide information for current and incoming school administration and staff, to bring about program improvement, and to create community awareness for the four-day school week project (Cantoni, 1997). Resulting from the study is a comprehensive report that is descriptive; it provides useful data for similar schools that are considering implementing

a four-day school week schedule in order to save money and programs, meet the needs of their community, and maintain academic integrity (Loeb and Montone, 2003).

Although it is impossible to design an infallible plan to follow when developing a four-day school week project, this illustrative case study has set a precedent for further, needed research in the area of four-day school week scheduling successes and challenges. Additional research and executed studies in other areas with greater populations, located in different geographical areas, and with other districts at different stages of alternative calendar implementation will provide a more general research base regarding classroom instruction, implementation procedures, and student achievement levels (Meza-Zaragosa, and Montague, 1999). The project information and concluding report can be used to expand the four-day school week project beyond this district to other demographically similar districts.

#### Definition of Terms

The following terms are defined in order to provide a consistent interpretation to use throughout the study and documentation of findings.

*Alternative Calendar.* In today's climate of renewed emphasis on educational change, educators are continually looking for ways to improve school climate, increase teacher job satisfaction, make the most of school facilities, and enhance student learning. Many schools are finding that modifying, or even abandoning traditional methods of scheduling can help them as they work to achieve these things and make education the best it can be for all students. Block scheduling, four-day school weeks, and year-round education are alternative scheduling methods that generate intense interest in schools

around the nation. More and more schools that choose to adopt an alternative schedule are finding numerous advantages associated with the change (Fager, 1997, p. 2).

*Four-Day School Week.* The four-day school week is a response to a reduction in funds. A school increases the hours that a school is in session for four days of the week so that the school can be closed one day. It is expected that this closure will result in decreased overall expenses. It is usually small rural schools or school districts that choose this schedule. These districts are usually characterized by small populations and large geographical areas (NREL, 1997, p. 1).

*Instructional Time.* Each local school board shall set the number of days in a school term, the length of a school day, and the number of school days in a school week. The local school board or governing body shall establish the number of hours in the school term for kindergarten programs. The Board of Education shall promulgate rules pursuant to chapter 1-26 setting the minimum number of hours in the school term for grades one through three at 875 hours, exclusive of intermissions. The number of hours in the school term for grades four through twelve may not be less than 962.5, exclusive of intermissions. An intermission is the time when pupils are at recess or at lunch (South Dakota Department of Education, 2006).

*No Child Left Behind (NCLB).* The No Child Left Behind Act of 2001 is a United States federal law that reauthorizes a number of federal programs that aim to improve the performance of America's primary and secondary schools by increasing the standards of accountability for states, school districts, and schools, as well as providing parents more flexibility in choosing which schools their children will attend (US Department of Education, 2006).

*Proficiency.* Each state established a timeline for adequate yearly progress. The timelines ensured that no later than 12 years after the end of the 2001-2002 school year all students will meet or exceed the state's proficiency level of academic achievements on state assessments. This level represents solid academic performance (US Department of Education, 2006).

*Stakeholders.* A stakeholder is any person, group, or entity with an interest in or concerns about the Four-Day School Week Project (Scher, 2003).

### Assumptions

This study was conducted in a K-12 school district located in the upper Midwestern section of the United States. At the time of the study, there were only a limited number of schools that were following the four-day school week philosophy for teaching and learning. Although the data collected from this site might lend assistance to other schools with like populations experiencing similar circumstances, it cannot be generalized to the other schools as a guaranteed results-producing strategy for saving money and programs, without jeopardizing students' academic success.

The following assumptions were present in this study:

1. It was assumed that the students, teachers, parents, and community members provided accurate and objective responses while completing surveys.
2. It was assumed that teachers provided accurate and objective responses during the interview process.
3. It was assumed that activities observed in the classrooms were typical.
4. It was assumed that all stakeholders wishing to participate were able to.



## Limitations

The study was limited to the accuracy of the information gained through surveys, interviews, data collection, and field notes. The results of this study were limited by reliability and validity factors. In order to reduce concerns in these areas, multiple informational sources were used and verified, along with many hours of classroom observation and researcher participation. Other limitations within this study were typical to the case study methodology and might include the fact that the population studied was small, making generalization to a larger population difficult. The subjects being interviewed might not have answered questions openly or honestly. The researcher was employed by the district in a supervisory position, and the study was limited to one K-12 school district, consisting of three schools located in the same community in the upper Midwest.

The person conducting the research was not a natural born community member; rather she moved into the area from a considerable distance and was not well known. Therefore she might not have been trusted within the community. On a positive note, this may have helped to limit researcher bias. In order to overcome this concern, the researcher worked directly with the veteran teachers, administrators, and community members. The illustrative case study will began during the fall of 2007.

The following limitations were present in this study:

1. The results of this study do not evidence changes in the types of instructional strategies used prior to and after four-day schedule implementation.
2. The scope of the project is severely limited by the geographic location of the school system and the absence of other four-day programs.

3. The results of this study may not be generalized to other populations and other communities, states, or regions of the United States.

### Nature of the Study

In order to document project information and researcher findings, both quantitative and qualitative case study research methods were implemented. The data collected has provided a research base from which program decisions may be made, and policies and procedures can be adopted and implemented. The findings were analyzed and recorded in an informational format rather than evaluative, but may be used by the stakeholders for evaluative purposes in the future.

Qualitative research is a comprehensive research strategy that allows for the holistic and meaningful characterization of a phenomenon with its natural context and setting (Mehra, 2002). It was conducted as a result of researcher background, education, interest level, and commitment to the project. The illustrative case study method was chosen in order to obtain detailed information about a particular district. The Four-Day School Week Project was analyzed and described using documentation of interviews, events, quotes, samples, surveys, classroom observations, and other anecdotal evidence (Bennett, 2005)

Classroom observations in all three schools were conducted and data was collected. The notes taken during and after the observations include annotations of the classroom setting, descriptions of the instructional strategies and student activities, interactions between teachers and students, interactions between teachers and parents, and interactions among students (Takahashi-Breines, 2002). Teachers were interviewed;

stakeholders were surveyed; the district's NCLB Report Card (attendance and graduation rates, and achieved AYP for math and reading), Criterion Referenced Test (CRT) data, and other standardized test results were examined. Other district reports and school board meeting minutes were studied, and time was spent with the district's business manager reviewing financial records. In the future, this report might be used to make decisions to improve curriculum, to change teaching practices, or to make other administrative decisions.

According to the Policy/Data Analyst from the South Dakota Department of Education, 16 schools in the area of the illustrative case study have adopted a four-day school week in order to save district money, safeguard programs, enhance student achievement, and/or to protect instructional time (S. Brenner, personal communication, August 1, 2006). One of those districts is the Custer School District in Custer, South Dakota. They adopted a four-day school week in 1995 to save money and protect instructional time by segregating academics and other student activities. They planned to protect their instructional time by scheduling most athletic events on Thursday nights, Fridays, and Saturdays. They occasionally use Tuesday nights for home games and Monday nights are used to schedule band and choir concerts. The drama club productions are only scheduled on the weekends. The Custer School District planned to save district funds by extending the school day on four days and to discontinue scheduling classes on the fifth school day (Custer's 4-Day Week, 2006).

Resulting from the modified calendar, the Custer School District reported an extracurricular participation increase of 24%, in addition to saving 15% of their transportation budget. They also realized additional benefits to the district such as a 3%

increase in attendance, a slight rise in Student Achievement Tests (SAT) and American College Test (ACT) scores, better student and staff morale, fewer discipline incidents, and the bulk of the teachers felt that the longer class periods provided them adequate time to cover 20% more material (CFDW, 2006). Based on these and similar results from the other area schools, the alternative schedule committee recommended the studied district, adopt a four-day school week and begin implementation in the fall of 2005 (E. Wegner, personal communication, August 17, 2005). Now in 2008, the district has operated for three school years on the four-day school week calendar. In order to better understand the phenomenon and its impact on the community, an illustrative case study has been conducted. In addition to the quantitative data produced, the qualitative aspects of the study can provide the district with a holistic view of the situation utilizing multiple sources of information. The person who conducted the research is the secondary principal in the district being studied. The results of this study might also be used to improve the ability of the scholar-practitioner to become a more effective leader, informed decision-maker, and agent of positive change.

### Organization of the Remainder of the Study

Chapter 1 of this study is the introduction to the illustrative case study of a Four-Day School Week Project, as well as a brief overview of the importance of this study for the district, for the surrounding community, and most importantly for the teachers, parents, and students.

Chapter 2 is a review of current literature relating to the issues concerning alternative school calendars, specifically the four-day school week schedule

implementations and results. This literature review provides a resource of information for stakeholders and those from other districts to use as a framework for future decision-making regarding changes to their school calendar.

Chapter 3 addresses the procedures that were used for conducting the research. A qualitative inquiry into educational practices within a specific district has been conducted using an illustrative case study approach. Vast amounts of data were collected through classroom observations, note taking, report reviews, prior surveys, current surveys, and interviews. Some quantitative data was also collected. This included student tardy numbers, attendance and graduation rates, NCLB Report Card data, ACT, PLAN, PSAT, D STEP, and writing assessment scores as well as the total numbers of students who participated in extracurricular activities.

Chapter 4 presents the findings of the interviews, surveys, observations, assessments, and district reports. The data was utilized to answer the research questions which directed the study. Chapter 4 is divided into four sections describing the results of the research, the analysis of the data, results of the study, and a conclusion.

Chapter 5 concludes the report. It begins with a summary of the purpose of study and this is followed by a summary of the findings and a discussion of the results, recommendations for practice and future research, and implications for general practice.

## CHAPTER 2. LITERATURE REVIEW

### Introduction

The review of literature in chapter 2 provides background information regarding the traditional American school calendar and current research in relation to alternative school calendars such as year-round school, block scheduling, and in particular the four-day school week. Some schools implement four-day school week schedules in order to cut costs without jeopardizing student learning. Over ninety written works and alternative school scheduling studies were read and reviewed. The issues focusing on year-round scheduling, block scheduling, and the four-day school week schedule were examined along with possible benefits and potential problems resulting from their implementation. This chapter is divided into eight sections including an introduction to the review, the history of traditional school calendar, alternative school calendars including year-round, block, and four-day schedule, the implementation a four-day school week schedule, benefits and concerns of the four-day school week, recent studies, and a summary of the literature and research reviewed.

### Traditional School Calendars

America was founded on the belief that all men are created equal; a belief that still influences public school education today. The traditional school educational model was developed for an agrarian society in which most parents were farmers and landowners and therefore, needed their children to work on their family farms and in their

family businesses (Vejnar, 2002). Therefore, traditional school calendars were built around the economic needs of the people they served, rather than their individual educational needs. In the past, school schedules were typically designed so students could attend school during slow agricultural times and stay home during demanding agricultural times (NECTL, 2005). These traditional schedules have remained constant despite the fact that farmers and ranchers currently represent less than 3% of the American workforce (National Grange, 2007).

According to Vejnar (2002) traditional schools schedules were developed around several assumptions. The first assumption was that all students arrived at school on time, ready to learn, by the same means of transportation, and on the same schedule. The second assumption was that academic time can be interrupted, unprotected, and sacrificed for nonacademic activities with no consequence to the students' learning. The third was that the school calendars established for the agrarian society to function appropriately for the students of today, even though society and families have experienced significant changes. The fourth assumption was that classrooms could be transformed without providing teachers the appropriate professional development necessary to facilitate dictated change. And finally, it was reasonable to expect increased student achievement within a school that is constrained by a calendar which has basically remained constant in a society that has not (NECTL, 2005).

The National Education Commission on Time and Learning (2005) documents that for the past 150 years, public schools have basically remained stable in accordance to time and scheduling even though society, family structures, and students' learning has greatly diversified. Currently, many American schools are still controlled by the

dynamics of the clock and the calendar rather than the needs of the students. Typically, American schools open and close at preset times in the morning and early afternoon. The average school year runs from late summer to late spring, remaining in session for about nine months or approximately 180 days. Most schools operate on a six period day, each period lasting just over fifty minutes, resulting in about 5 ½ hours of classroom instruction for all students (NECTL, 2005). In the past, family time governed the school schedule and even now with the dramatic changes in society and the make up of the family structure, the traditional school schedule still governs how families organize their lives (Vejnar, 2002).

While American schools provide many students with more formal years of education than do many other nations, our average 180-day school year is shorter than other high achieving nations. The higher achieving nations' average school year comprises anywhere from 200 to 220 days per year. Japan's average school year has 243 days, and in Chinese students spend 30% more time in school than do average American students. Even though the United States lags behind other industrialized nations and many developing nations in instructional hours per week and total learning hours per year, more U.S. schools are adopting shorter alternative school calendars (Pennington, 2006).

Schools need to be innovative much like other industries. A recent trend in industry has been to look to four-day workweeks or other nontraditional schedules to reduce costs, reduce employee absenteeism, and to build morale. Much like other businesses schools of the future must meet the needs of their students, communities, and even their industries. District operational costs rise yearly due to inflation, salaries, fuels,



equipment, and supplies. Resourceful administrators need to be aware of innovation to reduce costs of operation while increasing the educational opportunities for their students (Wilmoth, 1995).

Fager (1997) suggested that many districts are changing or completely abandoning the traditional methods of school scheduling in an effort to raise student achievement, improve the school culture, increase employment satisfaction for teachers and paraprofessionals, and to most efficiently utilize the schools' facilities. Some of the most successful options for school calendar models include year-round schools, block scheduling, and the four-day school week.

### Alternative School Calendars

Year-round scheduling, block scheduling, and four-day scheduling all have both positive and negative attributes. Even though the research does not support significant increases in student achievement for any of the alternative schedule choices, more districts are turning to alternative calendar scheduling in hopes of cutting costs, while improving instruction, and increasing achievement (Carpenter, 2004).

#### *Year-Round School*

Year-round schools choose this alternative calendar option in order to hold classes on a year-round schedule with shorter breaks planned throughout the year rather than scheduling long holiday and summer vacations. About two million students in 37 states across the nation attend schools operating on a year-round schedule. Seven percent of traditional public schools and 12% of charter schools throughout the United States operate on year-round schedules (Silva, 2007). Their students attend school

approximately the same number of days as those students attending schools operating on a more traditional calendar scheduling about 180 days, but they schedule several short breaks scheduled throughout the year rather than one extended break during the summer (Chaika, 2005).

Often schools adopt a year-round schedule due to significant increases in school enrollment. In an effort to avoid overcrowding without having to experience the cost of adding on to an existing facilities or building separate new buildings, some schools have adopted a year-round school calendar and a staggered school schedule. Other schools choose year-round schedules in order to reduce the gaps in students' learning that might occur over long Christmas or winter breaks and summer vacation breaks (Silva, 2007). There are two models of year-round school schedules: single-track and multi-track scheduling. The first, a single-track schedule, is chosen to provide a more balanced educational opportunity for all students. This model eliminates long vacations and includes voluntary intercessions for all students during the shorter breaks or vacations. Students choose to attend the intercessions in order to catch up or advance in their coursework. There are several variations to the single-track year-round calendar. The 45/15 model divides the school year into four equal quarters with a fifteen day vacation between each quarter. The 60/20 model divides the school year into three equal sections with a 20 day vacation between each section, and the 90/30 model in which students attend three months of school and then have one month off. Several districts have developed individual year-round schedule models to meet a specific school's needs (Fager, 1997).

The second, a multi-track schedule also provides students with a more balanced educational opportunity by eliminating long summer and winter breaks and also alleviates overcrowding by staggering students' schedules and housing more students in the available space, thus saving districts money in any additional construction costs (Miller-Hale, 2007). One of the noted challenges of the multi-track schedule is that schedules for students in different grades and age levels may not line up, causing schedule, vacation, and daycare challenges for families with multiple children in differing grade levels. Multi-track scheduling is also very complex for school administrators. In order to provide equal services for all schedules administrators may need to repeat school functions such as parent-teacher conferences, faculty meetings, and open house events in order to make them available to all students and parents (Fager, 1997).

The ability of the year-round school schedules to accommodate increased numbers of students without districts having to finance new construction projects is appealing to both school administrators and local taxpayers. According to Silva (2007) this is the main reason for the year-round school popularity in America. Over the past 15 years the United States has experienced a 544% increase in the number of public and charter schools that have adopted year-round scheduling as an education model. Fager (1997) reported that districts choosing a year-round schedule may avoid new construction, however they may face initial set up costs due to necessary renovations such as providing air conditioning for schools that were traditionally closed during the hot summer months. Schools might also need to construct extra storage space for teachers sharing classrooms.

Year-round schools offer students a continuous cycle of learning and a reduced need for review, additional short vacations, and voluntary enrichment intercessions for both enrichment and remediation. Year-round schedules also provide opportunities for on-going professional development for staff members as well as construction cost savings for school districts (Miller-Hale, 2007). According to Faulstich-Orellana & Thorne, (1988) year-round school schedules provide students an opportunity to attend 30 additional days of school if they choose to take intercession classes. They also suggest that changing to a year-round schedule results in the students being more enthusiastic and motivated about school in general. Improved student attitudes toward schools, teachers, and learning may lead to a drop in absenteeism, office behavioral referrals, vandalism, and juvenile delinquency.

Attending a year-round school can have a positive effect on both student and faculty morale and on school usage. The most current research shows that student achievement is not significantly impacted, except in cases of disadvantaged students. Students from less advantaged communities who attended schools operating on year-round schedules may experience an increase in their academic achievement (Faulstich-Orellana & Thorne, 1998). The teachers benefit because they experience less career burnout and/or fatigue, they are absent less frequently from school, they spend less time reviewing, and they have the opportunity to earn extra income by teaching during the intercessions (Fager,1997).

### *Block Scheduling*

Block scheduling is an alternative schedule concept that offers fewer classes during the school day than does the more traditional seven or eight period schedule.

Blocked classes are longer in length, usually lasting 80 to 100 minutes (Fager, 1997). Many schools across the United States are adopting block schedules to increase the amount of instructional time for all content areas in order to provide students a longer opportunity for more focused lessons and engaged learning. Typically, subjects are alternated by day or semester in order to lengthen the instructional time of all core academic subjects. The goal of block scheduling is to focus on the desired outcomes of increased teacher effectiveness and improved student achievement (Silva, 2007).

The longer blocks of instructional time have been shown to increase students' learning and achievement especially for lower-performing students. However, the success of block scheduling depends on how well the additional instructional time is used. Over the past 20 years, the research on block scheduling supports the importance of providing adequate professional development for teachers on effective instructional strategies for longer class periods, prior to implementing block scheduling (Silva, 2007).

Block scheduling, which is comparatively inexpensive to implement, offers schools an opportunity to redefine the way teachers teach and students learn without greatly affecting the community. School administrators can build a block schedule that meets the individual needs of the community of students they serve as there are many ways to arrange a block schedule. Intensive block scheduling allows students to complete two core classes every 60 days and three year-long elective classes. The 4X4 block schedule allows students to attend four, 85 to 100 minute classes per day. Following this type of block schedule, students are able to complete all four classes in one semester rather than in two semesters when following a more traditional schedule. The alternating block or the A/B block schedule alternates a 4X4 block schedule every two days.

Students attend eight blocks of classes alternating every other day. The modified block provides a flexible block schedule. Schools might have students attend classes based on a 4X4 block on Monday through Thursday, and a regular seven or eight period schedule on Friday. They might have two blocked classes each day in combination with three regular period classes. The parallel block is used predominantly in elementary schools, while the other block schedules are primarily used in middle schools and high schools. In order to implement a parallel block schedule each class of students is divided into two groups. One group of students stays with the teacher for a block of academic instructions while the other group attends exploratory classes such as physical education, art, music, health, or computers. After each block of instructional time, the two groups of students switch. This schedule provides all students with more individual learning time (Fager, 1997).

Some of the benefits of block scheduling include fewer distractions for students because they only transition between classes two or three times per day, rather than seven or eight as in a more traditional schedule. Students are exposed to a variety of instructional strategies, which provides them with more opportunities for reinforcement which predictably leads to better comprehension. Some students experience improved grades and test scores, have better attendance rates, and fewer “tardies” to class. In the 4X4 block schedule students have fewer classes to prepare for on a daily basis. In the A/B block schedule there is more time to prepare for classes between class meetings. The longer lunch blocks allow for student organizational meetings or other activities usually scheduled after school, leaving that time free for after school help or athletic practices. Some students are able to schedule more core classes in math, language arts, and science than is possible on a traditional schedule (Stoyco-Deuel, 1999).

Teachers encounter fewer students per day, teach fewer classes, and have longer preparation times. This results in less stress and allows for the development of closer student and teacher relationships due to the longer class periods in block schedules. The changes in scheduling result in teachers moving away from the more traditional lecture mode toward the use of a wide variety of instructional strategies. The longer planning periods and lunch periods expand opportunities for teachers to prepare activities for their classes (Fager, 1997).

As block scheduling is a relatively new concept to education, much of the student achievement data is fundamentally anecdotal. One of the concerns noted by block scheduling critics is that advanced placement classes may not be effectively integrated into the block schedule. They also suggest that student success rates are higher if they meet on a daily basis throughout the year, rather than every other day or for only one semester. Administrators from schools implementing block schedules stress the importance of professional development to prepare teachers for the extended class periods prior to implementation (Fager, 1997).

Some teachers and parents are concerned that block scheduling may result in a tapered curriculum due to longer reading and math blocks, reducing time for social sciences and the arts, along with the reduction or elimination of recess and physical education. Schools operating on a block schedule are trying to modify the block to increase reading and math classes without sacrificing other subjects and enrichment classes (Silva, 2007).

According to Childers and Ireland (2005) block scheduling makes the classes that meet on a daily basis more difficult for students to take. Both the curriculum and the

teaching methods need to be revised in order to align with the alternative schedule format while still meeting the needs of the students. Teachers need to employ a variety of instructional strategies to enhance student performance for those at risk, as well as those who are highly motivated. An additional concern lies in district attendance policies due to the volume of material missed when students are absent from a single class period. New policies mandating and motivating students to make up any missed work are necessary to ensure student success. Altering daily school schedules also necessitates the changing of the curriculum, policy alignment, and professional development to adequately prepare for block schedule implementation (Gruber & Onwuegbuzie, 2001). In addition, school districts may need to hire additional teachers in order to successfully implement the block or modified block schedule. The schedule provides an opportunity for students to take additional elective classes. Additional staff may be needed to teach those classes in order to provide classroom opportunities and to prevent students from spending time in more study halls (Lybbert, 1998).

#### *Four-Day School Week*

As a result of the Arab Oil Embargo of the 1970s and the deregulation of natural gas, many businesses across the nation including public school districts searched for energy saving alternatives. In an attempt to preserve energy, the United States Department of Energy developed an emergency conservation plan. The Emergency Conservation Act of 1979 granted the president power to enforce stringent federal and state conservation plans. One of the initiatives key factors was a non-compulsory four-day work week for industry and public schools. The goals included alleviating



overcrowding, improving staff instruction through in-service and conserving energy in order to reduce overall costs (Jess, 1997).

The four-day week has been studied by industry analysts, and according to Nichols (2005), the concept may also help to improve and strengthen the American family as well as increasing the productivity of the nation's workforce. Many industries considered the four-day week because of the projected increase in production efficiency, flexibility, employee morale, and reduction in staff absenteeism.

The four-day school week as an alternative to the traditional school calendar model has been researched, adopted, and implemented in over 120 schools districts across the nation as a result of the economic needs of the districts involved (Delisio, 2005). Miller-Hale (2007) reported that several hundred schools throughout the United States and Canada have studied and implemented a four-day school week program. Although most schools currently operating on a four-day school week adopted the alternative schedule in order to save money, many are discovering unexpected educational benefits as a result (Fager, 1997). Currently, 46 states have schools that have adopted some sort of modified school calendar, enrolling about 5% of all school aged children in grades kindergarten through grade 12 (Pennington, 2006).

Over 30 years ago several states such as: Colorado, New Mexico, and South Dakota adopted four-day school week schedule in some of their rural schools in order to combat rising energy costs in the 1970s (Campbell, 2006). Since then, many other states have considered the four-day school week schedule as an alternative to cutting programs, limiting services, reducing staff, or school consolidations due to major budget cuts and declining enrollment. The four-day school week involves extending the time spent in

school for four days and then canceling school on the fifth day. In theory, it gives schools the opportunity to preserve the programs and services they have, while saving money, and still maintaining a high quality education (Carpenter, 2004). Although many schools have considered the four-day school week due to budgetary pressures, others have consider alternative instructional schedules in order to improve learning and remaining in compliance of the No Child Left Behind (NCLB) legislation (Fager, 1997). NCLB calls for schools to educate all students to higher standards. The ultimate goal of NCLB is for all students to reach proficiency on their state's learning assessment by the year 2014. Many of the schools in the United States are succeeding and are raising student achievement by finding ways to expand their learning hours and lengthening their schools days or their school year, rather than reducing them (Pennington, 2006).

The National School Board Association reports, eleven states currently have schools within their districts operating on a four-day school week. These states are Arkansas, Arizona, California, Colorado, Kansas, Louisiana, New Mexico, Oregon, South Dakota, Wisconsin and Wyoming. Wyoming most recently adopted a policy allowing for alternative school calendars such as a four-day week. Due to holidays and professional development days, many districts operating under the traditional five-day schedule already take an average of 18 Fridays off each year (Miller-Hale, 2007).

In order for these states to implement four-day school week schedules, they had to change their laws to express minimum annual requirements in hours rather than in days. These mandatory hourly requirements can be accomplished by lengthening four of the school days and closing on the fifth day of school (Reid, 2002).

The discretionary power of state officers for granting waiver approval from state statutes or state board regulations varies significantly from state to state. During the 1990-1991 school year there were no school districts able to institute a four-day school week schedule without first gaining approval from their state education governing body (Wilmoth, 1995).

In South Dakota the decision to implement a four-day school week calendar was made by the local school district, not by the State Department of Education. Of course, the district needs to meet the required number of hours mandated by the South Dakota Codified Law, 13-26-1 (2006). Currently the South Dakota Department of Education requires schools to provide at least 962.5 hours of instructional time to students in grades four through twelve and 875 hours of instructional time for students in grades one through grade three, excluding intermissions such as the time when students are at recess, are eating lunch, or are in transition between classes or activities (SD Dept. of Education, 2006).

The earliest report of a four-day school week schedule in South Dakota was in Madison during the 1931-1932 school year. The required classes and core subjects were scheduled during the first four days of the week. All extracurricular activities were scheduled on the fifth day as an option for students. The Madison School District's original four-day schedule resembles many current four-day school week schedules (Wilmoth, 1995). Most of the nation's schools implementing a four-day school week schedule are rural and have fewer than 1,000 students (Grund, 2003). The four-day school week meets a need for efficiency for those communities having a strong agricultural tradition of family farming and ranching (Miller-Hale, 2007).

Four-day schools do not need to add large amounts of time to each of the four days to remain in compliance. Most districts are able to maintain the same amount of weekly classroom instruction by minimally lengthening four days of school and omitting the fifth day of instruction. By closing on the fifth day, some rural and small schools can reduce tax dollars spent on transportation, utility expenses, normal building wear and tear, and non-certified staff payroll savings, while still maintaining instructional accountability to their students and their communities (Scher, 2003).

Is it possible to maintain instructional accountability and student achievement by increasing the length of the school days and reducing the number of days that student are required to attend school? Many school districts are experimenting with alternative scheduling in order to find out. Carpenter (2004) suggests that the impact of the proposed schedule changes on school budgets, student achievement, teachers' classroom instruction, and the lives of families with school-aged children must be considered before school districts consider implementation.

### Implementing a Four-Day School Week Schedule

Four-day school week scheduling is a multi-step process that needs to begin with a plan for implementation. Before the school board adopts the four-day school week schedule, extensive research needs to be conducted. Fager (1997) suggests that a team of stakeholders consisting of students, staff, teachers, administrators, parents, community members, and school board members visit other schools operating on the four-day school week schedule. While visiting, the team needs to converse with as many constituents from the implementing district, as possible. The team members also need to study current

alternative calendar literature and read multiple case studies involving schools operating on four-day school week schedules.

The administration needs to survey the staff and then respect their opinions. In order to have successful implementation, the staff and the community members need to buy-in and take ownership of the project. Without empowering both certified and non-certified staff and the community in the decision making process, the district is more likely to experience resistance. Once there is a shared decision to proceed, a four-day school week schedule needs to be created that is conducive to learning while meeting the needs of the students, the staff, and the larger community. It is necessary to consider Department of Education guidelines for minimum hourly requirements and the teachers' negotiated agreements so schedules stay within contract guidelines. Other things to consider are the curriculum, the pace in which it is presented, classroom instructional strategies, and professional development (Fager, 1997).

Consult with teachers as the experts about their classroom needs. Some districts have provided instructional strategy coaches and have assigned individual teacher mentors with experience in block scheduling or teaching in longer class periods, as they go through the alternative schedule trial period. During the trial period ongoing reflection and assessment needs to take place before final implementation decisions are made (Reid, 2002). Once the four-day school week schedule is implemented, Steiguer (2002) recommends monitoring the alternative schedule's effects on students' learning. He says it is imperative to ensure communication lines between the school board, the administrative team, the teachers, students, parents, and community members are always kept open.

Some districts have created safeguards to ensure student success and increased achievement while students transition from a five-day schedule to an alternative four-day school week schedule. These safeguards include fifth day remedial services or enrichment activities, mandatory after school help for at risk students, and moving extracurricular activities to the weekends leaving week nights open for homework, rest, and family activities (Delisio, 2005). The most successful four-day schools combine alternative scheduling with other more traditional practices. These schools concentrate on creating a school culture that focuses on preparing students for successful transitions into post secondary education or the workforce. The staff needs to have high expectations for all students and promote college preparatory classes. The higher achieving schools also provide extra student support to help students stay on track with college requirements. These schools design learning opportunities, both after school and on the fifth day to create a balance between academics and extracurricular activities, which leads to the students' broader development (Pennington, 2006). Implementing a four-day school week schedule can assist administrators with staff recruitment, as the four-day school can be attractive to prospective teachers (Miller-Hale, 2007).

#### *Options for the Fifth Day*

Some schools schedule Mondays for non-attendance, while others prefer to schedule Fridays as their non-attendance day. Fridays are typically chosen by schools where the intended goal is to improve student achievement by protecting classroom instruction time from extracurricular interruptions, resulting in more time on task for the students. Those choosing Friday as their non-attendance typically do so because a large percent of their students lose time in class on Fridays due to extracurricular activity

responsibilities. District officials choosing to close on Mondays report that this schedule can lead to a higher savings on utility expenses. Their gymnasiums often need to be heated on Fridays for student events. By closing on Monday, they are able to schedule student organizational activities and sports away from Mondays, leaving the gym unoccupied and therefore, dark and unheated, reducing utility costs. These districts try to schedule most of the extracurricular activities on Thursdays, Fridays, and Saturdays, rather than during the school week. They found the results to include an increase in student participation in these activities. It is believed that students feel they have more free time to invest extracurricular activities (Miller Hale, 2007).

Whether districts schedule Monday or Friday as their non-attendance day, the schools usually remain open, using their non-attendance day for a multitude of different purposes (Bennett, 2005). Most schools use their open day as a makeup day for school closings due to inclement weather rather than giving up holidays or scheduling make up attendance days in the summer. Having an optional day each week for planning allows schools to place more of a focus on academic improvement. In most four-day schools, teachers are not required to come in on the fifth day. Although this is a common practice, many teachers choose to come to school and take advantage of that time to complete paperwork, plan and correct, tutor students, meet with parents, and coach or supervise extracurricular activities (Campbell, 2006). While the fifth day can remain a contract day in which teacher professional development events are scheduled, some districts pay teachers extra if they come to work or to provide tutoring on a non-attendance day (Toppo, 2002).

As reported the fifth, non-scheduled day provides schools opportunities for staff planning, parent/teacher conferences, student tutoring, student activities, sports, or other student or staff organizational meetings. Many schools serving small enrollment numbers require extra duties for staff members, making it difficult for them to find time to improve their content area. Professional development events can be made available on the non-attendance day for staff to improve curriculum and instructional strategies (Wilmoth, 1995). The communities and their students, along with the teachers can benefit from the four-day school week schedule. Students can work on non-school days, in service organizations, churches, and youth groups experiencing first hand practice and opportunities in hospitals, schools, offices, stores, and other places of employment (Roeth, 1985).

#### *Reported Results*

Some of the noted results of the four-day schedule implementation in districts such as the Cove School District in Oregon, the Merryville School District in Louisiana, and the Custer School District in South Dakota are: less instructional and classroom interruptions due to athletic events or other school activities, state wide assessment scores rose slightly or remained constant, and some districts experienced financial savings on transportation, food services, electricity, and substitute teacher pay. Teachers reported assigning homework projects over the extended weekends rather than on school nights, leaving weeknights open for rest or family time (Fager, 1997).

The Central Linn School District serves 680 students. It is located about 25 miles north of Springfield, Oregon, and was only willing to consider the four-day week as a last resort. Since adopting the four-day school week in 1999, the Central Linn School District



has documented savings of \$180,000 annually. Superintendent Max Harrell attributed the savings to a reduction in teaching days, non-certified staff hours, and other operational costs. Those non-certified staff personnel experiencing the cut in hours and pay included the cooks, bus drivers, and the teachers' aids (Delisio, 2005).

### Benefits Resulting from the Four-day School Week

Although many districts adopt a four-day school week in order to save money, many experience other unexpected benefits. The additional benefits include saving the district money, affording more family time together, improved student and staff morale, and lower student dropout rates. Guignon (1998) reported that students and staff exhibited a more positive attitude toward school in general. As a result, the number of office referrals slightly decreased. In some schools those students cited for disciplinary problems are required to come to school on the fifth non-instructional day to assist the custodial staff or to have an extended study time rather than attending a traditional after school detention.

Due to extended class periods teachers are more able to utilize a wide variety of instructional techniques, including interdisciplinary approaches, steering further away from the traditional lecture mode of instruction. Delisio (2005) suggested that the longer class periods could result in higher test scores. Both students and staff benefit from fewer classroom interruptions as a result of longer class periods and fewer transitions from one class to another. Lengthening class times also lengthens teacher preparation times.

Due to the increase in class-times resulting from the elimination of the fifth day, research shows that teachers have made changes in their classroom routines and practices

in order to best meet both curricular and students' needs. One of the most significant changes is in the way teachers deliver information. Classrooms evolved from teacher-led instruction to student-initiated learning. Some of the instructional strategies teachers are implementing within the extended classroom periods are offering more inquiry-based activities, problem-based learning, small group projects, cooperative learning, learning centers, simulations, and case studies (Bennett, 2005).

Many four-day schools report their students and staff have developed closer relationships as a result of the extended class periods. Many four-day schools have recorded lower student dropout rates and higher attendance rates as a result of implementing an alternative schedule (Fager, 1997). Having the fifth non-scheduled school days are extremely beneficial to school districts with large rural regions that cause families to travel long distances for business, medical appointments, and sporting events. In many districts the fifth, non-scheduled day is used for individual student tutoring, enrichment opportunities, student organizational meetings, and staff professional development. The fifth day also provides the districts with an option for make up days that are rescheduled due to inclement weather. This eliminates the possibility of districts having to schedule additional calendar days at the end of the years, which is common in many schools. The four-day week is also an attractive recruitment factor when hiring new staff (Miller-Hale, 1007).

The community reaction has been positive in scores of four-day school districts. Many parents like having an extra day with their children at home. While some have planned additional mini-vacations over the extended three-day weekends, others have planned workdays on their family farms and ranches, or in their family businesses

(Delisio, 2005). Additional benefits include increased student and staff attendance due to having a weekday free to schedule personal medical and dental appointments. Freeing up this day for teachers has reduced substitute teacher costs for districts, adding to their financial savings. More extracurricular activities are scheduled on the fifth day (Fager, 1997)

The Custer School District in South Dakota reported an increase in student participation in extracurricular activities by 24% (Delisio, 2005). The extracurricular activities such as school sporting events, plays, and dances are now scheduled on Thursday nights, Fridays, and Saturdays so the students will not have to leave class early on regular school days. With the scheduling of most student activities on weekend days and nights, the students do not have early release on regular school days and do not have to travel on school nights. Only home games and other local competitions and activities are scheduled during the four-day school week. The Custer District also found that the switch to a four-day schedule boosted both staff and student morale, reduced absenteeism, and lowered the need for substitute teachers. Their staff members are not required to be present on Fridays unless there is a scheduled in-service or professional development event. In those cases teachers are paid for an extra day (Durr, 2003).

The Animas Public Schools in Arizona is an example of a school district that has adopted a four-day school week in order to help meet the needs of a community with strong agricultural foundation. A significant number of the students live on traditional family farms, far from community services. For many, the nearest doctor practices 80 miles away. Traveling to medical and dental appointments and sporting events means taking students out of their classes. Operating on a four-day school week allows parents

to schedule appointments and events without taking their children out of school (Reeves, 1999).

Several schools in a New Orleans school district reported that statewide assessment scores have risen, as well as students' individual grade point averages since they adopted a four-day school week. The number of students receiving failing grades has reduced by 50% (Steiguer, 2002). The fifth, non-scheduled day affords teachers the opportunity to attend workshops and other professional development events, extra planning time, and for scheduling parent/teacher conferences (Reeves, 1999).

According to Miller-Hale (2007), within the sixteen South Dakota high schools operating on a four-day school schedule, the stakeholders most often reported the advantages of the four-day school week are an improvement in staff and student morale, student achievement, attendance, more family time and the addition of supplementary programs. Although many districts report unexpected benefits resulting from the adoption of a four-day school week schedule, others voice their concerns and are contemplating changing back to a five-day school week (Dyrli, 1998).

Many four-day schools found the advantages to reducing the number of days per week to include a cost savings in heating fuel consumption, transportation, electricity, maintenance supplies, and substitute teacher salaries. Other benefits include lower dropout rates, improved student and teacher attendance, stable or slightly elevated student achievement results, increased time on task, and public support among students, staff, parents, and the community in general (Roeth, 1985). Also listed in the advantages experienced due to four-day scheduling are improved morale, student attendance, staff attendance, and fewer co-curricular interruptions resulting in more student time on task,

and improved student achievement. Other positive effects of the four-day school week schedule were improved family time, staff professional development, increased flexibility within the class schedules and fewer discipline and vandalism issues (Roeth, 1985).

Some districts reported fewer latch key kids due to the extended school day. Student and parents keep similar hours so that students go to school while parents are working. School districts experience savings in non-certified staff payroll cost by reducing the support staff needed. Students get more lab time and an extra day to work on their family ranches and farms. Many teachers continued coming in on the non-scheduled day increasing their planning time. Their prep periods are also several minutes longer due to the extended school day (Wilmoth, 1995).

#### Concerns Regarding the Four-Day School Week

With the NCLB legislation recent years have become high-pressure years to increase student achievement and better prepare students for college and the workplace. Research shows that students' involvement in extracurricular activities and sports are growing in importance to students, schools, and communities. Students also have many other obligations and interests outside of school. In order to meet society's demands, schools need to become more creative in their use of time and scheduling (Pennington, 2006).

Some experts feel that we might be sending the wrong message to the public by allowing districts to shorten their school week. NCLB mandates more from schools, administrators, teachers, and students, but as schools switch to four-day school weeks they are providing less time to produce the required results. Community skeptics have

voiced concerns about sending the wrong message to students. They contend that most workweeks follow a five-day schedule and therefore we are not preparing students for real world situations by shortening their school week (Grund, 2003).

Additional concerns that teachers and administrators have, deal with the effects of declining enrollment and the reduction of services, increases in class sizes do to limiting the number of times the classes are offered, funding cuts, parental expectations, and academic requirements. These concerns are more often identified than are those relating to the schedule change from five days to four days. The lack of time available for instruction surfaces as one of their biggest concerns. Teachers find it puzzling that the same number of minutes is available for instruction, and yet they find they have less time to teach certain subjects and to cover the curriculum in depth. Teachers need to be reassured that they do have the same amount of time in which to deliver the curriculum as in previous years, but they might have to make adjustments in how they use the time available to best meet the course requirements and the educational needs of individual students (Bennett, 2005).

In 1996 the Saratoga School District in Arkansas shortened their school calendar from 178 days to 142 days in order to save money as they were faced with low test scores and unfunded mandates to improve. In order to avoid increasing taxes or consolidating with larger schools, the district opted to adopt an alternative calendar. They closed their doors on Mondays and resumed classes on Tuesdays through Fridays. By increasing each class period by thirteen minutes they were able to lengthen their instructional day by ninety minutes. After six years of operating on a four-day week schedule, the Saratoga School District returned to a five-day week schedule due to the lack of savings and the

high cost in terms of student achievement. The school board's decision to revert back to a more traditional five-day schedule was supported by the parents and the surrounding community (Delisio, 2005). Another district, Lake Arthur School District in New Mexico also reverted back to a traditional five-day school week after 20 years of four-day school week scheduling because the teachers and students were exhausted at the end of an elongated school day. The Lake Arthur District also experienced declining test scores (Miller-Hale, 2007).

One of the disadvantages of the four-day school week schedule that was most frequently cited was the longer school day for the younger students. The community concerns most often reported were the lack of available daycare on the non-scheduled school day, difficulty scheduling the extracurricular activities on the weekends when most schools were on a five-day schedule, and the concern that one missed day of school equated to missing 20% of the students' week, making student absences even more crucial in affecting student achievement (Roeth, 1985). Some other disadvantages of the four-day school week include less time for homework due to the longer school days. Many other schools in neighboring districts are not on the same four-day schedule making extracurricular event scheduling difficult. The longer days are too intense for both teachers and students. Some low achieving students and students with disabilities have trouble keeping up with the events of the day and the special educators were concerned about student retention over the long weekends (Wilmoth, 1995).

Although many districts are satisfied with their calendar changes, some districts adopting the four-day week schedule are not as enthusiastic about the change, stating concerns for the lack of evidence regarding the impact on student achievement and

thoughts of sports and other student activities taking up too much time during the four-day week. As most schools do not operate on a four-day week, some activities and athletic directors from five-day schools are reluctant to schedule all of their sports competitions on the weekends (Johnson, 2006).

According to Pennington (2006), while relieving financial stress, districts must remain accountable for providing academically and developmentally appropriate, rich experiences for all students. The schools are responsible for creating structure, assessments, and opportunities for reflection in order to maximize learning. He also suggests that the four-day school week might not be a good practice for urban areas where students who are not in school, are constantly exposed to consumerism and negative self-images. He believes those students might be better served in school under the supervision and encouragement of their teachers on the fifth day.

While some states are considering a four-day school week in order to relieve financial stress, others have found the concept to be impractical for their situation. One of their concerns is the lengthened school day may be difficult for younger students. Some schools have handled this concern by scheduling the less challenging classes in the afternoon with frequent breaks (Guignon, 1998). Special educators have voiced concerns for at risk students' retention issues. By shortening the school week, schools have added a need for students to retain information for an extra day over the long weekends and between classroom experiences (Scher, 2003).

The four-day school week creates some challenges for some families in regard to additional childcare on the non-attendance day. Some parents prefer to find daycare for one full day rather than for five partial days. Some schools have alleviated the childcare



concern by offering after school programs and Friday or Monday programs. Other districts have offered babysitting classes to high school students so they can provide care for families with elementary students in need of daycare on the non-attendance days (Maynard, 2003). The four-day school week schedule exposes the students and staff to longer, more tiring days, starting earlier in the morning and ending later in the day. The effect of the longer days on the younger students, the at-risk students, and those with special needs is a huge concern. Scheduling the more challenging academic classes in the morning and the non-core classes in the afternoon, scheduling additional recesses or adding more breaks may help to reduce restlessness among the students. The staff also experiences additional stress due to the longer days. Many teachers report they are exhausted by the end of the week (Delisio, 2005). One South Dakota superintendent reported that teachers were less likely to be flexible with the students when they were tired at the end of the extended day. He suggested that teachers receive professional development prior to implementing a four-day school week because they need to be prepared to use the instructional time available, more efficiently (Miller-Hale, 2007).

### Recent Studies

Due to financial constraints school districts across the nation have discontinued Friday classes in an attempt to save money and improve the quality of the education. More than 100 rural districts from South Dakota to Florida have chosen the four-day school week as a means to reach the desired result (MacLeod, 2002). The review of the literature documents that some districts were pleased with the with the financial savings and the maintenance or increases in student achievement due to the change to a four-day

school week, while other districts were disappointed and reverted back to a more traditional five-day schedule (Bennett, 2005).

The Unity School District in Maine was the first district to gain national recognition for implementing the four-day school week schedule during the 1971-1972 school year. They adopted the four-day school week schedule in order to reduce the school's operating budget by 10%. They extended their school days by 35 minutes on Monday through Thursday and cancelled school for the students on Fridays. The teachers were required to attend professional development and staff meetings on Friday mornings. In doing so, the students lost approximately eight days of instructional time over the course of a year. During the first five months of implementation the district saved over \$13,000 in transportation, non-certified staff salaries, supplies, and utility and heating costs (Roeth, 1985).

At the end of the third year of operation, the research showed that 75% of the students, 93% of the teachers, and 68% of parents were in support of continuing to operate on the four-day school week schedule. The most frequently reported concern documented by the stakeholders opposing the amended schedule was the fear that students would not achieve as well as their counterparts who attended more traditional five-day schools. Their second concern was that of fatigue felt by the elementary students due to the thirty-five minute longer school days. The results of the stakeholder surveys showed no remarkable increase in student fatigue. The Stanford Achievement Tests facilitated by the University of Maine supported the rationale that altering the instructional strategies within the classrooms offset the reduction of instructional time experienced due to the implementation of the four-day school week schedule. Overall,

their students scored slightly higher on the math subtests and slightly lower in the language arts and spelling subtests (Roeth, 1985).

In 1974 the Unity School District school board voted to continue on the alternative schedule. Then in 1975 the district voted to return to the traditional five-day school week schedule for the 1975-1976 academic year for a number of reasons. Those reasons include the expiration of the district's Title III Federal Grant funding, the Friday teacher in-services, and the end of the energy crisis of the 1970's, which precipitated the threat to the school's budget (Roeth, 1985).

The Cimarron School District in Colfax, New Mexico has operated longer on a four-day school week schedule than any other district in the nation. The Cimarron Schools enrolled approximately 400 students in grades K-12. In order to save energy, the board considered closing school during the winter months. The four-day school week schedule was suggested to them by the State Department of Education as an alternative to winter closure. They began implementing the alternative schedule during the 1973-1974 school year by closing schools on Monday and extending the days on Tuesday through Friday. The school day lasted from 8:30 AM to 4:10 PM, with a thirty minute lunch break for all students and staff (Pompeo, 1981).

The Cimarron School District was originally granted permission to implement a four-day school week calendar by the State Superintendent in 1973. Although they initiated the nontraditional schedule to reduce energy costs during the Arabian Oil Embargo, they soon learned that the schedule change helped to meet many of the social and familial needs of the district stakeholders (Pompeo, 1981).

The results from the year one surveys reflected positive support from students, parents, and teachers. Eighty percent of the students, 96% of the parents, and 100% of the teachers expressed satisfaction and voted in support of continuing on the four-day school week schedule. After the fourth year, they compared Stanford Achievement Test scores to learn that more student gains were experienced during the four-day school week schedule than were experienced during the five-day school week schedule. After the four-day schedule implementation the Cimarron students scored above both the New Mexico state and national averages (Pompeo, 1981).

During the years from 1973 to 1977 their kilowatt usage dropped from 144,450 kilowatt hours to 46,073 kilowatt hours. Their propane consumption was reduced from 61,234 gallons to 46,409 gallons. The heat was turned on in the buildings at 7:00 AM and turned down or completely off at 2:00 PM. The classrooms were not heated in excess of 68 degrees. By 1983 nine other districts in New Mexico joined the Cimarron District by adopting a four-day school week schedule. The primary reason for implementation identified by all districts was to reduce operating costs. Data collected and compiled in all ten districts documented an overall savings between 10% and 20% in operating costs. Other data collected showed that student achievement was not adversely affected and in some schools there were slight gains. Those schools' administrators attributed the gains to the extended class periods of uninterrupted instructional time. In addition to the savings in operating costs and maintaining student achievement, the high school dropout rate was significantly lower than the state's average dropout rate (Roeth, 1985).

Although some of the districts have not realized the projected savings that some New Mexico and Maine school districts have, they are experiencing other unanticipated

results. One such district is the Custer School District located in the Black Hills of South Dakota. They rescheduled the district's 1000 students from a traditional five-day school week to a four-day school week in 1995. The district hoped to save \$110,000 by reducing busing costs. In actuality they only saved \$70,000 but gained in many unforeseen areas. There seemed to be a dramatic improvement in student and staff morale, behavior, attendance, and they were better able to protect instruction time, as there were fewer interruptions from co-curricular activities. Their school days are now 40 minutes longer, extending each class period to 65 minutes. The students' academic day begins at 7:45 AM and ends at 3:50 PM (MacLeod, 2002).

Unlike the Custer District, the Lake Arthur School District in Lake Arthur, New Mexico did not experience any additional benefits. After 20 years of following the four-day schedule the district decided to add Fridays back into their schedule in order to shorten their academic days. They found that students and staff were exhausted and consequently did not want to stay after school for staff meetings, student organizational meetings, or athletic practices. Student attendance seemed steady and unaffected, as did teacher and staff attendance. Both the parents and the teachers continued to schedule appointments on Monday through Thursday because some doctors were not available on Fridays. The district was not able to protect instructional time from extracurricular activities as most of the neighboring schools were five-day schools, making it impossible to limit the scheduling of student events to Thursday nights and weekends (Delisio, 2005).

In 1985, James Roeth conducted a study of public elementary and secondary schools from both urban and rural regions with varying degrees of socioeconomic status

and population, operating on a four-day school week schedule. He sent a six page questionnaires to 62 school districts throughout eight states. He received completed surveys back from 50 different districts. All of the surveys returned were from districts located in rural communities and most of them had student enrollments of less than 1,000 students in grades K-12. The physical size of 58% of the districts was more than 250 square miles.

The perceptions of the responding four-day school week school administrators was that entire school boards need to be supportive before converting to this nontraditional schedule, as was reported by 94% of the responding administrators. Informational community meetings were conducted to gain support of the stakeholders. Teachers, administrators, board members, and students visited other schools to experience a day in a four-day school prior to implementation. Forty-four percent of the respondents did four months of research and background study before deciding to adopt a four-day school week schedule and 26% of the districts took five to eight months to study the concept before deciding to implement. The rest had taken varied amounts of time to plan for implementation. Once these districts made the final decision to move to an alternative calendar, they decided which day to schedule for students' non-attendance. Schools that chose to close on Fridays did so for reasons connected to student activities. Those districts choosing Mondays as their non-instructional day were more concerned with cost savings. Seven areas of cost were identified by the administrators that increased, decreased, or remained the same. Little or no change was reported in certified staff salaries, custodians, and administrative assistants. Ten to 20% savings was reported in transportation and food service costs. Five to 20% was saved in heating and cooling,

and custodial supplies. Administrators were also asked about student achievement after the first year of implementation. Ninety-eight percent of responding administrators reported either an increase or maintained student achievement levels (Roeth, 1985).

Roeth (1985) found that implementing school superintendents perceived the effects of the four-day school week as cost efficiency, increased time on task for students, as well as increased instructional time, improved student and teacher attendance, more opportunities for staff professional development events, and for family activities on the non-instructional day. The support for the four-day school week by parents, students, and teachers as perceived by the school administrators was overwhelmingly positive. Overall, 97% of the school administrators indicated support from the stakeholders to continue operating on a four-day school week schedule. When they were asked, 94% of administrators agreed the four-day school week was successful compared to only 6% who indicated the four-day school week schedule was not considered to be a success. In researching, Roeth found that four of the implementing districts were planning to return to the more traditional five-day school week schedule, due to staff fatigue at the end of the extended school days, insufficient monetary savings, and other political reasons.

A similar study was conducted ten years later by Steve Wilmoth (1995). He surveyed school superintendents from 84 districts implementing a four-day school week schedule. Wilmoth researched the effectiveness of the four-day school week in regard to district operational costs and their curriculum. No consideration was given for size, location, economics, or rural or suburban characteristics for the study.

Wilmoth (1995) found that the small, rural school administrators generally agreed that four-day schedules were primarily successful. Even though all schools did show a reduction in operational costs, the large majority reported small savings. Based on their state standard achievement tests, the majority stated their students are performing at or above their state averages. Many advantages were reported while the disadvantages were few in numbers. The most frequently cited advantages were lower operational costs, higher academic rankings, and improved students and staff morale. The perceived advantages far outweighed the disadvantages indicating the need for continuance of the four-day school week program.

Based on the data returned in the questionnaires, the following conclusions were formed. The four-day school week schedule seems to be successful primarily in smaller, rural communities. However, the schools with larger student enrollment numbers also experienced success with the four-day school week program. Although it was determined the four-day school week schedule is practical for all grade levels, some districts chose not to include all grades in the program. The choice is optional to each district's board of education. The four-day school week program has demonstrated stability. Many of the existing four-day schedule programs have been in place for ten or more years. Once a school has changed to a four-day school week schedule, they tend to stay with the four-day school week schedule. In most states, laws had to be passed to enable schools to change to a non traditional schedule. In most cases contact hour requirements had to be changed from days required to hours or minutes required.

Although some districts schedule Mondays off, Friday is the most frequently adopted day for nonattendance. The rationale for closure on Friday is primarily to allow



for travel to sporting events without interrupting class time. Administrators suggest a four-day school week schedule for a variety of reasons. Most often the moderated schedule is implemented due to budget reductions. Student achievement and extracurricular activities are listed as the second and third reasons for implementation. Administrators currently implementing alternative or nontraditional schedules and those having experience with four-day programs seem to facilitate success within the district. The data indicates overwhelmingly, the four-day school week project has been a positive within the community. The four-day program fits the need of the communities. The communities play a big part in the planning and implementing of the four-day school week schedule itself. Student and family approval of the project is extremely high. The long weekends, additional family time, and an extra day for work augments the approval rate. Most staff members were first concerned with the extension of the school day, but have since adapted and now strongly approve of the extended day. Teachers also appreciate the extra day for planning, tutoring students, leisure, business convenience, and having extra family time. Although parents and community members tend to approve of the four-day concept, the students are the strongest supporters. The scheduling concerns include late bus rides, the needs for a baby sitter on the fifth day, and younger students getting too tired during the extended days (Wilmoth, 1995).

Based on the data collected, students' academic achievement does not appear to be a concern. Only five of the 84 district surveys implied a decline in student achievement levels. Student achievement levels were based on standardized achievement tests, diagnostic tests, and other educational assessments that allowed for the tracking of students. Surveys indicated slight academic gains across all grade levels. The most

significant gains seemed to be experienced in grades 11 and 12. From the surveys returned, staff morale and student attitude have shown great improvement. Students perceived to have more freedom within the four-day schedule than they did when they were on a five-day schedule. They appreciate more time for work, leisure, and appointments without having to miss school. Of the 84 surveys returned, 71 school administrators ranked their school as average or above average in both the state and national academic rankings. Most administrators were pleased with the performance of their students and staff. The bulk of the surveys showed an economical savings in some degree. The range of savings varies from district to district. The fifth, non-scheduled day is not a wasted day according to those surveyed. Many activities occur from student organizational meetings, to athletics, teacher in-service, parent conferences, open house or family nights, tutoring, and teacher planning. Even though every program has its advantages and disadvantages, the respondents in Wilmoth's study list many more advantages than disadvantages. They mentioned increased academic success rates, cost efficiency, and a more positive morale as welcomed advantages (Wilmoth, 1995).

During a 2007 study of four-day schools in South Dakota, Miller-Hale noted that after creating committees, researching and visiting other schools, hosting community meetings, and surveying the stakeholders, the Wall School District decided to adopt an alternative schedule in order to meet the needs of the community. According to the February 9, 2005 district school board minutes, the Alternative Schedule Committee made the following recommendations to the school board. Their proposal suggested the district begin implementing a four-day school week in the fall of 2005, scheduling classes from Monday through Thursday with an occasional Friday scheduled school day. The

committee stressed the importance of scheduling most of the extracurricular activities, athletic events, music contests, field trips, and student organizational meetings on Thursdays, Fridays, or Saturdays in order to protect instructional time during the remaining four days of school. They recommended creating a policy that mandates the gymnasium to be closed at 8:30 PM on Monday and Tuesday evenings, and at 6:30 PM on Wednesday evenings. Additional recommendations included starting the school day at 7:45 AM and ending at 3:15 PM, beginning the school year after Labor Day and ending before Memorial Day, conducting parent/teacher conferences outside of the school day and scheduling band and chorus within the school day. Aligned with this four-day school week philosophy, they also suggested the school board and the administrative team consider implementing a breakfast or snack program, design a Friday student assistance program, support an after school and Friday program to aid the community, and to adopt a four-day, full-day kindergarten program. The board accepted and endorsed the proposal for implementation to begin in September of 2005.

### Summary

One of the most important components of a successful school is the school's schedule. There are many scheduling options available and recently numbers of schools have chosen to adopt a four-day school week schedule in order to counteract budgetary shortfalls. Careful study and shared decision-making before implementation has been shown to help schools make the best decision for their students (Fager, 1997). Although some schools implementing this scheduling option have experienced unexpected benefits, other districts have returned to more traditional schedules stating that the benefits did not

out way the disadvantages (Delisio, 2005). The evidence on the impact of the four-day week on students' achievement and financial savings was inconclusive. Many districts were pleased with the financial savings and the levels of student achievement while other districts were disappointed with the results and went back to their traditional five-day school calendars (Bennett, 2005). The reviewed literature supports a more systemic approach to researching alternative scheduling, specifically four-day school weeks. It also suggests that for a successful transition from traditional five-day scheduling to four-day scheduling, districts need to work through some of the challenges associated with four-day scheduling in terms of school culture, capacity, costs, and policies (Pennington, 2006).

## CHAPTER 3. METHODOLOGY

### Introduction

A description of the research methodology and procedures that were used to collect data for the Case Study of the Four-Day School Week Project are presented in chapter 3. This chapter explores the methods and procedures that were used during this study. The problem statement, research questions and design, population, sources of data, data collection strategies, validity, reliability, analysis of the data, limitations, and the ethical considerations are described.

Qualitative research has gradually gained appeal as a viable way to incorporate the original voices of the participants in everyday life toward a broader understanding of the social reality of educational contexts (Lloyd-Jones, 2003). The topic of this study, the four-day school week schedule as an alternative to traditional school scheduling, is well suited for the qualitative research design because it focuses on how individuals and groups view, understand, and construct meaning from their own experiences. Qualitative research methods such as the case study approach do not place significant value on developing statistically valid, conclusive proof of the hypotheses. Rather, qualitative research focuses on the understanding of a phenomenon within its naturally occurring context, thus providing a holistic description and analysis of the phenomenon or the social unit (Stuart, 2003).

According to Gray (1996), most qualitative research efforts represent case studies. A case study is a form of qualitative research that is used to examine and explore a unit,

an individual, an institution, groups of individuals or institutions, organizations, programs, documents, or systems. This qualitative research project utilized an illustrative case study approach to gathering data. Illustrative case studies are useful in education when the research conducted has been limited and when one is studying the process of a phenomenon (Wilson, 1981). A discussion about the qualitative research design as it pertains to cultural responsiveness toward an upper Midwestern school population will follow, along with a description of the illustrative case study method utilized in this study.

The case study had district significance as well as significance for other school districts across the nation with like populations containing similar characteristics, considering a calendar change to a four-day school week. According to Bennett (2005), it is imperative to choose a research method that will serve to answer the identified questions and meet the project goals. The central goal of this particular study was to provide qualitative research findings related to the Four-Day School Week Project.

### Statement of the Problem

It is known that the United States has transitioned from an industrial era to an information age and from a domestic to a global economy. In light of the rising global competition, there is a pervasive call for higher levels of student achievement. As a result, school districts are challenged to make dramatic changes in the way they operate. School districts must meet the needs of their students, communities, and industries while facing the rising cost of education, due primarily to inflation, salaries, fuels, equipment, and supplies (Waters & Cameron, 2007). With the adoption of the No Child Left Behind

Act in 2001, public schools are held accountable for all students' achievement. Efficient administrators and school boards must be innovative in order to reduce costs of operation while increasing educational opportunities for their students. The four-day school week concept is one innovative, alternative schedule that has been adopted by some school districts across the nation to address budget limitations, to increase student achievement, to provide time for teacher collaboration and professional development, and to meet the needs of some rural communities (Wilmoth, 1995).

One particular rural school district adopted and implemented a four-day school week schedule in order to meet the needs of its community, but had not completed a comprehensive evaluation to determine the effectiveness of its alternative schedule. There were no long-term studies of schools operating on a four-day school week to review before the district chose adoption and began implementation. In addition, professional development for the staff was limited and no mentor program support was provided. Although the non-traditional four-day school week calendar was adopted in order to save money, to improve the educational environment, to meet the intended district's goals, and to satisfy the needs of the community, the district did not develop an evaluation or an assessment tool to check its progress. Rather, the administration sent out a survey to the students, teachers, and parents. The comments returned were mostly positive, therefore no further decisions were made. The Four-Day School Week Project was not evaluated for continuation or rejection; it was just sustained due to the positive support of the stakeholders.

The following research addresses the efficiency of the four-day school week program in relation to the cost of operation, effectiveness of instructional strategies,

student achievement levels, and the overall impact on a particular community at large. While the primary emphasis was on a qualitative study concerning the four-day school week schedule, some quantitative analysis was conducted to develop a profile of student, staff, and community data that was representative of stakeholders to give a longitudinal overview.

### Research Questions and Hypotheses

The following research questions guided the study:

1. What impact has changing from a five-day school week to a four-day school week had on the students, the staff, and the community?
2. Has shortening the school week to four days helped the district experience a significant savings in operational costs?
3. Are the district's results sufficient enough to warrant stakeholder support to continue the four-day schedule change?
4. How have teachers changed their instructional practices as a result of the longer class periods?

In addition to the research questions presented above, this study tested the following hypotheses:

$H_{0,1}$ : There is not a significant difference in the impact of changing from a five-day school week to a four-day school week on the students, the staff, and the community.



H<sub>A,1</sub>: There is a significant difference in the impact of changing from a five-day school week to a four-day school week on the students, the staff, and the community.

H<sub>0,2</sub>: There is not a significant difference in savings in operational costs from the shortening of the school week to four days.

H<sub>A,2</sub>: There is a significant difference in savings in operational costs from the shortening of the school week to four days.

H<sub>0,3</sub>: The district's results are not sufficient enough to warrant stakeholder support to continue the four-day schedule change.

H<sub>A,3</sub>: The district's results are sufficient enough to warrant stakeholder support to continue the four-day schedule change.

H<sub>0,4</sub>: There is not a significant change in teachers' institutional practices as a result of longer class periods.

H<sub>A,4</sub>: There is a significant change in teachers' institutional practices as a result of longer class periods.

### Research Methodology

According to Gray (1996), most qualitative research efforts represent case studies. A case study is a form of qualitative research that is used to examine and explore a unit, an individual, an institution, groups of individuals or institutions, organizations, programs, documents, or systems. Social scientists use the qualitative research method to study modern-day, true to life situations that provide the basis for the application of ideas and the prolongation of other methods of research (Erickson & Gutierrez, 2002).

Quantitative methods on the other hand are useful for describing relationships between variables to establish correlations. They are limited however in determining causation or accounting for complex human interaction (Cronbach, 1975). The qualitative research included multiple sources of data collection such as written documents, including baseline surveys, newspaper articles, monthly reports, and teacher and community reports. Once collected, the data was analyzed and put into a written report (Mehra, 2002).

### Research Design

The study of the Four-Day School Project began as an informative process rather than evaluative research conducted in order to learn more about the four-day school week philosophy, the reasons behind adopting the new schedule, when implementation began, and how the teachers were prepared for the change. Through research, the project grew to include how the Four-Day School Week Project impacted the students, staff, and the community. The study further expanded to explore the relationship between the Four-Day School Project and district savings and student achievement. Therefore, an illustrative case study research design was utilized to explore the specific research questions in this study. The inquiry process was employed in order to formulate a holistic view of the situation utilizing multiple sources of information. The data was collected through observation, interviews, field notes, as well as report reviews, and surveys.

The four-day research project used an illustrative case study research method to acquire information about the Four-Day School Week Project. This type of case study research necessitated the use of field notes and a researcher-created database to

compartmentalize and cross-reference information so that it was readily available for further interpretation. Using field notes provided a way for the researcher to document intuitive hunches, thoughts, feelings, and posed questions, while recording the work in progress (Quinn Patton, 1972). The researcher digitally recorded testimonials, interviews, and descriptive stories, to use in later reports. Participant observation and direct observational methods form the mainstay of the data collection methods and were supplemented with interviews and protocols, which were transcriptions of participants' digitally recorded interviews. The use of protocols has become more common in illustrative case studies. Using protocols alone is an example of a single mode of data collection. It has been suggested that using multiple sources of data to increase the reliability and validity of the data collected (Tellis, 1997).

As stated above, the case study method provided opportunities to compare data in order to support conclusions (Mauritius Institute of Education, 1997). Specifically, illustrative case studies are used to explain situations. They can provide a basis to apply other solutions to that same situation and to explore and describe an object or phenomenon. Some of the advantages of the case study research method include the application to real-life human situations, public accessibility through documentation, and the direct connectivity to the common reader's everyday life experience. The commonness of the report promotes a greater understanding of a complex real-life situation (Mauritius Institute of Education, 1997).

Most case study supporters report that this type of study produces more detailed information than what is available through quantitative methods. Advocates state that statistical methods might be used to analyze situations where human behavior is routine,

but case studies are needed to deal with cultural and environmental diversity, human creativity, and circumstantial context (Palmquist & Sloane, 2004). Case study designs seem to emphasize exploration rather than prescription or prediction. As a result, the person conducting the research was free to discover and address issues as they arose throughout this investigation. The less rigid format of case studies allowed researchers to begin with expansive questions and narrow their focus as the study progresses, rather than attempting to predict possible outcomes before the research is conducted (Van Maanen, 1982).

Case study research bridges the gap between abstract research and concrete practices by allowing researchers to compare their firsthand observations with the quantitative results obtained through other methods of research (Palmquist & Sloane, 2004). Illustrative case study allowed for a rich and thick description of the four-day school in this study (Gutierrez & Rogoff, 2003). Accordingly, the examiner took into account the uniqueness of each individual, the culture, the area, and the K-12 school setting. This particular case study research involved a distinct case which was developed around a small, rural school community located in the upper Midwest. This study was directed at finding out the shared beliefs of the members of a school community, rather than individual attributes of a specific person or institution (Mauritius Institute of Education, 1997).

Employees working within their regular work place environment conduct many of the illustrative case studies. Not only can they draw from the field in which they are working, they can research topics in which they are knowledgeable and interested in;

such is the case in this illustrated case study. The illustrative case study places an emphasis on exploration and writing rich descriptions (Palmquist & Sloane, 2004).

This study employs the case study methodology as it best fits the goals of this study. Other forms of qualitative research often focus on large sample sizes and are restricted to rigid protocols. This study focuses on the four-day school week as it relates to a single district, rather than a large sample size. This study also seeks to expand upon the intricate diversity of responses to each question (Stuart, 2003).

### Population and Sample Procedure

The population of this study refers to people directly involved in the study itself and the people who may later be affected by the results of this study. One of the purposes of this study was to provide information about the process, implementation and the results of the four-day school week program as it related to this specific district and as it might relate to other districts that have similar demographics. The sample population for the study included members of a small, rural community located in the upper Midwest. The population of this study expands to fit this demographic.

The participants from this study comprised of any stakeholder involved in the Four-Day School Week Project in a particular school district who wished to participate. The inclusion of many stakeholders afforded the researcher ample opportunities to gather data from a broad sector of the community through various means and in a variety of settings. Members of the community whose perspectives were included in the study began with people who attended the initial community meeting held to discuss the four-day school week issues. The sample population included parents of the 250 students

enrolled in the K-12 school, teachers, staff, community and school board members. Their perspectives directly shaped the study's design, problems, successes, and findings as well as the future planning for the district.

All 160 students in grades 6-12 were surveyed in 2006 and 2007. All three administrators were surveyed both years. Twenty-eight teachers from grades K-12 and five staff members were surveyed. One survey per household was mailed out to all parents of the 250 students enrolled in the district, of those 118 were completed and returned to the school in 2006 and 103 were completed and returned in 2007. Also in 2007, additional surveys were randomly mailed out to 50 community members having no children enrolled in the district. All of the teachers were selected for interviews, as were fifteen parents and community members. The prospective surveys were conducted by the high school student council members in 2005. The results included data from 58 students in grades 9-12.

#### Sources of Data

Within the guidelines of the qualitative research method, the researcher was the primary instrument for data collection, analysis, and interpretation. According to Gray (1996), the quality of the data collected during an interview is only as good as the interviewer. The research practitioner was committed to serving the people of this community, and continually sought guidance from the community members and stakeholders so as to complete a culturally responsive study. Without cultural responsiveness the results of this study would have been of little value.

Teacher, parent, and community member interviews and survey questionnaires were created, dispersed, conducted, collected, and analyzed to gather data for the research study. Before dispersing, all interview and survey questions were first be presented to the superintendent in order to ensure cultural appropriateness. The interview questions were open-ended and the results were transcribed and then returned to the participant for clarification and approval before any information was used in final reports. The interview questions focused on the study and served to provide relevant data. A written description of the study outlining the project goals and objectives was provided to the administrators and school board members for review. Informed consent forms were dispersed for signatures, thus giving participant permission to use their statements and interview responses for the purpose of the study.

Interviews were conducted in order to gather additional data, to verify key observations, and to check the facts. The interviews provided the stakeholders an opportunity to make known their perceptions and concerns regarding the Four-Day School Week Project. The questions were focused on topics relating to the program (Erickson & Gutierrez, 2002). Most parents were interviewed on-site.

All 28 teachers from the elementary, middle school, and high school were interviewed on-site during their scheduled breaks. The interview process began with an explanation of the study and the purpose for the interviews, followed by a request for their signed consent form. The interview consisted of open-ended questions and digitally recorded answers. The interviews provided opportunities for teachers and other stakeholders to voice their concerns, share the problems they faced, and any successes they experienced as a result of the change to a four-day school week. The interviews were

very useful for getting the story behind a participant's real life experiences. Using a digital tape recorder allowed the researcher to remain focused on the responses (Bennett, 2005).

Notes were not taken during the interviews, affording the researcher the opportunity to actively listen to the speaker. All interviews were digitally recorded and later transcribed. During the interview, the stakeholders' statements were restated for clarification and to ensure that the interviewer accurately perceived what the participant was saying. After the interviews were completed the results were typed and presented to the participants. The interviewer and some of the participants reviewed the transcriptions together, other participants reviewed them privately. This provided the participants the opportunity to reflect upon, to affirm, or negate the results. This helped to insure the accuracy and validity of the results of the study. In some cases a second meeting was scheduled in order to make the recommended changes or for clarification purposes. Forty-three interviews were conducted; each lasted approximately 20 minutes. This provided approximately 860 minutes of stakeholder perspectives.

### Validity

Validity of the study is critical to the research process and among one of the most difficult challenges faced by researchers. Validity is concerned with the study's success at measuring what the study intended to gauge, referring to the degree in which the study is accurate and reflected upon the specific concepts that were measured (Van Maanen, 1982). While validity is a concept most frequently used within the realm of quantitative research, it is important to qualitative research too. Qualitative research validity is looked



at in terms of credibility, transferability, dependability, and confirm-ability. Researchers can help to ensure validity by using multiple sources of data and expanding sample sizes.

### Reliability

Reliability, like validity, is central to the research process. Reliability is the extent to which a study requires measurement procedures that yield the same results on different trials. Without the ability to use research tools and procedures that yield consistent measurements, one would not be able to draw conclusions, formulate theories or make claims about the generalization of the research (Lloyd-Jones, 2003).

To more clearly understand the distinction between reliability and validity, one could think of the two concepts in terms of a dart board. After a number of throws, reliable data would look tightly concentrated while unreliable data would look widely scattered. Valid data would be close to the bull's eye while invalid data would be away from the bull's eye. Throughout the design process, the study was constructed and conducted to ensure validity and reliability. Using accurate measures for the concepts being studied helped to ensure validity (Mehra, 2002).

### Data Collection Procedures

Consent from the participants was obtained prior to research initiation. Current literature and district documents were reviewed before the onset of classroom observations and the interview process. Data collection began during the fall of 2007. The data collected was digitally recorded, in handwritten field notes, on interview forms, survey forms, and in the researcher's field journal for later reflection. The major data

collection technique was an in-depth one-on-one interview with the K-12 staff and surveys of the stakeholders. The interviews and survey results provided a foundation for the illustrative case study research and have been supplemented by classroom observations, examinations of district records, reports, financial statements, NCLB Report Cards, district CRT data reports, and other student assessment results. Data sources for this study include (a) interviews and surveys with teachers, parents, students, and community members; (b) observations of classroom interactions and instructional strategies; and (c) review of documents, records, and assessment results.

Quantitative data was also collected. This data included the district's high school numbers of times the students were tardy to their classes for the years of 2003 through 2007 as listed in Infinite Campus. Infinite Campus is a Web-based student management system utilized by this particular district. Attendance rates, graduation rates, district NCLB AYP achievement status were documented on the district's No Child Left Behind Report cards for the years 2003, 2004, 2005, 2006, and 2007. The Dakota State Test of Educational Progress (D STEP) results for math and reading for students in grades 3-8, and grade 11 for the 2002-2003, 2003-2004, 2004-2005, 2005-2006, and 2006-2007 school years were reviewed for percentages of students scoring in the proficient and advanced ranges. The D STEP test is administered to students each spring during a two week window scheduled between mid-March and mid-April. It incorporates elements of norm referenced and criterion-referenced testing (South Dakota Department of Education, 2008).

The ACT results for students in grades 11 and 12 were reviewed. The ACT proposes to determine the extent in which the students are prepared for college level

work. The ACT includes curriculum-based tests of academic development in English, mathematics, reading, and science designed to measure the skill set needed for student success in freshmen level college coursework. The composite scores range from one to 36. Like the ACT, the PLAN Test is a student assessment designed around the same four student assessments: English, math, reading, and science. PLAN is a pre-ACT test, and is used to predict college readiness. All or most of the district's sophomore students, take the PLAN test in the fall in order to determine their strengths and weaknesses in the four core academic areas. The composite scores range is from one to 32 (College Board, 2006).

The district costs for mileage, substitute teacher pay, utilities, and non-certified staff costs were found in the expenditure reports for the general fund, the food service fund, and the special education fund for four fiscal years: 2004, 2005, 2006, and 2007. According to the district's business manager (S. Elshere, personal communication, April 26, 2006) the district is located in a rural setting and does not transport students to and from school due to the large area the district covers, 1320 square miles, and the low number of students living sparsely throughout that area. The district compensates parents for mileage to transport their children in grades K – 8 to schools.

The numbers of office referrals before and after the district changed from a five-day school week district to a four-day school week district were to be analyzed, but there were no documented office referrals records prior to the 2005-2006 school year. The administrator at that time said the referral records were destroyed retired. He retired from the position in June of 2005 prior to the start of the four-day school schedule (J. Grayot,

personal communication, September 28, 2006). According to the current administration, from 2006 to 2007 the number of office referrals decreased from 84 to 60, or 12%.

The district's information regarding the numbers of students involved in extracurricular activities was found on the South Dakota Department of Education Web site in the district's profile. The South Dakota High School Activities Association (SDHSAA) uses the average daily memberships from grades 9-11 to calculate classifications for high school sports and activities (SDHSAA, 2007).

The Preliminary Scholastic Assessment Test (PSAT) is the National Merit Scholarship Qualifying Test administered to students in Grade 11. It is a standardized test which provides students with an opportunity to practice for the SAT Reasoning Test. There are three sections in the PSAT. The areas assessed include critical reading, math, and writing skills. The PSAT scores determine how ready eleventh grade students are for freshmen level college-level work (College Board, 2006). The district requires students in grades 5 and 9 take annual Stanford Writing Assessments. The assessments are scored in several areas. The analytic rubric includes ideas and development, organization, unity, coherence, word choice, sentences and paragraphs, grammar and usage, and writing mechanics. The writing assessment results from 2004 through 2007 were compared (SD DOE, 2007).

While gathering multiple forms of qualitative and quantitative data, participation by the research collector established a connection to the district's situation because the observer became totally involved in the activities within the district. Therefore, the expanded relationship between the participants and the research collector became a significant aspect of the research itself (Haigh, 1999).

Often during the course of the data collection, analysis occurred simultaneously within the categories and concepts developed. Information was entered in a field journal during the period of data gathering. The journal provided a place to include additional notes concerning the research context. Systemic organization of data was crucial, and helped to prevent the data organizer from becoming inundated with the vast amounts of data. Being organized also prevented distractions and diversions from the original research purpose and questions. Preparing a database assisted with data categorization, sorting, and data retrieval for analysis which helped to avoid possible challenges (Mauritius Institute of Education, 1997).

The following research approaches and strategies were employed to gain information from which to answer the research questions.

Research Question 1: “What impact has changing from a five-day school week to a four-day school week had on the students, the staff, and the community?” Current literature and similar studies were reviewed, written documentation such as the school board meeting minutes and reports, the reports submitted by the initial research team, and the past survey results were examined along with student assessment results and the district’s NCLB Report Card. Current surveys were conducted and compared to those distributed before the four-day school week was adopted and those completed after the first year of implementation. All members of the school faculty and several community members were interviewed.

Research Question 2: “Has shortening the school week to four days helped the district experience a significant savings in operational costs?” Information was obtained in order to provide background for this question by reviewing past and current school

budgets and expense reports and financial statements. Informal interviews were conducted with the administrative team, the teachers, and the district business manager.

Research Question 3: “Are the district’s results sufficient enough to warrant stakeholder support to continue the four-day schedule change?” Teacher interviews and stakeholder survey results were reviewed. State NCLB Report Cards and district CRT data were examined along with student assessment results. Multiple classroom visits were performed for the sole purpose of observing the interaction between the teachers and the students in order to document the use of instructional techniques to determine the progress of the students. During these visits, the researcher stayed for most of the class period.

Research Question 4: “How have teachers changed their instructional practices as a result of the longer class periods?” Data found within professional development schedules, staff in-service records, classroom lesson plans, curriculum maps, and the student and staff handbooks were examined. Twenty-eight teachers were interviewed and 38 classroom observations were conducted. Also teachers’ anecdotal reports and their classroom journals were reviewed as they were made available.

All interview results were categorized and the data examined for similarities and differences. If patterns emerge, it is possible that evidence may stand out as being in conflict with those patterns. If this had occurred, a secondary, more focused interview would have been conducted to confirm or correct the original data in order to link the evidence to the findings and to the research questions (Mauritius Institute of Education, 1997). The data has been reported in a way that transforms difficult issues into issues that can be more easily understood, thus allowing the readers to question and examine the

study, and then come to an understanding of the information. Illustrative case studies present data in a way that may lead readers to apply experiences in their own real-life situations. This report is accessible to the public and displays enough evidence to promote reader confidence that all avenues have been exhausted, while clearly communicating the boundaries of the study, and lending special attention to conflicting propositions (Mehra, 2002).

The report includes a section thanking the participants, one that states the problem, lists the research questions, describes the methods that were used to conduct the research, and the limitations of the methods used. The data gathering and analysis techniques that were used are explained. The report concluded with the answers to the research questions and some suggestions for further research. Other important sections of the report include the retelling of specific information related to the successes or problems experienced by the stakeholders that were conveyed during data collection, and all answers or comments revealing issues directly related to the research questions (Mauritius Institute of Education, 1997). Once analysis was completed and a draft of the report was created, copies were shared with the superintendent, members of the district administrative team, and some stakeholders affording the opportunity to review the report and discuss any necessary changes before university submission. This helped to ensure that the study was presented in a culturally appropriate and respectable way, accurately portraying the thoughts and opinions of the respondents. It also contributed to the credibility of the study. This report provides insight to improve education and to understand factors influencing the success of the Four-Day School Week Project.

## Data Analysis Procedures

While conducting qualitative research, large amounts of data are produced from multiple sources making the analysis process complex. The analysis procedure included techniques such as collecting, coding, analyzing, and organizing the data (Mauritius Institute of Education, 1997). In this study, data analysis was an ongoing process in which the perceptions generated in one phase of the inquiry altered or lead the direction of the next phase. For the most part, the data was interpreted in a holistic framework for two purposes: first, to look for patterns among the data that might give meaning to the illustrative case study; and second, to identify connections between the research subjects and their outcomes in reference to the original research questions (Palmquist & Sloane, 2004).

The data analyzed includes attendance rates, graduation rates, AYP math and reading achievement status, NCLB classification, tardiness statistics, ACT scores, PLAN scores, PSAT scores, D STEP scores, writing assessment scores, extracurricular statistics, results from the 2006-2007 parent surveys, results from the 2006-2007 middle school and high school student surveys, survey results from the 2006-2007 teacher surveys, survey results from the 2007 community survey, combined 2007 survey results from the teacher and community surveys, prospective survey results, the coded interview themes taken from the 15 parent interviews, the coded interview themes taken from the 28 teacher interviews, the classroom observation data, and the district cost per year analysis. In order to determine the impact on the school community, this study first analyzed descriptive statistics regarding attendance, graduation rates, tardiness, and achievement assessment scores. It then analyzed the responses from the surveys provided, followed by



analysis of the budgetary information. The second research question, of whether or not the four-day school week reduced the school's budget was analyzed by looking at the district's budgetary statistics.

Research Question 3, which asked whether the four-day school week should continue, was analyzed by looking at all of the data that assists Research Question 1. The focus of this analysis however, differed from the previous analysis in that it relied more on the subjective responses of the surveys. The fourth research question, regarding the changes in instructional practices, also relied on the same data as Research Questions 1 and 3. It differed however in its emphasis on the responses that related to changes in schedule.

#### Ethical Considerations

The main ethical concerns when performing case studies are those of informed consent, confidentiality, and the potential harm to the participants. Before the onset of research, both ethical considerations and confidentiality issues were discussed with the participants. After the research questions and approaches were explained to the participants, they were offered the opportunity to withhold individual information or completely withdraw from the study. Informed consent is necessary for the release of data and the data analysis. All parties involved had access to the field notes of their observations and the transcriptions of their interviews. They were presented with copies of their transcribed interviews before any data was analyzed or research was reported (Haigh, 1999).

## Limitations

The limitations addressed in chapter 1 are very significant. The first limitation was the realization that the scope of this project is severely limited by the geographic location of the school system and the absence of other four-day programs. Other limitations of the study exist in the accuracy of the information collected. In addition to the limitations expressed above, this section details limitations as a result of the qualitative nature of the project. According to Granberg (2000), research on a specific culture must be reported in a matter considerate of their perspectives. Therefore, the data gatherer remained in continuous communication with the resident community members. Keeping the names of the participants confidential protected the anonymity of the participants. Participant names are not used in any reports. In addition, the location of the school and the name of the community have not been identified. Charges of bias are common in the social sciences; this refers to the possibility of the researcher's point of view making a difference in how he or she makes sense of the situation being studied or the outcome of the observations. It is therefore possible for a biased opinion to result from the interactions between the participants and the researcher. Bias also refers to systemic errors, resulting from either a conscious or unconscious tendency of a research conductor to produce data, and or to interpret the data in a way that confirms his or her perceptions and commitments (Haigh, 1999).

Qualitative research is interpretive research. Therefore, the role of the person conducting the research is an important part of the process (Taylor & Bogdan, 1984). In this study the researcher was the primary data collection instrument. Qualitative research recognizes that researcher perceptions and values along with those of the other

stakeholders involved might influence the study. Instances for researcher bias and the opportunity to influence the findings exist in all case study research where the sample size is limited and the relationship between the researcher and the participants is frequent and close (Haigh, 1999). Palmquist and Sloane (2004) argue that case studies are difficult to generalize because they are based on qualitative subjective data. In this study the researcher is employed by the district in a supervisory position. According to Stuart (2003), to overcome the reported weaknesses, the most efficient way to go through the research process is to follow sequential steps: determine which research questions will guide the study and define them, choose specific cases and determine the data gathering and analysis strategies to be used, prepare to collect pertinent data, go into the field and collect that data, evaluate and analyze the data, and then prepare the report.

### Summary

Within this chapter the illustrative case study research method and both qualitative and quantitative forms of research were discussed. The illustrative case study research methodology was chosen based on the research questions, the type of report that was to be developed, and other assumptions related to this approach. The research design, population, instruments, timeline, data collection strategies, and the description of the analysis of the data were identified in this chapter. Chapter 4 presents the data analysis, the results, and the findings of the study in relationship to the questions asked, the answers to the questions and the conclusion. Chapter 5 ends the report with a summary of the study, discussions of the findings and conclusions, implications for general practice, recommendations for further research, and implications.

## CHAPTER 4. DATA COLLECTION AND ANALYSIS

### Introduction

The findings of the interviews, surveys, observations, assessments, and reports are presented in this chapter. The data is utilized to answer the research questions posed earlier in the study. This chapter is divided into four sections: the introduction, data analysis, the results, and summary.

### Data Analysis

The previous chapter explains in detail the manner of collecting the data for this study. The data collected from this study is organized and presented below. The data analyzed includes attendance rates, graduation rates, AYP math and reading achievement status, NCLB classification, tardiness statistics, ACT scores, PLAN scores, PSAT scores, D STEP scores, writing assessment scores, extracurricular statistics, results from the 2006-2007 parent surveys, results from the 2006-2007 middle school and high school student surveys, survey results from the 2006-2007 teacher surveys, survey results from the 2007 community survey, combined 2007 survey results from the teacher and community surveys, prospective survey results, the coded interview themes taken from the 15 parent interviews, the coded interview themes taken from the 28 teacher interviews, the classroom observation data, and the district cost per year analysis.

## Results

### *Research Question 1*

Research Question 1 asked: What impact has changing from a five-day school week to a four-day school week had on the students, the staff, and the community? The first null hypothesis states that there is no significant difference in the impact of changing from a five-day school week to a four-day school week on the students, the staff, and the community. The data to test this hypothesis was collected primarily from a series of surveys given to parents, teachers, students, and community members to measure their subjective opinions, as well as from observational data accrued by the researcher and other objective data, measuring test scores, budgetary information, and tardiness rates.

Table 1

*Attendance Rates, Graduation Rates, AYP Achievement in Math and Reading, and NCLB Status*

Year	Attendance Rate	Graduation Rate	AYP Reading	AYP Math	NCLB Status
2002-2003	94.68%	96%	No	No	Alert
2003-2004	94.89%	100%	Yes	Yes	Okay
2004-2005	94.89%	100%	Yes	Yes	Distinguished
2005-2006	94.98%	100%	Yes	Yes	Distinguished
2006-2007	95.93%	92%	Yes	Yes	Distinguished

The years 2002-2005 are years in which the five-day school week was in effect and the years 2006-2007 are years in which the four-day school week was implemented. The statistics on this measure are mixed. There is a decline of 8 percentage points in graduation rates while the attendance rate climbed by about one percentage point. At the same time, NCLB status elevated from “alert” to “okay” the year before the four-day school week was initiated. Adequate Yearly Progress grades a twofold measure of achievement, which was positive for two years prior to the four-day school week and the two years in which it was in effect.

Table 2

*Tardiness Statistics*

School Year	Number of Tardies
9/1/2002 to 5/25/2003	289 (3 min. passing)
9/1/2003 to 5/25/2004	358 (3 min. passing)
9/1/2004 to 5/25/2005	832 (3 min. passing)
9/1/2005 to 5/25/2006	1,032 (4 min. passing)
9/1/2006 to 5/25/2007	1,092 (4 min. passing)

These statistics show a marked increase in tardiness as a result of switching from the five-day to the four-day school week. It is unclear from the data, however, what the number of 3 minute passing time tardies would have been, had they been measured similarly to the prior years. Given that they were not, it is more difficult to determine the effects of the change to the four-day week. That being said, it does appear that the switch

from a 3 minute passing time to a 4 minute passing time effected student tardiness in context of the increase from 832 to 1032. The increase in student tardiness is noteworthy.

Table 3

*ACT Scores*

Grad Year, Dist. 51-5	Total Tested	Composite, Dist. 51-5	SD State Average	Natl. Average
2002-2003	19	19.6	21.4	20.8
2003-2004	18	19.9	21.5	20.9
2004-2005	26	21.2	21.5	20.9
2005-2006	22	20.2	21.8	21.1
2006-2007	20	21.9	21.9	21.2

Again, due to the short time horizon, the statistics are mixed. While both the state and national averages showed consistent improvement from 2002-2006, the district in which the four-day school week was attempted showed a reduction in that same test statistic the year the new schedule was implemented. That being said, the following year, the ACT scores improved markedly, by far more than any given year in any of the other averages from 2002-2007. It could be hypothesized that the reduction in test scores was a period of adjustment for the students and teachers and thus not a true indicator of the effect of the four-day school week. Further, the year following that ACT score reduction showed a relatively large gain in test scores, which could indicate that the period of adjustment may have come to an end and the school is back in line with the state average.

Table 4

*PLAN Scores*

Year, 10 <sup>th</sup> Grade	Total Tested	English	Mathematics	Reading	Science	Composite
2002-2003	28	17.6	17.9	17.3	19.2	18.1
2003-2004	27	16.4	17	16.5	18.2	17.1
2004-2005	32	16	17.7	18.2	18.2	17.7
2005-2006	18	18.8	18.5	17.6	18.6	18.5
2006-2007	24	18.5	19.3	18.7	19.3	18.7

The PLAN scores show modest improvement since the implementation of the four-day school week. However, due to the first data point, and the very small sample size, no significant conclusions can be drawn from these scores. It could be the case that there is a cycle underlying the data that is not clear due to the small sample.

Table 5

*PSAT Scores*

Year	Composite (CR,M, &W)
2002-2003	155.89
2003-2004	146.22
2004-2005	148.11
2005-2006	148.47
2006-2007	143.13



The composite PSAT scores from 2002-2007, similar to the other test scores above, do not provide any clear path in terms of student performance. The first year from 2002-2004 showed about a nine-point drop which was more, even in percentage terms, than the decrease in the composite scores from 2005-2007 after the four-day school week was initiated.

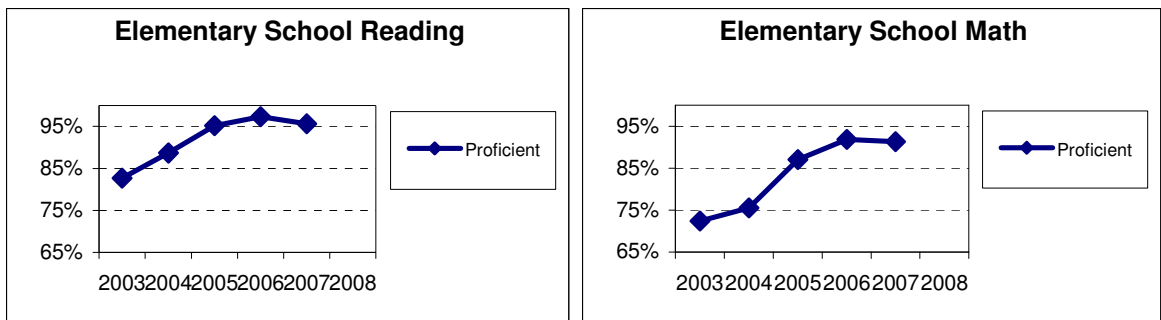


Figure 1. D STEP proficiency percentages for elementary students.

The above charts show the D STEP scores in reading and math in terms of proficiency for the elementary school students. In terms of both reading and math, there is a consistent upward trend that does not appear to be consistent with any change as a result of the implementation of the four-day school week. Only reading proficiency seems to have flattened out and fallen slightly after the four-day school week was implemented. As a result, these results are mixed and provide no significant evidence one way or another.

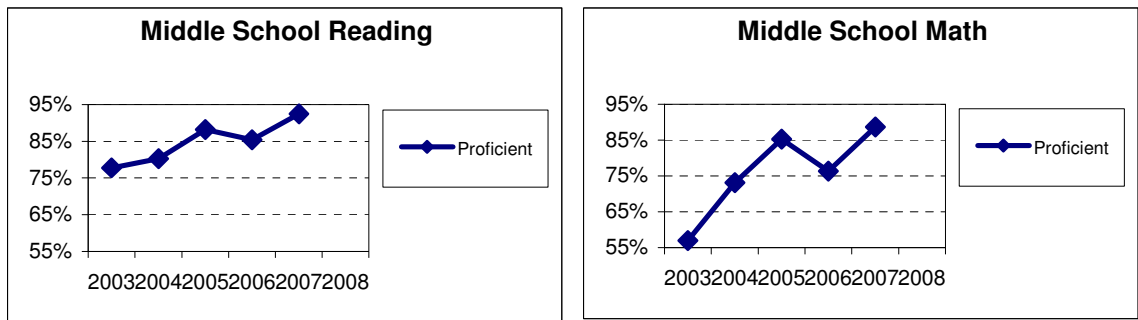


Figure 2. D STEP proficiency percentages for middle school students.

The above charts show the percentage of students scoring proficient or advanced according to their D STEP scores for the middle school of the study institution. The pattern for reading and math are both virtually identical apart from their scale. Prior to the implementation of the four-day school week, there was a flat year and then an increase in terms of proficiency scores. In the first year after implementation, proficiency scores, which was shown to be less volatile in the middle school than in the high school or elementary, shows a pattern of slight declined followed by a larger increase. There was a drop in scores in terms of reading and math proficiency followed by a sharper increase in the year following the implementation. What is difficult to determine from only two years of data is whether this increase is better or worse than the increases prior to the implementation of the four-day school week. In order to determine this aspect of the analysis, more data would be needed. As a result, these charts show mixed data and thus result in no strong conclusion one way or the other.

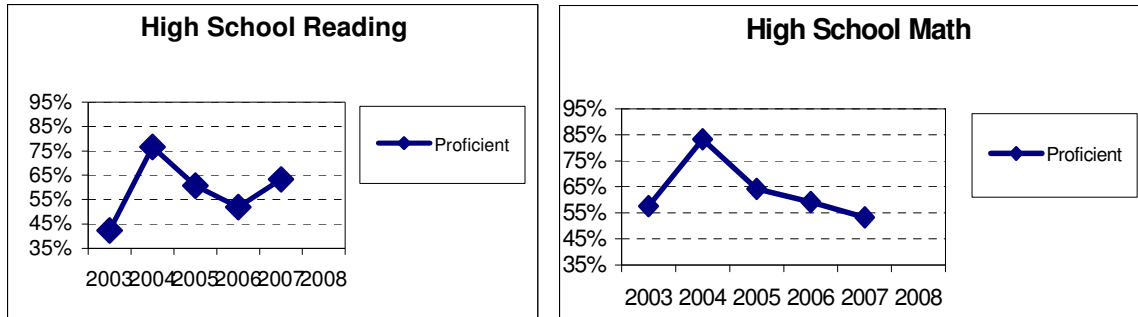


Figure 3. D STEP proficiency percentages for high school students.

The above charts show the D STEP scores in reading and math in terms of proficiency for the high school students. Proficiency scores show mixed results in reading since the scores appear highly volatile. In 2003 to 2004, there was a very large increase in scores followed by a sharp decline. In the first year of implementation proficiency fell again, though less sharply and in the second year of the four-day school week, it rose.

In terms of the math D STEP test scores, a similar pattern emerges with proficiency except there was no subsequent increase in scores after the second year of the four-day school week. The results, like those of many other measures of performance appear mixed and will likely need more time in order to tell whether there was any significant change as a result of the four-day work.

Table 6

*Writing Assessment Scores, Grades 5 and 9*

Grade 5							
	I	II	III	IV	V	VI	Composite
2003-04	2.81	2.50	2.69	2.58	2.65	2.35	2.60
2004-05	2.66	2.50	2.75	2.50	2.58	2.50	2.58
2005-06	3.00	2.93	2.96	2.64	2.86	2.79	2.86
2006-07	2.90	2.74	2.79	2.74	2.73	2.68	2.76
Grade 9							
	I	II	III	IV	V	VI	Composite
2003-04	2.27	2.40	2.53	2.61	2.63	2.63	2.51
2004-05	2.95	2.89	2.92	2.96	3.00	2.97	2.95
2005-06	2.77	2.15	3.06	2.97	3.00	3.00	2.83
2006-07	2.97	2.97	3.00	2.93	2.89	2.93	2.95

The above scores were taken from the six-phase writing assessment tests. Each number in the cells above represents the mean score. This score was calculated by multiplying the score received by the percent of the students who received it and summing the results for each phase of the test. In this way, a comparison can be made among phases and years. The composite score was calculated as an equally weighted average of the six scores for each year. The results, while not necessarily significant for either ninth or fifth graders, show an improvement for fifth graders and mixed results for ninth graders after the implementation of the four-day school week.

Table 7

*Extracurricular Involvement*

Category	2003-2004	2004-2005	2005-2006	2006-2007
K-12 total enrollment	291	268	257	254
Grades 9-11 enrollment	95	96	89	79
# of students in extracurricular activities (9-11)	93	95	89	78
% of students in extracurricular activities (9-11)	98%	99%	100%	99%

Extracurricular statistics from grades 9 through 11 did not vary very much from year to year with virtually all high school students reporting participation in at least one extracurricular activity. This sample, however, is also small and larger more variable samples may show different rates of participation and a more clearly defined trend.

Table 8

*Results from the 2006-2007 Parent Surveys*

Survey Question	Percent	
	2006	2007
How do you feel the four-day week is now going for your family and your child?		
My child likes it	77%	71%
My child is doing well in the four-day week	69%	69%
My child is tired at the end of the school day	18%	14%
Other	16%	8%
I/we wish that school was still five days a week	14%	15%
School is harder for my child this year because	6%	5%
I think my child will adjust in a while	5%	0%
I think our family will adjust in a while	4%	0%
I/we don't have an opinion	0%	2%
What does your child do on Fridays?	2006	2007
Go to work/job/family chores	62%	57%
Watch TV, videos, surf the Web, talk on the phone	44%	34%
School activities/sports, practices, or games	43%	49%
Sleep in	38%	46%
Play or spend time with friends	38%	43%
Other	38%	29%
School work; attend the free tutoring Friday mornings program	31%	31%
Attend the out-of-school time activities (K-8)	9%	20%

Table 8 (Continued)

What do you like about the four-day week?	2006	2007
Being able to schedule appointments on Fridays	70%	72%
Having Friday off	61%	62%
More family time on weekends	60%	60%
Family time on Friday	51%	51%
Being able to do homework on Friday and have the weekend free	39%	45%
Students seem to be covering more material/learning more in four days	27%	22%
Less interruptions during the day so we can get more done	25%	29%
Other	23%	14%
My child seems more focused on school work	19%	17%
Longer class periods	18%	23%
Friday practices and games	13%	20%
Changes in activity practice times	10%	18%
Fewer athletic competitions, shorter travel distances	4%	8%
Snack breaks	1%	5%
<hr/>		
What are your concerns about the four-day week?	2006	2007
Other	31%	17%
The whole idea of doing 9 months of education in four days a week	17%	14%
Length of the school day	13%	12%
How early the day starts	13%	12%
Lack of supervision of my child on Fridays	5%	8%
Length of time before lunch	3%	6%

As opposed to the previous quantitative data, the two years of parent surveys show strong support overall for the four-day school week. In response to the first question, “How do you feel the four-day week is going?” a significant majority of parents reported that their child likes the four-day school week and that the child is doing well with the new schedule.

In response to the second question, “What does your child do on Fridays?” a majority of parents in both years stated that their child was being productive. Over 60% of children in 2006 and over 55% of children in 2007 reported going to work, or doing family chores. However, the children did also seem to enjoy themselves. Forty-four percent of parents reported that their child engaged in activities like TV watching or surfing the Web in 2006. This proportion dropped by almost 25% in one year however as sleeping and school activities increased.

In response to the third question, “What do you like about the four-day week?” over 70% of parents in both years reported that they enjoyed being able to schedule appointments on Fridays. Another ~60% of parents reported they enjoyed having Friday off and having more family time on weekends. Other often mentioned responses included family time, being able to do homework, and learning more in a shorter time period.

In response to the fourth question, “What are your concerns about the four-day week?” there were very low response rates overall. The most highly noted category was “other.” Examples of responses from this category included “by Monday the children have forgotten what they had learned the previous week,” and “by Thursday night my children are exhausted.” Overall, the response from the parents to the four-day week is highly positive and very encouraging.



Table 9

*Results for the 2006-2007 Middle School and High School Student Surveys*

Survey Question	Percent		Percent	
	2006 MS	2006 HS	2007 MS	2007 HS
How do you feel the four-day week is now going for your family and your child?				
I like it	82%	77%	84%	90%
Other	16%	14%	29%	21%
I am tired at the end of the school day	41%	23%	25%	17%
School is harder for me because	27%	14%	11%	10%
I think I will adjust in a while	27%	33%	11%	2%
I wish that we wouldn't have changed	6%	4%	2%	2%
I don't have an opinion	0%	16%	0%	2%
	2006	2006	2007	2007
What does your child do on Fridays?	MS	HS	MS	HS
Play or spend time with friends	78%	51%	62%	60%
Go to work/job/family chores	61%	73%	58%	83%
School activities/sports, practices, or games	67%	73%	55%	69%
Sleep in	63%	59%	45%	60%
Watch TV, videos, surf the Web, talk on the phone	55%	54%	45%	48%
Other	18%	8%	31%	19%
School work; attend the free tutoring Friday mornings program	22%	22%	27%	48%
Attend the out-of-school time activities (K-8)	12%	0%	20%	10%

Table 9 (Continued)

	2006	2006	2007	2007
What do you like about the four-day week?	MS	HS	MS	HS
Having Friday off	92%	70%	87%	95%
Being able to do homework on Friday and have the weekend free	84%	87%	73%	60%
Being able to schedule appointments on Fridays	61%	52%	62%	67%
More family time on weekends	76%	49%	55%	43%
Family time on Friday	61%	58%	40%	38%
I seem to be more focused on school work	29%	41%	40%	26%
I think that we are covering more material/learning more in 4 days	22%	8%	40%	38%
Friday practices and games	33%	47%	33%	55%
Less interruptions during the day so we can get more done	14%	25%	18%	21%
Changes in activity practice times	6%	28%	18%	24%
Snack breaks	#N/A	0%	18%	19%
Other	10%	20%	15%	17%
Longer class periods	10%	18%	13%	12%
Fewer athletic competitions, shorter travel distances	0%	11%	11%	7%
	2006	2006	2007	2007
What are your concerns about the four-day week?	MS	HS	MS	HS
How early the day starts	80%	65%	65%	67%
Other	22%	22%	31%	31%
Length of the school day	35%	34%	25%	31%
Length of time before lunch	8%	54%	18%	10%
The whole idea of doing 9 months of education in four days a week	12%	10%	15%	14%
Lack of supervision on Fridays	0%	15%	2%	2%

Student surveys mirror those of the parents for the most part. The highest and most significant response rates on any survey questions were in favor of the four-day week. Further, there has been a significant change in many of the categories in terms of an improved outlook and perception of the four-day week. The first and third question, asking respectively how the four-day week is going and what specifically the student likes about it, have overwhelmingly positive responses. “I like it [the new schedule]” received 84% of middle school and 90% of high school responses. In 2006, the response rates were 82% and 77% respectively. So while the middle school responses were about the same, the high school response rate increased significantly.

Further, the reduction in the negative response rates to this question show marked improvement in student outlook. In 2006, 41% of middle school students stated they were tired at the end of the school day compared to only 25% in 2007. At the same time, those who stated that school was harder for them decreased from 27% to 11% for middle school students. High school students reported a smaller change but in the same direction. In response to the third question, the response rates for “having Friday off” were 87% for the middle school and 95% for the high school. The latter was indeed the highest response rate to any question with a significant sample in this study. It is not difficult to imagine that high school students would enjoy a free day per week. Even the “other” category in the first question was composed of mostly positive responses. One high school response indicated that even with the extra day off, students did fewer drugs.

Further, from the second question, it is clear that the day off is used by middle school students for enjoyment (62% response rate for “play or spend time with friends”) while it is mostly used for work, family chores, or a job by the high school students (83%

response rate for “go to work/job/family chores). This was true in 2006 as well, though the rates of playing with friends fell over time. The remaining changes in this category were relatively small but did indicate that students were doing less “fun” things and more work, family, or scholastic things.

The only negative responses from the first and fourth questions related to school being more difficult, the schedule being more tiring at the end of the school day, and the length of school day in general. The most highly negative response was to the fourth question regarding concerns about the four-day week. Sixty-five percent of middle school students and 67% of high school students indicated that they were concerned about how early the day started. In 2006, however, while the response rate for high school students was about the same, the middle school students’ response rate decreased from 80%. As a result, the responses weighed heavily towards a strong endorsement for the four-day school week from the students.

Table 10

*Teacher Survey Results 2006-2007*

Survey Question	Percent	Percent
Amount of time the students have to work at school is:	2006	2007
More	53%	41%
About the Same	29%	32%
Less	18%	23%
No response	0%	5%
The quality of students' homework is:	2006	2007
Better	38%	32%
About the same	59%	55%
Worse	3%	9%
No response	0%	5%
Students' attitudes toward school and their classroom behavior is:	2006	2007
Better	62%	50%
About the same	32%	36%
Worse	6%	9%
No response	0%	5%
My classroom teaching and instruction is:	2006	2007
Better	47%	50%
About the same	50%	41%
Worse	3%	9%

Table 10 (Continued)

The amount of classroom preparation time that I have is:	2006	2007
More	11%	23%
About the Same	50%	41%
Less	36%	32%
No response	3%	5%

During the semester I can cover:	2006	2007
More material	18%	27%
About the same	44%	41%
Less material	38%	27%
No response	0%	5%

Would you prefer to continue with a four-day school week or return to a five-day week?	2006	2007
Continue with a four-day week	88%	64%
Return to a five-day week	12%	27%
I have no preference	0%	5%
No response	0%	5%

The 2007 teacher survey also revealed useful information regarding teacher opinions, attitudes, and observations regarding the four-day week. These responses were as follows: in 2007, 73% of teachers reported that students have the same or more time to work at school compared to 82% in 2006; in 2007, 87% of teachers indicated that the quality of their students' work was the same or better compared to 97% in 2006; in 2007, 86% of teachers responded that students' attitude towards school was the same or better compared to 94% in 2006; in 2007, 91% of teachers indicated that their classroom teaching and instruction was the same or better with 50% saying it was better compared

to 97% in 2006 with 47% saying it was better; in 2007, 64% of teachers responded that they had the same or more classroom preparation time with 32% reporting having less time. Fifty percent of the teachers in 2006 reported having the same amount of prep time; in 2007, 68% of teachers responded that they could cover the same or more material with a surprising 27% saying they could cover more material compared to 62% in 2006 with only 18% saying they could cover more material; and in 2007, 64% of teachers stated that they believed that the four-day week should continue compared to 88% of teachers in 2006. It is especially indicative of the benefits of the four-day week that teachers indicated that they could cover more in fewer days per week and that their classroom teaching and instruction is better.

That being said, it is important to note that many response rates that favored the implementation of the four-day week declined in the teacher survey where they seemed to increase in the parent and student surveys. In terms of increased benefits from the four-day week, fewer teachers stated that they could teach less material. On the other hand, there was a notable decrease in the percent of teachers who stated that the four-day week should continue.

Table 11

*Community Survey Responses*

Survey Question	Percent
Do you think the change to the four-day school week helped or hurt the school district?	2007
Helped	65%
No impact	0%
Hurt	18%
I don't know	18%
Do you think the change to the four-day school week schedule has helped or hurt the students' participation in extracurricular activities?	2007
Helped	41%
No impact	18%
Hurt	6%
I don't know	35%
Do you think the students are doing better or worse in school since we started using the four-day week schedule?	2007
Better	41%
About the same	29%
Worse	6%
I don't know	24%



Table 11 (Continued)

Do you think the school district should continue using the four-day week schedule or return to a traditional five-day school week schedule?	2007
Continue with the four-day schedule	59%
Return to the five-day schedule	24%
I have no preference	6%
I don't know	12%

The community seems to agree with the teachers, parents, and students regarding the four-day school week. Sixty-five percent of community members stated that the new schedule helped the district with only 18% saying that it hurt. Fifty-nine percent of community members believe that extracurricular activity participation stayed the same or increased and 70% of community members believed that students were doing the same or better in school. Finally, and most tellingly, 59% of community members believe that the district should continue with the four-day week versus only 24% who said it should revert back to the five-day week.

Table 12

*Combined Teacher and Community Survey Responses*

Reason for liking one school week over the other:	Teacher		Community	
	4-Day Week	5-Day Week	4-Day Week	5-Day Week
Student achievement	71%	67%	60%	50%
Sports and clubs	57%	50%	50%	0%
Scheduling of Federal holidays	57%	33%	30%	0%
Impact on school budget	50%	0%	50%	25%
Length of school day	36%	100%	0%	50%
Time children spend at home	29%	17%	70%	50%
Other	21%	33%	10%	0%
Student employment	0%	0%	30%	0%

These combined results were derived from asking teachers and community members respectively whether they would value the four-day or five-day schedule higher on eight different categories. The teachers ranked the four-day week higher in every category except two: other, and length of the school day.

The community agreed with the teachers in this survey. In fact, the community only ranked the five-day week better in the length of the school day. Overall, the teachers and the community seem to give a strong endorsement for the continuation of the four-day school week. The 2006 survey for teachers, not shown here, shows basically no change from 2006 to 2007. There were two notable differences, one was that fewer teachers stated that the impact of the budget was a reason to keep the four-day school week in 2007 than in 2006 and the other was that fewer teachers reported student employment as a reason to keep the four-day week in 2007 than in 2006.

Table 13

*Prospective Schedule Change Student Survey*

Prospective Schedule Change Survey	Percent
<b>Extracurricular Activities:</b>	
<b>Students currently involved:</b>	
Total students currently participating in at least one activity	88%
Total students currently not participating in any activities	12%
<b>If alternative schedule was implemented</b>	
<b>Of the 12% of students not currently participating in an activity</b>	
Those who said they would still not participate	50%
Those who said they would participate w/ new schedule	36%
Those who said they might participate in one	14%
<b>Of the 88% of students currently participating in activities</b>	
Those who said they would not participate in another one	48%
Those who said they would participate in another one	36%
Those who said they might participate in another one	17%
<b>Of the 88% of students currently participating in activities</b>	
Those who said they would become more involved	69%
Those who said they would stay as involved	22%
Those who said they might become more involved	8%

Table 13 (Continued)

Longer Class Periods	
Benefit from a longer class period	
Those who said they would benefit from a longer class day	85%
Those who said they would not benefit	9%
Those who said they were not sure if they'd benefit	6%
What should longer class time be used for	
More work time/homework time/ work on class assignments	64%
Time to ask teacher questions regarding assignments	21%
More one on one time with teachers	17%
Longer study halls/free periods	17%
School Availability on Fridays	
Students and Friday school use	
Those who said they would use the availability to do school work	60%
Those who said they would not use the school on Fridays	26%
Those who said they might use the school on Fridays	14%
Sports Scheduling and Late Practices	
Issues with late practices/Thursday, Friday, Saturday	
Scheduling	
Those who said they would have no problem	77%
Those who said they would have an issue	18%
Those who said they might have an issue	5%

Table 13 (Continued)

Employed Students	
Students who currently have a job during the school year	
Those who currently hold a job during the school year	53%
Those who do not hold a job during the year	39%
Those who did not specify if they had a job	8%
If alternative schedule was implemented and Fridays were free	
Those who said they would apply for a job to work Fridays	65%
Those who said they would not use their Fridays to work	25%
Prospective Schedule Change Survey Continued	Percent
Those who said they would consider applying to work Fridays	10%
Fridays	
How students stated that they would use their Fridays	
Working at a job	52%
Doing homework	45%
Appointments or visits	39%
Working on farm/ranch	27%
Resting/relaxing	22%
Traveling	21%
Hobbies	17%

This survey asked students about their opinions regarding a prospective change to a four-day school week. It allows this study to formally investigate whether the expectations regarding a change from a five-day to a four-day school week were met in a number of categories including extracurricular activities, longer class periods, availability of school on Fridays, sports scheduling and late practices, employed students, and use of their Fridays. A thorough review of the data shows that in every single case, the

expectations of the students were born out by the data given in the previous subsections of this section of the chapter. The only possible exception is regarding the participation of extracurricular activities. This inconsistency can be partially explained by the students that were asked and that responded to the survey were different in number and composition than the ninth through 11<sup>th</sup> graders whose extracurricular activity enrollment data is provided above. Overall, based on this data and all the survey data previously discussed, it is clear that the expectations for the four-day week were met in each case.

Table 14

*Coded Interview Responses Taken from the 15 Parent Interviews*

How is the four-day week going for your family and your child?		
Reported Themes	# of participants to offer this experience	% of participants to offer this experience
School is harder/more homework/child is tired	9	60%
Going well	8	53%
Child did not participate in four-day week	1	7%
Teachers not prepared	1	7%
Could be better	1	7%

Table 14 (Continued)

What does your child do on Fridays?		
Reported Themes	# of participants to offer this experience	% of participants to offer this experience
Makes appointments for lessons/doctor/visits family	13	87%
School or Schoolwork/V-tel classes	8	53%
Have fun/relax/stay home	6	40%
Chores	3	20%
Goes out	1	7%
Variety of things	1	7%

What do you like about the four-day week?		
Reported Themes	# of participants to offer this experience	% of participants to offer this experience
Do not like it	6	40%
It is great/better than five-day week	4	27%
Less traveling	3	20%
No opinion	2	13%
Scheduling is easier	1	7%
Child does homework in class	1	7%

Table 14 (Continued)

What are your concerns about the four-day week?		
Reported Themes	# of participants to offer this experience	% of participants to offer this experience
None	10	67%
Shortchanging the students	3	20%
Too much homework	2	13%
Costs associated with four-day week too high	2	13%
Student's academic performance will decrease	1	7%
Children board by the weekend	1	7%
Too much material to cover/not being able to cover it	1	7%
Too much supervision	1	7%
Length of time before lunch not long enough	1	7%
No change from five-day week	1	7%

Above are coded themes from the 15 parent interviews. These interviews were conducted one-on-one and the verbal responses of the participants were digitally recorded and reviewed. The data above seem to contradict the survey data in only one significant way. Responses to the third theme, “What do you like about the four-day week?” showed a plurality of negative feelings towards the four-day school week. This finding is in agreement with the first theme since 60% of parents responded that the schoolwork is harder and the child is more tired versus only 53% that say it is going well.

Oddly, these interview findings directly contradict themselves in the last themes since 67% of parents who participated in this survey stated that they had no concerns



about the four-day week while only 20% stated that they believed that students were being shortchanged. One important factor with these interviews is that while they provide depth and color in some instances, the sample may be too small to draw significant conclusions. That being said, whenever data arises that contradicts the general findings, it is important to investigate it further. Future studies should sample more parents over longer periods of time to delve into this irregularity with respect to the rest of the data.

Table 15

*Coded Interview Responses Taken from the 28 Teacher Interviews*

Reported Themes	# of participants to offer this experience	% of participants to offer this experience
Love four-day week/wish to continue it	7	25%
Against four-day week/wish to discontinue it	4	14%
Days are too long	3	11%
Convenient for appointments and scheduling	2	7%
Need more time to determine successfulness of schedule	2	7%
Children are tired	2	7%
Days start too early	2	7%
Teaching has improved/come closer to standards	1	4%
Covered more material than with previous schedule	1	4%
Fewer absences than with previous schedule	1	4%
Absences could be improved	1	4%
Mondays are difficult since it is like returning from a holiday	1	4%
Hard for students who take V-tel classes	1	4%

The above results coincide with many of the themes that have recurred throughout this section. Teachers overall appear to be for the new schedule, however, 14% of the 28 teachers were against it and wanted to move back to the four-day week. The positive and negative aspects regarding the four-day week also reoccur. These include: days are too long (11% of participants), convenient for appointments and scheduling (7% of

participants), children are tired (7% of participants), and days start too early (7% of participants).

Table 16

*2006-2007 Classroom Observation Data*

Rigor/Challenge of Lesson	Percent
Low	8%
Medium	45%
High	47%
Engagement of students	
Low	8%
Medium	18%
High	74%
Culture of support/encouragement	
Low	5%
Medium	11%
High	84%

These data were taken from 38 classroom observation sessions during the 2006-2007 school year starting in the winter. From the results, one cannot determine the overall change from periods prior to the four-day school week, however, what can be concluded is that overall, two indicators of a successful program received strong notations. First, student engagement was ranked high in 74% of the 38 classrooms. Even more important, the culture of support and encouragement was ranked high by 84% of the 38 classrooms. The results from the difficulty or rigor of the lessons, however, were mixed. Fewer than

50% of the 38 classrooms observed were ranked both medium and high. From these data, it is encouraging to see that these results were recorded during the four-day week.

The overall conclusion from the Research Question 1 is manifold. First, according to the survey results, the students are happier. In the response to their surveys a supermajority stated that they liked the new schedule and the highest response rate of any question with a significant sample behind it was received by the “What do you like about the four-day week?” question. Further, teachers state that students are performing better academically. That said, the standardized tests, the ACT, PLAN, PSAT, D STEP, and writing assessments do not bear those claims out to the degree of certainty they are conveyed through the data. However, academic records are in the teachers’ hands so they are better equipped to discuss the letter grade performance of the students. Impacts on the community include having to have unsupervised children and high school students home on Fridays when the parents must work and cannot find or afford help. Benefits include more productivity since employment is the leading student activity on Fridays in high school. The teachers seem to like the extra time off, so they report a beneficial impact. Their coded interviews, while showing some degree of dislike for the four-day schedule, show a majority in favor of continuing it. Overall, the impact is very positive on the students, staff, and community. The null hypothesis is therefore false. The responses from the surveys all reiterate (except the interviews) the positive feelings around the four-day week. An interesting conflict of interest arises here. While teachers are not assumed to be biased, their incentives are to have higher performance under the four-day week than the five-day week since they get that time off for the most part.

*Research Question 2*

Research Question 2 asked: Has shortening the school week to four days helped the district experience a significant savings in operational costs? The second hypothesis states that there is not a significant difference in savings in operational costs from the shortening of the school week to four days. The data to test this hypothesis was collected primarily from budgetary information acquired from the district, shown in the chart below.

Table 17

*Cost Per Year Analysis*

Cost Category	Five-day 2003-2004	Five-day 2004-2005	Four-day 2005-2006	Four-day 2006-2007
Substitute Teacher				
Pay	\$30,201.49	\$22,959.87	\$25,938.02	\$29,856.46
Utility Costs	\$58,575.14	\$61,703.52	\$73,063.52	\$75,134.52
Mileage Paid to Parents	\$35,989.49	\$41,415.72	\$35,561.64	\$38,151.01
Non- Certified Staff Costs	\$152,746.65	\$164,448.25	\$162,498.93	\$176,341.00
TOTAL	\$277,512.77	\$290,527.36	\$297,062.11	\$319,482.99

This analysis shows that the costs have increased from the five-day school week to the four-day school week. The second null hypothesis is therefore false. Given that the initial expectations were that the costs would be reduced, it is important to investigate this finding. First, it should be noted that the biggest cost increase from 2004-2005 to

2005-2006 was utility costs, due to the construction of the new building. The following year, utility costs did not increase that much, however non-certified staff costs increased the most in dollar terms than they have over this period. So it seems that the cost analysis results are mixed in that the costs did increase, however, they did so in a way that warrants investigation. One thing can be stated for certain though; costs did not decrease as a result of the switch to a four-day school week.

Therefore, to provide an answer to the second research question, costs increased, strictly speaking, over the time period in question. That said, it is important to weigh the cost increases with how costs would have increased without the four-day school week and see the cost increases in the light of rising costs in general. Further, the cost increases should be weighed against the benefit increases discussed in response to Research Question 1.

### *Research Question 3*

Research Question 3 asked: Are the district's results sufficient enough to warrant stakeholder support to continue the four-day schedule change? The third null hypothesis states that the district's results are not sufficient enough to warrant stakeholder support to continue the four-day schedule change. The data to test this hypothesis was collected primarily from a series of surveys given to parents, teachers, students, and community members to measure their subjective opinions, from observational data accrued by the researcher, as well as from other objective data, measuring test scores, budgetary information, and tardiness rates.

In order to gauge the sufficiency of the results of switching to a four-day week, the researcher considered a number of different factors, including student achievement,

teacher performance, cost-effectiveness, and the overall effect on the community. While the beliefs of parents, students, and teachers regarding standardized test performance and extracurricular activity (see Tables 8-15) do not seem to be conclusively born out by the statistical data (see Tables 3-6), there is significant attitude and utility increase as gleaned from the responses. Further, academic performance seems to have improved (see Table 16), though the state testing and PSATs do not agree conclusively (see Tables 3-6 and Figures 1, 2, and 3). The choice, therefore, is between the possible increase in costs and the definite happiness of the teachers, parents, students and the community. It could be argued that over the long term, even if the costs did increase, the academic performance will improve as the most recent data point suggests. In fact, that argument is backed, however insignificantly, by the data. It should be noted though that those data points are not significant. It is just an argument that can be made that the students' performance needed an adjustment period during the first year and then the increase may continue going forward.

In terms of costs, it is interesting to note that community members and teachers – 50% of each group – state that they believe that the four-day school week should be favored on account of the budget (see Table 12). These responses are in direct contrast with the actual budget increases as a result of the second year of the new schedule (see Table 17). That being said, increasing utility costs were a large factor influencing the increase in budget, and at least part of that had to do with the rise in commodity prices over the period. The mileage paid fell, as less driving needed to be done and the substitute teacher costs remained about the same. Overall, the answer to Research Question 3 is a resounding “yes,” disproving the null hypothesis. The district's results

were very positive on the whole and warrant even the increase in costs when productivity, happiness, and utility are factored in.

#### *Research Question 4*

Research Question 4 asked: How have teachers changed their instructional practices as a result of the longer class periods? The null hypothesis states that there is not a significant change in teachers' instructional practices as a result of longer class periods. The data to test this hypothesis was collected primarily from a series of surveys given to parents, teachers, students, and community members to measure their subjective opinions, from observational data accrued by the researcher, as well as from other objective data, measuring test scores, budgetary information, and tardiness rates.

Finally, with respect to teachers' instructional practices, the teachers had to deal with the time shifts just as the students did. The teachers stated that they were better able to teach and instruct in the classroom. Specifically, 50% of the respondents to the teachers' survey stated that their classroom teaching and instruction were better under the new schedule (see Table 10). Unfortunately, the depth of material covered was not as clear-cut. Twenty-seven percent of teachers stated that they could cover more and 27% stated that they could cover less. Forty-one percent stated that they could cover the same amount of material. The null hypothesis could not be proved false. Despite this finding, 64% of the teachers still affirmatively stated that they would rather stay with the four-day week.



## Summary

Based on the above evidence and analysis, the four-day school week is widely favored by the teachers, students, and the community. Each group individually and virtually unanimously backed the new schedule. The costs, while rising, are only worrisome if they fail to outweigh the benefits, which at the moment does not appear to be the case. Therefore, it can be concluded that as a result of the findings in this chapter, the four-day school week is significantly favored compared to a reversion to the five-day school week.

## CHAPTER 5. RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

### Introduction

Chapter 5 is divided into four sections. The first section summarizes the purpose of the study. The second section summarizes the findings and conclusions. The third section offer recommendations for future research. The fourth section conveys the implications for general practice.

### Summary of the study

This study set out to research one strategy for solving a dilemma encountered by many school districts that face societal pressure to increase student achievement with limited funding: the adoption of the four-day school week. The study was constructed to give insight into the impact of the change to a four-day school week on students, teachers, parents, and the community at large. In doing so, the study presented a review of the relevant literature addressing traditional and alternative school scheduling, specifically year-round, block, and four-day scheduling. The study employed an illustrative case study research design and received both quantitative and qualitative data. The data was collected primarily from a series of surveys given to parents, teachers, students, and community members to measure their subjective opinions about switching to a four-day academic week, from observational data accrued by the researcher, as well as from other objective data, which measured test scores, budgetary information, and student tardiness rates. Upon obtaining consent for the collection of data, the researcher

conducted interviews and survey with the teachers, parents, and students, made observations of classroom interactions and instruction strategies, and reviewed documents, records, and assessment records. The results addressing the research questions were presented in chapter 4 and will be subsequently analyzed below.

### Summary of Findings and Conclusion

The study posed four research questions, which were covered in-depth in chapter 4. An overview of these research questions and the study's related findings are below.

*Research Question 1: What impact has changing from a five-day school week to a four-day school week had on the students, the staff, and the community?*

The analysis indicates that the overall impact from the change of schedules has been positive. Specifically, students report they are happier and desire to continue the four-day school week. Parents agree that their children are enjoying the four-day school week. Teachers state that their teaching has improved and that students' behavior and attitudes have improved as a result of the alternative schedule. Teachers also report that the students' academic performance has improved despite mixed results from the various standardized assessment tests. Indeed, the ACT, PLAN, PSAT, D STEP and writing assessment scores were shown to have mixed results. The use of Fridays was also beneficial, as parents and students could make appointments, spend time together, or work on those days. Such activities were impossible or extremely difficult for the stakeholders with the five-day week school schedule. Those impacts are the main ones that occurred as a result of the switch to an alternative schedule.

*Research Question 2: Has shortening the school week to four days helped the District experience a significant savings in operational costs?*

The answer to Research Question 2 is strongly indicated to be “no.” Costs have not fallen as a result of the switch to a four-day school week. The expected savings in non-certified staff costs did not materialize. Further, utility costs were not saved, and instead their rate of growth increased after the implementation of the four-day school week, which coincided with the addition of a new building in the district. Due to vast increases in energy prices, the construction of the new building, and a possible period of adjustment, it is not certain whether the four-day school week had a positive or negative impact in terms of costs.

*Research Question 3: Are the district’s results sufficient enough to warrant stakeholder support to continue the four-day schedule change?*

Given the answer to Research Question 1 and Research Question 2, and the fact that the observation period for the four-day school week has only been two years, it is clear that there is significant evidence that benefits the continuation of the alternative schedule. The district’s results, if you include the happiness and opinions and perceptions of the stakeholders, clearly warrant a continuation of the support shown for the four-day school week. The standardized performance criteria may need more time to be assessed, as do the cost savings. If both of those indicators turn significantly negative, this question may need to be revisited.

*Research Question 4: How have teachers changed their instructional practices as a result of the longer class periods?*

The teachers have changed their instruction practices in order to deal with the time shifts, just as the students have adapted. The school day starts earlier and days are longer. As a result, teachers must take those factors into account and fortunately, the data indicates that they have. The study finds that 50% of teachers stated that they felt their classroom teaching and instruction had improved as a result of the new schedule. Teachers reported spending more time preparing for their classes, though, which may have improved their performance. Overall, teachers have adapted their methodologies to match the new schedule and they report that, as noted in response to Research Question 1, they would like to continue with the four-day school week.

### *Conclusions*

Ultimately, the development and implementation of the four-day school week, as noted in chapter 4, has been met with mostly positive comments. These comments come from interviews and surveys which were conducted with, and sent to, various stakeholders. This study follows Fager's (1997) advice regarding the surveying of the stakeholders and respecting their opinions. Steiguer (2002) recommended that a review the four-day school week's effect on students' learning should be conducted regularly, especially during the trial phase and the early phase of implementation. This section presents the results of those surveys and reviews and discusses their connection with the previous literature.

First, as per the recommendation of Steiguer (2002), the students' academic and standardized testing performance was assessed. The strategies utilized to undertake this assessment were the students' ACT scores, PLAN scores, PSAT composite scores, D STEP scores, writing assessment scores, and the survey of the teachers and the

community. The quantitatively-recorded student assessment scores were limited to the first five items in the list above while the surveys were recorded qualitatively. While Steiguer (2002) found that several schools in New Orleans reported increases in statewide assessment scores, the results from chapter 4 indicate that the results from the scores analyzed in this study are at best, mixed. Scores were seen to have risen in the years prior to the implementation of the four-day school week. In the first year of the implementation, most scores discussed in chapter 4 either maintained or fell slightly while in the second year of implementation, they continued on their upward trajectory. This finding is unusual with respect to the literature. However, as noted, the observation period was relatively short. Therefore, it is impossible to attribute the rise in scores over the previous five years specifically to the implementation of the four-day school week. It could be the case, though, that because the results from chapter 4 only represent the first two years of the four-day school week, future assessments will record a stronger impact.

As opposed to the quantitative student assessment scores, the qualitative surveys reported a perceived increase in academic performance. The questions asked of teachers assessed their interpretation of the quality of students' homework, and the questions asked of the community assessed the community's interpretation of whether the four-day school week helped or hurt academic performance. The teachers responded that in 2007, a vast majority thought that the quality of students' homework was at least as good as prior to the implementation of the four-day school week. Thirty-two percent of teachers stated that the quality of students' homework was better while only 9% stated that it was worse. The results from the community survey were similar. Seventy percent of community respondents stated that they thought students were doing at least as well or

better in school since the start of the four-day school week. Of those, 41% stated that they thought the students were doing better in school. These results are consistent with both Steiguer's (2002) findings and those of Miller-Hale (2007). Miller-Hale found that students' academic performance increased along with a number of other assessment factors (extracurricular activity involvement, morale, family support, and supplementary programs) as a result of the implementation of the four-day school week. The teachers and the community appear to tell a different story than the assessment scores. It will likely take more time and study in order to determine if the teachers and community's thoughts are predictors of eventual success.

Another factor discussed in the literature and tested by this study was the involvement in extracurricular activities. Delisio (2005) found that the Custer School district in South Dakota reported a 24% increase in student involvement in extracurricular activities (Delisio, 2005). This study finds that the results are not clear in terms of extracurricular activity involvement of students. This unusual finding results from the high levels of initial involvement. The raw data collected show that the initial involvement in 2003-2004 was already 98% (93 out of 95 students). The following year, when the five-day school week was still in effect, the proportion rose to 99% (95 out of 96 students). In 2005-2006, the proportion reached 100% with all 89 students surveyed involved in extracurricular activities. Finally, in 2006-2007, the proportion fell back to 99%. Given the high level of initial involvement, and the very small variation about the mean involvement rates, it is difficult to get a clear picture of how extracurricular activity involvement was altered by the four-day school week. Compared to Delisio's (2005) findings, it would have been impossible to observe a similar increase because the

maximum increase could not have exceeded approximately 1%. It is interesting to note, though, that the prospective four-day week students stated that they would be more likely to be involved in extracurricular activities according to the results presented in chapter 4.

In addition to academic performance, other benefits of the four-day school week were cited by the literature. Reeves (1999) found that the use of Fridays was extremely important to the community, teachers, parents, and students. This study reports similar findings. Since the implementation of the four-day school week in 2006, a majority of parents reported that their child uses Fridays to work, do chores, or spend time with their families. Other activities reported include having fun, playing on the computer, watching TV, sleeping in, or doing school work. The students themselves agree and state that they predominantly use Fridays to go to work, do chores, or spend time with family. Prospective four-day week students were surveyed prior to implementation and they also reported that they would use their Fridays to mostly work. Far more prospective four-day school week students thought that they would do homework than this study found reported such an activity on Fridays. Another important use of Fridays from the parents' and teachers' perspectives was the ability to schedule appointments for doctors or other specialists without taking the child out of school. This finding is in strong agreement with Reeves (1999) who found that the school district studied for the author's paper also reported that the four-day school week left Fridays free to allow parents to schedule appointments.

One of the underlying reasons for the implementation of the four-day school week was prospective cost savings. MacLeod (2002) found that 100 rural school districts from South Dakota to Florida chose to use the four-day school week as a means to cut costs.



Another study reported that one district saved \$13,000 in transportation costs, non-certified staff salaries, supplies, and utility bills in 1971-1972 (Roeth, 1985). Those savings equate to \$66,733 in 2007 dollars. This study recorded a contrary finding. Specifically, this study found that costs actually increased from the 2003-2004 school year to the 2006-2007 school year. The cost increases were from \$277,512 to \$319,482 in four years. The biggest factors in those increases were utility costs and non-certified staff costs. The latter is more surprising for this study than the former. A new building was built in the district and energy costs rose during that time period. As a result, the district could have used the same or less energy in terms of kilowatt hours, and still have experienced higher utility costs. In terms of non-certified staff costs, the only plausible explanation for the excess costs as a result of their usage must be the addition of two staff members and cost of living adjustments. While the literature shows significant evidence that cost savings are available, this study fails to confirm those assertions. Instead, the opposite is found from the short sample under observation.

Cost savings, however, are not alone as an important factor in the evaluation of the four-day school week. In addition, the district studied moved to the alternative schedule in order to meet the unique needs of the community it serves. Staff morale, student behavior, and attendance were also considered crucial in the literature. Macleod (2002) found that the Custer School District saved only \$70,000 out of its projected \$110,000 cost savings; however, it noticed the other significant benefits described above. Teacher surveys sent out after the implementation of the four-day school week found that the students' attitudes and their classroom behavior improved as a result of the four-day school week. That improvement was noted by 62% of teachers in 2006 and 50% of

teachers in 2007. Only 6% and 9%, respectively, reported that the students' attitudes and behavior were worse.

In terms of staff morale, teachers reported that their instruction and teaching had improved in addition to the behavior of the students. Forty-seven percent in 2006 and 50% in 2007 reported that their teaching and instruction had improved. Further, 88% in 2007 and 64% in 2007 stated that they wanted to continue with a four-day week. In terms of attendance, slightly more students attended school as a result of the four-day school week; however, the proportion started out high. In 2002-2003, an attendance rate of 94.68% was reported. In 2003-2004, the rate climbed to 94.89% and stayed there for the following year. Then, in 2005-2006, the first year of the four-day school week, the proportion climbed to 94.98% and again climbed by about one percentage point to 95.93% in 2006-2007. Given the prior flat rate of growth, and the relatively larger rate of growth after the implementation of the four-day school week, it can be assumed that there is a slight increase in the attendance rate, in agreement with the previous literature. However, the data confirms that tardies vastly increased during that time period as well. Ultimately, these data show mixed results for the four-day school week relative to previous literature.

Concerns for the four-day school week were reported by Roeth (1985) to include early start times, longer school days, and less time for homework. The results presented in chapter 4 agree with these concerns. The parent survey showed that the third and fourth most popular responses to the "concerns about the four-day school week" question were the length of the school day and how early the day starts. For students, the proportion of responses for those two concerns was far higher. The proportion of students

that reported the early day start concern was 80% for middle school in 2006, 65% for high school in 2006, 65% for middle school in 2007 and 67% for high school in 2007. Further the length of the school day represented about a third of responses in all schools in all years. The third most popular teacher perception taken from the interviews was also that the days were too long. Only 7% stated that the day started too early. These findings of the concerns are in agreement with those reported in the literature.

The above findings and literature have presented a relatively mixed picture of the perceptions of the four-day school week. The last, and arguably most important, finding, however, points to a far more positive view. This result, presented in various places in chapter 4, shows an overwhelming support for the four-day school week from students, teachers, and parents. Students and parents both reported strong feelings for the four-day school week. Seventy-seven percent of parents in 2006 and 71% in 2007 reported that their child likes the four-day school week, and 69% in both years reported that their child is doing well in the four-day school week. Eighty-two percent of middle school students and 77% of high school students reported that they liked the four-day school week in 2006 and those numbers rose to 84% and 90% respectively for 2007. As noted earlier in this section, 88% of teachers in 2006 and 64% of teachers in 2007 reported that they would like to continue with the four-day school week.

These results are in agreement with the previous literature as reported by Roeth (1985). The author found that after three years, 68% of parents, 75% of students, and 93% of teachers favored the four-day school week (Roeth, 1985). The differences between those findings are the ones reported in this study are only twofold. First, parents' views of the four-day school week were shaped by their opinion of how their child is

doing with the alternative schedule. Second, the teachers reported the lowest approval rating out of the three groups after two years in this study whereas they reported the highest approval rating after three years in Roeth's study.

### Conclusion

This study provided an interesting and complex view of the switch from the five-day to the four-day school week. The data sources utilized to assess the research questions were broad based. They included standardized test scores, costs, qualitative academic performance measures, extracurricular activity measures, and a wide array of qualitative survey methodologies. These data provided a mixed, yet convincing view of the alternative schedule.

The mixed view was centered on a few variables. The two most important were standardized testing performance and the cost structure relating to the unusual lack of cost savings. As mentioned in the literature discussion, cost savings were one of the most consistent findings and one of the reasons cited for the initial switch to the four-day week was executed. Some confounding factors were certainly present, mostly that utility costs and the non-certified staff costs rose significantly during the period.

In terms of standardized testing performance, while the observation period was not long enough, the results showed a consistent dip in performance in the first year after the implementation of the four-day school week and a subsequent rise in scores. It is impossible to determine whether the rise in scores was proportionally higher than the already higher trending scores prior to the four-day school week.

The convincing view came directly from the qualitative analysis. An overwhelming proportion of stakeholders, including students, parents, teachers, and the community wish to continue with the four-day school week. That resounding positive reading regarding the four-day school week is probably the most crucial finding of the study. While the reasoning for liking the four-day school week was varied, the fact that it is so highly supported is sufficient in order to provide strong justification for the continuation of the alternative schedule. Thus, this study provided a broad-based and convincing case for the continuation, and periodic review, of the four-day school week.

### Recommendations

The purpose of this study was to examine and document a Four-Day School Week Project which has evolved as a district's response to decreasing enrollment, financial constraints, and an individual rural community's needs. Given the findings and conclusions presented above, the study will provide recommendations for practice and recommendations for future research.

#### *Recommendations for Practice*

The study recommends that the four-day school week be continued. Overall happiness and satisfaction reported by the stakeholders is the strongest positive factor pointing towards the four-day school week. Academic scores on standardized assessment tests are mixed and costs have gone up; however, it is too soon to tell whether those indicators are strongly pointing in one direction or another.

### *Recommendations for Future Research*

Further research needs to be conducted as an extension of this study years in the future. Specifically, standardized test scores should be monitored for as many years out in the same manner they have been recorded prior to the switch to the alternative schedule. That way, a *t*-test or ANOVA analysis could be conducted in order to provide strong statistical evidence regarding the variation in mean standardized test performance.

Continual observation is important in order to get a full picture of the overall impact of the switch to the alternative schedule. It is likely to take years for the effects of the standardized tests and cost structures to be representative of the actual impact imparted by the change to the four-day school week. Thus, further study and observation are needed in this area.

### Implications

This case study had a specific purpose in mind during its construction. It was structured in order to provide further evidence of the effectiveness of the four-day school week in terms of student performance, costs, weekly schedules and the opinions of all the stakeholders. The results of this study show a few findings that are important for general practice.

First, the length of observation and periodic review was shown to be an issue to consider. Academic grades may be directly observable by the teachers, but the standardized performance tests appear to take a longer amount of time to converge and more data would be needed to statistically test that convergence. Further, the cost basis

needs more time to settle or converge in order to clarify the effects of the switch. The specifics of future studies in this regard are relegated to the discussion on future research.

Second, the methodologies utilized in this study, having been validated previously, were given another evaluation. The qualitative methods utilized were found to have provided good data. Finally, the actual findings of the study lead directly to practical implications. The four-day school week should be continued based upon the findings of this study.

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## APPENDIX A. LETTER OF CONSENT

### Letter of Consent for Study Participants

To \_\_\_\_\_:

You are invited to participate in an illustrative case study researching the impact of the change to a four-day school week on the students, the community, the staff, and their classroom practices. The study is relevant to all stakeholders associated with School District #51-5 and is a requirement for the completion of this researcher's Doctoral Degree in Leadership: K-12 Administration from Capella University, St. Paul, Minnesota.

The intent of this Letter of Consent is to inform you of the nature of the study and to receive informed consent for your participation.

Your participation will help to improve the understanding of the effects resulting from the change from a more traditional school calendar to a four-day school week. Data will be collected from classroom observations, a district-wide survey, and individual interviews. The use of a tape recorder during interviews will only transpire with documented prior consent. At no time will any specific comments be attributed to a particular individual. Compiling responses to safeguard the individual identity for interview and survey participants will protect anonymity.

You are free to withdraw from the study at any time by contacting the researcher, with no prejudice or consequence. If you choose not to participate in this research, that information will remain in confidence.

A full copy of the final report will be available in the central business office after completion of the study and the resulting report.

By signing this letter, you are giving free and informed consent to participate in this illustrative case study.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Signature: \_\_\_\_\_

## APPENDIX B. TEACHER INTERVIEW QUESTIONS

### Interview Questions for the Teachers and Staff

Please respond to these questions in view of the schedule change from a five-day school week to a four-day school week in 2005.

1. What is your current teaching position within the district?
2. What changes have you implemented in the structure of your classroom?
3. What instructional strategies do you use to deliver the subjects you teach?
4. How do you assess student achievement?
5. How much homework do you assign?
6. Have you changed your classroom management procedures?
7. Do you feel you are able to cover the curriculum in the amount of instructional time you have with the students?
8. How has your teaching and the culture of your classroom been affected by the change to the four-day school week?
9. Explain any challenges you have faced and the strategies you have used to manage the challenges.
10. Are you satisfied or dissatisfied with the effects of the four-day school week?
11. Identify the advantages and disadvantages of the four-day school week.
12. Do you have any recommendations for other classroom teachers?
13. Do you have any recommendations for the school board and district administrative team?

## APPENDIX C. PARENT INTERVIEW QUESTIONS

### Interview Questions for Parents

Please respond to these questions in view of the schedule change from a five-day school week to a four-day school week in 2005.

1. How many children do you have in the school district and what grades are they in?
2. What are some advantages that you perceive from the change to a four-day school week?
3. What are some of the disadvantages that you perceive from the change to a four-day school week?
4. What are your perceptions of satisfaction in the four-day school week in regard to:
  - a. your student(s) attitude toward school?
  - b. your student(s) academic achievement?
  - c. the effects of the four-day schedule on student organizations, activities, and sports?
  - d. the general culture of the school?
5. Overall, are you satisfied or dissatisfied with the effects of the four-day school week?
6. Do you have any other additional thoughts you would like to share?



## APPENDIX D. PARENT SURVEY

### Four-Day Week Parent Survey

PLEASE COMPLETE AND RETURN ONE SURVEY PER FAMILY

This survey is to determine changes that have occurred as a result of the 4-day week and to provide information for the administration and the Board of Education. Please return to the school by the date shown at the bottom so that your opinions can be included in the tabulated results.

How do you feel the 4-day week is going for your family and your child? (*Check all that apply*)

School is harder for my child this year because

---

My child is tired at the end of the school day.

I think my child will adjust in a while.

I think our family will adjust in a while.

My child likes it.

My child is doing well in the 4-day week.

I/we wish that school was still 5 days a week.

I/we don't have an opinion

Other (*please fill in your response*):

---

What does your child do on Fridays? (*Check all that apply*)

School activities/sports practices or games

Sleep in

School work; attend the free tutoring Friday morning program

Attend the Out-of-School Time activities (K-8)

Play or spend time with friends

Watch TV, videos, surf the Web, talk on the phone

Go to work/job/ family chores

Other (*please fill in your response*):

---

What do you like about the 4-day week? (*Check all that apply*)

Having Friday off

Family time on Friday

More family time on weekends

Being able to schedule appointments on Fridays

Being able to do homework on Friday and have the weekend "free"

Longer class periods

- Less interruptions during the day so we can get more work done
  - Changes in the activity practice times
  - Fewer athletic competitions, shorter travel distances
  - Snack breaks
  - Friday practices and games
  - My child seems more focused on school work
  - Students seem to be covering more material/learning more in 4 days
  - Other (*please fill in your response*):
- 

What are your concerns about the 4-day week? (*Check all that apply*)

- Length of the school day
  - How early the day starts
  - Length of time before lunch
  - Lack of supervision of my child on Fridays
  - The whole idea of doing 9 months of education in 4 days a week
  - Other (*please fill in your response*):
- 

Grade levels of your children:

- Elementary School
- Middle School
- High School

Please return to the school by: \_\_\_\_\_

## APPENDIX E. STUDENT SURVEY

### Four-Day Week Student Survey

This survey is to determine changes that have occurred as a result of the 4-day school week and to provide information to the administration and the Board of Education. Please be honest in your replies as your opinion matters and will be included in the tabulated results.

How do you feel the 4-day week is going? (*Check all that apply*)

- School is harder for me this year because\_\_\_\_\_.
  - I'm tired at the end of the school day.
  - I think I will adjust in a while.
  - I like it.
  - I wish that we wouldn't have changed.
  - I don't have an opinion at this time and want to wait before making a decision.
  - Other (*please fill in your response*):
- 

What do you do on Fridays? (*Check all that apply*)

- School activities/sports practices or games
  - Sleep in
  - School work; attend the free Friday morning tutoring program
  - Attend the Out-of-School Time activities (K-8)
  - Play or spend time with friends
  - Watch TV, videos, surf the Web, talk on the phone
  - Go to work, job, family chores
  - Other (*please fill in your response*):
- 

What do you like about the 4-day week? (*Check all that apply*)

- Having Friday off
- Family time on Friday
- More family time on weekends
- Being able to schedule appointments on Fridays
- Being able to do homework on Friday and have the weekend "free"
- Longer class periods
- Less interruptions during the day so I can get more work done
- Changes in the activity practice times
- Fewer athletic competitions, shorter travel distances
- Snack breaks
- Friday practices and games
- I seem to be more focused on my school work

- I think that we are covering more material/learning more in 4 days
  - Other (*please fill in your response*):
- 

What are your concerns about the 4-day week? (*Check all that apply*)

- Length of the school day
  - How early the day starts
  - Length of time before lunch
  - Lack of supervision or things to do on Fridays
  - Trying to do 9 months of education in 4 days a week; too much work too fast
  - Other (*please fill in your response*):
- 

- Other (*please fill in your response*):
- 

Would you be willing to assist as a volunteer in an after-school or Friday program for elementary students?

- Yes
- Sometimes, but not regularly
- No

## APPENDIX F. TEACHER SURVEY

### Four-Day Week Teacher Survey

This survey is to determine changes that have occurred as a result of the four-day school week and to provide information for the administration and the Board of Education. Please return to the front office so that your opinions can be included in the results.

The amount of time the students have to work at school is: *(Check one)*

- More
- About the same
- Less

The quality of the students' homework is: *(Check one)*

- Better
- About the same
- Worse

Students' attitudes toward school and their classroom behavior is: *(Check one)*

- Better
- About the same
- Worse

My classroom teaching and instruction is: *(Check one)*

- Better
- About the same
- Worse

The amount of classroom preparation time I have is: *(Check one)*

- More
- About the same
- Less

During the semester I can cover: *(Check one)*

- More material
- About the same
- Less material

Would you prefer to continue with a four-day school week, or would you rather return to a five-day school week? *(Check one)*

- Continue with a four-day school week
- Return to a five-day school week
- I have no preference

Please check the reason(s) you prefer one school week schedule instead of the other school week schedule: (*Check all that apply*)

- Student achievement
- Impact on school budget
- Sports and clubs
- Scheduling and Federal holidays
- Length of the school day
- Time children spend at home
- Student employment
- Other, please specify \_\_\_\_\_

## APPENDIX G. COMMUNITY SURVEY

### Four-day Week Community Survey

This survey is to determine changes that have occurred as a result of the four-day school week and to provide information for the administration and the Board of Education. Please return to the school so that your opinions can be included in the results.

Do you think the change to the four-day school week schedule has helped or hurt the school district? (*Check one*)

- Helped
- No Impact
- Hurt
- I don't know

Do you think the change to the four-day school week schedule has helped or hurt the students' participation in extracurricular activities? (*Check one*)

- Helped
- No Impact
- Hurt
- I don't know

Do you think the students are doing better or worse in school since we started using the four-day school week schedule? (*Check one*)

- Better
- About the same
- Worse
- I don't know

Do you think the school district should continue using the four-day school week schedule or return to a traditional five-day school week schedule? (*Check one*)

- Continue with the four-day schedule
- Return to the five-day schedule
- I have no preference
- I don't know

Please check the reason(s) you prefer one school week schedule instead of the other school week schedule: (*Check all that apply*)

- Student achievement
- Impact on school budget
- Sports and clubs
- Scheduling and Federal holidays

- Length of the school day
- Time children spend at home
- Student employment
- Other, please specify \_\_\_\_\_

Please add any other comments or information in regard to the four-day school week schedule that you would like the administration and school board to review:

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Please complete only one survey per household and return it to the school by:

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