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Perceptions Of School Leaders In Western North Dakota Regarding The Effects Of Rapid Population Growth On Pk-12 Educational Organizations

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PERCEPTIONS OF SCHOOL LEADERS IN WESTERN NORTH DAKOTA
REGARDING THE EFFECTS OF RAPID POPULATION GROWTH ON PK-12
EDUCATIONAL ORGANIZATIONS

by

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A Dissertation

Submitted to the Graduate Faculty

of the

University of North Dakota
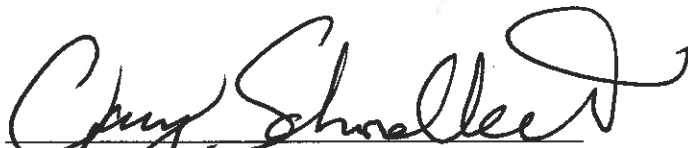
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for the degree of

Doctor of Education

Grand Fork, North Dakota
December
2014

This dissertation, submitted by Scott Lynn Faul in partial fulfillment of the requirements for the Degree of Doctor of Education from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

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This dissertation is being submitted by the appointed advisory committee as having met all of the requirements of the School of Graduate Studies at the University of North Dakota and is hereby approved.

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PERMISSION

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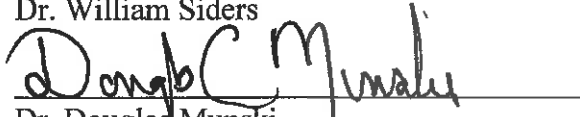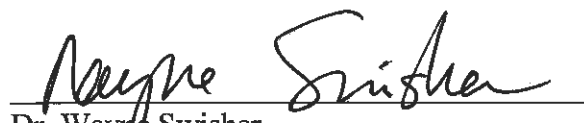
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                                        Scott Lynn Faul
                                        December 1, 2014

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ACKNOWLEDGMENTS

The journey is complete! This has been one of the most influential experiences of my life. I've learned so much from so many along the way. I started this journey several years ago and am so glad I did. I could not have completed it without the support and encouragement of several people. I would like to thank the chair of my committee, Dr. Schnellert. Your willingness to take me on late in the process was an encouragement to me. A special thank you to Dr. Houdek, your belief in me through this entire journey has meant the world to me. I appreciate the assistance provided by my committee members: Dr. Stonehouse, Dr. Siders, and Dr. Munski. I'm thankful for their advisements and recommendations, which improved the quality of this dissertation.

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will someday realize the importance of education, a good work ethic, and will finish what

you start, as I have with the completion of this dissertation.

ABSTRACT

The purpose of this study was to provide an understanding of the perceptions of school leaders in western North Dakota regarding the effects of rapid population growth on PK-12 educational organizations. Factors considered were enrollment numbers, state assessment scores, ACT scores, student mobility, special education needs, personnel needs, number of English language learners, facilities' capacities, and transportation.

In order to gain a thorough understanding of the perceptions of school leaders and effects of rapid population growth on PK-12 educational organizations, a quantitative research model was used. The researcher gathered primary data from eight western North Dakota school districts and secondary data from the North Dakota Department of Public Instruction (DPI). A survey was administered to 36 administrators from these eight school districts, eight school board presidents, eight local education association presidents, and five special education directors. A survey was based on five constructs: change theory and school reform, administrative education and professional development, personnel issues, facilities, and academic challenges. The data gathered from the surveys and secondary data from DPI was analyzed and compared.

The researcher found school districts were seeing diversity amongst the student bodies that did not exist before rapid population growth. School leaders perceived that student mobility has affected school culture. School leaders described the difficulty of

planning for an increase in number of students in the fall when payment for operation

occurs based on the previous spring enrollment number. School leaders also perceived

rapid population growth has affected overall academic performance; however, data

obtained from the North Dakota DPI did not show an increase or decrease in overall

school performances.

Keywords: Rapid Growth, PK-12, Effects, School

CHAPTER I

INTRODUCTION

The educational landscape has been changing across western North Dakota. Prior to the exploration of the "Bakken formation" and the oil boom in western North Dakota, school administrators dealt with declining enrollments (Decker, 2007). At the time of this study, student enrollment in school districts in western North Dakota was increasing rapidly. Baumgarten (2012) concluded there would be 3,100 new students in western North Dakota during the 2012-2013 school year. This rapid increase in enrollment has caused problems for some school districts, while others are experiencing benefits.

Many new students have been entering North Dakota schools with varied levels of preparedness and many have special needs or may use English as a second language. Therefore, with rapid changes in enrollment comes the need, in most cases, for reform and change. The researcher examined the perceptions and effects of rapid population growth on public prekindergarten through twelve (PK-12) grade education, and also studied school reform resulting from changes in the student body. Consideration was given to what is effective teaching and learning in the 21st century, while exploring how school districts can best meet the educational needs of students in these rapidly growing school districts (Bellanca & Brandt, 2010).

Other aspects of rapid growth in enrollment that were addressed were school administrators' skills and knowledge (Schlechty, 2003). As administrators face these new challenges, they have needed to develop new skills and gain new knowledge.

In the age of public school accountability, schools are under more pressure than ever before to produce higher quality graduates for the work force and post-secondary education. Employers, colleges, and universities have often criticized elementary and secondary public education institutions because high school graduates do not have the skills and practical competencies to perform in college or the work environment (Sheehy, 2012). These pressures are intensified for school districts experiencing rapid enrollment gains as they deal with many students in transition.

The purpose of this study was to seek an understanding of the perceptions and effects of rapid population growth on eight public PK-12 educational organizations in western North Dakota. Administrators of school districts across western North Dakota, like most administrators of school districts in our nation, recognize there are many forces pressuring leaders to improve their schools. Some of these pressures include an interest in developing more rigorous curriculum relevant to students' needs, a need for developing effective assessments that help guide instruction, and accountability measures for teacher effectiveness and student achievement. Factors considered were enrollment numbers, state assessment scores, ACT scores, student mobility, special education needs, personnel needs, the number of English language learners, facilities capacities, and transportation. Schools are responsible for ensuring students make necessary gains on standardized tests to meet Adequate Yearly Progress (AYP) "cut" scores (passing scores

– students make the "cut" or pass a test). AYP is a school report that informs interested citizens how students perform in math and reading in comparison to established or standard cut scores set by the No Child Left Behind (NCLB) Act of 2001 (Apple, 2007).

NCLB was established in 2002 by the federal government and signed into law by President George W. Bush (No Child Left Behind Act of 2001). The rationale for NCLB was that our neediest children were being left behind in our educational system (Apple, 2007). Even critics noted that NCLB promoted accountability of schools and flexibility and choice for students and parents (Apple, 2007). Grades 4, 8, and 11 are the grade levels in which students are tested and their scores compared to standard cut scores in an AYP report. Standard cut scores are set by individual states. Each year, AYP standard cut scores have increased incrementally. By 2014, 100% of students must be at proficient or advanced levels of achievement. These types of expectations and requirements have created a pressure situation for school districts, especially for school districts experiencing rapid enrollment gains.

Need for the Study

Although other states have experienced similar gains in enrollment (Weitz, 2012), limited research has been conducted in North Dakota. Many school leaders have identified changes in western North Dakota school districts and communities due to the rapid population increase. Some school districts are in survival mode, as issues created by rapid growth develop quickly and require immediate attention (A. Larson, principal, personal communication, October 16, 2013). Many school districts have experienced an increased number of English language learners (ELL); others have increased numbers of

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students requiring special education; while others have been able to fully utilize their facilities after years of declining enrollment, but lack the staff to do so.

Purpose of the Study

The purpose of this study was to determine the perceptions of school leaders in western North Dakota regarding the effects of rapid population growth on PK-12 educational organizations. The researcher has examined North Dakota Department of Public Instruction (DPI) data, school data, and surveyed school leaders.

Research Questions

Research questions that helped guide the study include:

1. What areas of strategic planning for school districts have changed due to rapid population growth?

2. What personnel issues have changed due to rapid population growth?

3. What are the academic challenges related to rapid population growth?

4. What facility changes were addressed due to rapid population growth?

5. What professional development changes were addressed for school leaders experiencing rapid population growth?

Delimitations of the Study

1. The study is concentrated on eight western North Dakota school districts that qualified for a 2011-2012 Rapid Enrollment Grant.

2. The number of stakeholders surveyed represents a sample of affected North Dakota school districts.

Assumptions of the Study

The assumptions in this study include:

1. Respondents have participated with no pressure from anyone.

2. Respondents have understood the survey questions.

3. Respondents have responded openly and honestly.

Definitions of Terms and Acronyms

The following terms and acronyms are found in the study. The definition of terms is intended to provide clarity and specificity regarding use of terminology in the study.

Bakken Formation: A certain oil formation found in western North Dakota, eastern Montana, northwestern South Dakota, and southern Saskatchewan. This formation could not be extracted from the ground until horizontal drilling, also referred to as fraccing, was introduced by the industry (Moncrieff, 2012).

Capabilities: The ability to use a space in a school facility for an unintended purpose.

Capacity: The maximum number of people that can use a school facility as it was intended.

(CSR) Class size reduction: Some school districts have capped the number of students in a given grade and created more sections rather then increase the number of students in that grade.

(LEA) Local Education Association: Teacher formed union used to carry out the desires of the association. An LEA typically negotiates contracts for all teachers of a school district.

(NCLB) No Child Left Behind: A federally enacted law used to hold public schools accountable for student performance on high stakes tests (No Child Left Behind Act of 2001).

North Dakota Century Code: Collection of all statutes passed by North Dakota legislators since statehood.

Oil Boom: Occurs when large quantities of oil are discovered and recovered. This process of extracting oil from the ground takes many people and has a ripple effect on all businesses (Danelak, 2012).

Real Time Funding: A basis of reimbursement that would allow school districts to be paid on actual student enrollment rather than on a previous school year's average daily membership.

School District Rapid Enrollment Growth Grants: Western North Dakota school districts that qualify for these grants are used exclusively in this study. In order to qualify for a rapid enrollment growth grant, a school district must increase by seven percent of its total enrollment and by at least 25 full-time students each school year as reported by data collected in a September report.

Twenty-First (21st) Century Skills: A set of skills that students have to acquire to be productive and successful in a global market.

Western North Dakota: Western North Dakota has been defined through professional dialogue with school administrators, teachers, and professors. For this study, the region defined as western North Dakota is bounded by the following: U.S.

Highway 83 is the eastern border, the Montana border is the western border, the Canadian border is the northern border, and the South Dakota border is the southern border.

Researcher's Experience

The researcher has been a teacher, coach, special education coordinator, and principal in central and western North Dakota since 2001. The researcher has also served as the Region 1 Director and state president for the North Dakota Association of Secondary School Principals in recent years. At the time of this report, the researcher served as a high school principal at Minot High School-Magic City Campus, Minot, North Dakota.

Organization of the Study

This dissertation study has been organized into five chapters. Chapter I includes the introduction, need for the study, purpose of the study, delimitations of the study, assumptions of the study, definitions of terms and acronyms, researcher's experience, and the chapter's organization.

Chapter II consists of a literature review. Topics include: change theory and school reform, administrative education and professional development, teacher recruitment, student mobility, school planning, and academic challenges.

Chapter III includes a description of methodology utilized in the study, including: data collection, a survey instrument, and survey analysis. Chapter IV includes a description of data and results of the study. Chapter V includes a summary of the findings, conclusion, limitations of the study, and recommendations.

CHAPTER II

REVIEW OF LITERATURE

Introduction

As the researcher examined "Perceptions of School Leaders in western North Dakota Regarding the Effects of Rapid Population Growth on PK-12 Educational Organizations," it became apparent that limited research had been completed in regard to the perceptions of school leaders and effects of rapid population growth on public educational organizations. The absence of rural western North Dakota research was especially noted. Through discussions with numerous experienced, knowledgeable North Dakota school leaders directly affected by this rapid population growth, six areas of interest has become apparent as high priorities. The words of school leaders, with the literature review, brought attention to the following:

- change theory and school reform,

- administrative education and professional development,

- teacher recruitment,

- student mobility,

- school planning, and

- academic challenges due to rapid population growth.

Change theory and school reform is examined in the first section of this literature review and focuses on how theory and reform can relate to the effects of rapid population growth. Change theory and school reform has been studied throughout the years and many commonalities exist amongst successful change and school reform initiatives. In this section of the literature review, many of the commonalities are examined as well as pitfalls that take place in change theory and school reform.

The next section of the literature review explores administrative education and professional development. During times of change, professional development opportunities that schools offer must align with changing needs of professionals that work within those schools. Components of effective professional development and some common mistakes of professional development are examined in this section.

Teacher recruitment can be a key component for schools during times of growth. This is addressed next in the literature review. There seem to be a number of strategies that administrators employ to recruit effective teachers to their districts. Many factors go into deciding which teacher candidates to choose to work in a particular school and some of those factors are examined in this section.

The next section of the literature review takes a close look at student mobility. The researcher has discovered, through conversations with colleagues, that many schools in this study that have been experiencing growth have also been experiencing a good deal of student mobility. This section considers both the positive and negative effects of student mobility.

School planning during times of growth can look considerably different than planning during times of a declining or maintained enrollment. This section addresses some of the challenges that face schools during times of growth and how some have implemented new and different strategies to cope with increasing enrollments.

The last section of this literature review addresses common academic challenges associated with growth. It also looks at solutions that some schools have implemented with varying success.

Change Theory and School Reform

In 2012, nearly 1.7 million high school graduates took the ACT college entrance exam, testing their knowledge in English, math, science, and reading (Sheehy, 2012). A recent report shared by American College Testing (ACT), indicated that more than a quarter of those who took the test fell short of the college readiness benchmarks set for all four subjects, and 60% of the students missed the mark in at least two subject areas (Sheehy, 2012). The presence of new students who enter western North Dakota schools at varied academic levels, and in some cases with limited abilities in language and in other abilities, can exacerbate these problems. One may hypothesize that change is needed to help these students. Change is difficult, but many times required as situations often change in a school over time.

> "Change is never quick and easy, and it's not the same system for every
> school. If change was easy, more people might be doing it. The process
> of change can bring frustration and anxiety, but the achievement of change
> can bring success and build a new perspective about education. When

schools begin making every decision and every change based on what is

best for students, that's when education makes sense, and we don't need

the box cover to see the picture" (Whitaker, 2010, p. 83).

Change efforts in schools have naturally created resistance (Reeves, 2009). Over

the history of education, many school reform efforts have been tried with varying degrees

of success. As many educational leaders try to transform their schools, Collins (2001)

explained that many times it's about getting the right group of people in the right spots in

an organization before real change can occur. How does this happen?

It can happen through rigorous hiring practices, professional development, or by

dismissing an employee or employees (Collins, 2001). A school must identify a problem

(Whitaker, 2010) and begin to solve that problem with an end result in mind (Covey,

1989). Being proactive and responsible are key factors in change theory (Covey, 1989).

Covey and Merrill (2006) explained that change often happens at a rapid pace, so

organizations must develop trust in order for the organizations to move forward. A lack

of trust holds back teamwork, and without teamwork, change is almost impossible

(Kotter, 1996). "Smart Trust" is a function of two factors involving matters of the heart

and mind (Covey & Merrill, 2006). Matters of the heart involve a belief that people are

worthy of trust and therefore should be offered a chance to trust, while matters of the

mind involve the ability to analyze and come up with logical decisions (Covey & Merrill,

2006).

Oftentimes, challenges that present themselves during a change process are not

fully understood (Kotter, 1996). Change theory fails more often than not (Fullan, 2006).

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Many times, change fails because change agents fail to look at the culture of an organization (Fullan, 2006). Bolman and Deal (2008) address organizational culture as both a product and a process. "As a product, it embodies accumulated wisdom from those who came before us and as a process, it is constantly renewed and re-created as newcomers learn the old ways and eventually become the teachers themselves" (Bolman & Deal, 2008, p. 244).

In *The Six Secrets of Change*, Fullan (2008) described six strategies (described by the author as "secrets") that apply to "large scale reform" or reform at a deep organizational level. They are:

- Leaders loving their employees,

- Leaders connecting peers with purpose,

- Leaders building capacity among their employees,

- Leaders focusing on the work which is learning,

- Leaders establishing transparency in rules, and

- Leaders understanding a system can learn from itself.

Whole educational systems must often be reformed, not just components, programs, or individual schools within a district (Fullan, 2009; Supovitz & Taylor, 2005).

Given the challenges of school reform, why would anyone undertake such a challenge? The reason is two-fold: "mandate and enticement" (National Association of Secondary School Principals, 2004, p. xiv). As the 2014 NCLB mandate approaches, where every student – 100% of students enrolled in a school – must be at required proficiency levels in reading and math, it is no longer acceptable to have students on the

normal curve of failure (in the past, it was an accepted fact that if you plot the grades or test scores of a body of students on a curve, all curves would include a few students with failing grades). As school district profiles are examined based on state assessments, one could conclude that even though the standards have increased (passing scores on assessment tests must be higher than they were in the past in order for students to pass a standard assessment test and be considered "proficient"), the rates of proficiency at which our students are required to perform have not (North Dakota Department of Public Instruction, 2011). Because standard scores have increased, it has become more and more difficult for students to achieve passing grades on assessments and be considered proficient. With demands such as mandates in NCLB and other legislation, schools need quality sustainable school reform that impacts all students. So how can enticement correlate with an educational mandate? Quality educators have an intrinsic desire to excel in their chosen profession.

Most people who enter the educational profession want to help students reach their dreams and make a difference in students' lives (National Association of Secondary School Principals, 2004). Unfortunately, federal mandates such as NCLB have placed punitive sanctions on school districts that do not meet Adequate Yearly Progress. Conversely, this mandate has affected the way teachers approach learning in the classroom. With the mandates of NCLB and "its combination of aggressive blame and shame policies and its opening toward marketization, NCLB doesn't come close to enabling an education worth its name" (Apple, 2007, p. 115). Some would argue that schools are organized around the needs of teachers and other educators, not students

(Apple, 2007). Some teachers wish to defend their hard-won autonomy and skills in ways that are often disrespectful (Apple, 2007).

School change and reform are oftentimes very complex and complicated. Schmoker (2011) contended, though, that there is power in simplicity, clarity, and priority. "The essence of profound insight" into school improvement "is simplicity" (Collins, 2001, p. 91). "On some level schools know what is essential" (Schmoker, 2011, p.15). So why is it so hard to "work on the work" (Schlechty, 2003)? Schlechty believed there are three ways to improve student performance: (a) work on the students, (b) work on the teachers, and/or (c) work on the work. He believed the first two have yielded unimpressive results and that the time has come to focus on better quality of work from students (Schlechty, 2003).

Evaluating school change and reform has its challenges. When evaluating, one must be sure to take time to get multiple perspectives (Sanders & Sullins, 2006). It is important to have an understanding of a school's "purpose, approaches, who's involved and excluded, its costs and trade-offs, its accomplishments," its short-term and long-term goals, and "other things of interest to those who care about and are affected by the school" (Sanders & Sullins, 2006, p. xi). Another key in evaluation is good communication (Sanders & Sullins, 2006). The evaluation must remain an open process, not an attempt to "sneak up and get someone." Other aspects of open effective communication are: (a) listening and responding, (b) sharing information obtained, (c) discussing your intentions and obtaining feedback, (d) clarifying expectations, and (e) providing clear and useful reports in a timely manner (Sanders & Sullins, 2006).

Although NCLB targets Math and Language Arts, current research indicates that successful schools evaluate all programs, and work toward a process of system-wide reform, which is increasingly seen as more promising than programmatic reforms. "System-wide educational reform is that powerful improvement in teaching and learning and can come from developing coherence and alignment across the complex and different elements and components of an educational system" (Supovitz & Taylor, 2005, p. 205). Powerful programs within a school can limit the reach and effectiveness of other aspects of a school that make a difference for students (Supovitz & Taylor, 2005).

Some argue that change and school reform must first start with teacher education/teacher preparation (Caillier & Riordan, 2009). There are three components critical to a "new" teacher education program:

1. Establishing an adult learning community, creating a rich variety of learning contexts for new and veteran teachers across settings;

2. Establishing symmetry of practice, its philosophy and pedagogy would model and mirror that rooted in sound research and practices; and

3. Preparing teachers to be program designers and leaders in a global, technology-rich environment that values teamwork, problem solving, and the creation of new knowledge (Caillier & Riordan, 2009).

School reform remains one of the most difficult and challenging aspects of administering education. Our society has been changing at a rapid pace, making it very difficult to pinpoint what we should be teaching, how we should be teaching, how we

should assess student achievement, and how we should hold teachers and school personnel accountable for what we teach.

Administrator Education and Professional Development

"Principals do affect the success of school" (Schlueter & Walker, 2008, p. 6). Accountability for student performance many times rests on the shoulders of building principals (Schlueter & Walker, 2008). Because principal leadership is the second most important factor influencing student achievement, the teacher being the first, leadership development is an investment in teaching and learning (Lawrence, Santiago, Zamora, Berani, & Bocchino, 2008).

Several resources have identified criteria or characteristics to help a person charged with hiring a new building-level principal (Schlueter & Walker, 2008). The Interstate School Leaders Licensure Consortium (ISLLC) Standards are one of those resources that many districts have used. These were developed for multiple purposes: (a) preparing pre-service administrators, (b) licensing administrators, (c) mentoring new administrators, (d) professionally developing administrators, and (e) evaluating administrators (Murphy, 2005). In a study conducted in 2000 by Hooker, superintendents identified major themes in selection of building-level principals:

- Previous administrative experience;
- Personal characteristics expected of a building-level administrator (e.g., intelligence, perceptiveness, and flexibility);
- Organizational skills;

- Human relations skills and the ability to establish rapport with students and teachers;

- The ability to fit in and work with the existing administrative team at the building and central office level; and

- The ability to gain support from parents and community.

In addition to selecting qualified principals based on themes outlined above, how do we develop and support building-level principals to be agents of change necessary for today's schools?

According to the National Staff Development Council (2000 & 2001), the following recommendations meet the unique learning needs of principals:

- A coherent, developmental, job-embedded curriculum of study,

- Practical tools and processes to support the day-to-day work of leading change,

- A safe environment to hone and practice new skills,

- Ongoing support through coaching to ensure the transfer of new knowledge to the real world of principals, and

- An extended and sustained network of colleagues for consultation and problem solving.

These recommendations should form the benchmark of study for any high quality program focused on leadership development that promotes secondary change within the organization (Lawrence et al., 2008). According to Lawrence et al. (2008), secondary change is described as, "change that would catalyze leaders' learning to stimulate

teachers' learning and collaboration to improve student outcomes and organizational performance" (Lawrence et al., 2008, p. 34).

The state of North Dakota issues various credentials for administrators. Superintendents and secondary and elementary principals' credentials all have different requirements. A certain level of teaching experience is required for each. To become a superintendent, 3 years of successful teaching and at least 2 years of administrative experience are needed (Education Professional Credentials, 2000). All administrator positions require course work from a state-approved program. North Dakota has three institutions offering state-approved programs: the University of North Dakota; Tri-College University, consisting of Concordia College, Minnesota State University-Moorhead, North Dakota State University; and the University of Mary. Programs at these three institutions have very similar components such as leadership, planning and organizational behavior, education law, personnel, supervision, staff development, curriculum, and education finance. These elements tie directly to state requirements to hold an administrative credential (Tri-College University, 2013; University of Mary, n.d.; University of North Dakota, 2014).

An important responsibility of leaders is helping others develop their own leadership skills (Maxwell, 1995). Whether it is teacher leaders or aspiring administrators, leaders must be developed. Many school districts are turning to a leadership academy model to train current and future leaders (Reddekopp, 2008). Aspiring principals who have taken part in a leadership academy have:

- Prepared teacher leaders to become assistant principals,

- Prepared assistant principals to become principals,

- Provided opportunities for leaders to develop skills needed in leadership roles,

- Provided opportunities for leaders to disaggregate and analyze student data, and

- Provided opportunities for leaders to develop collegial relationships.

Teacher leaders who have participated in a leadership academy have studied topics such as:

- Organizational vision, mission, and beliefs;

- Facilities management;

- Ninth-grade campuses;

- Leadership in large and small groups;

- Effective feedback;

- Communication; and

- Effective community relations. (Reddekopp, 2008).

Participation in a leadership academy provides opportunity for teachers to visualize themselves as teacher leaders, assistant principals, or even principals (Reddekopp, 2008).

Another aspect of a leadership academy is partnerships exist between participants and successful school leaders in mentor/mentee relationships. This partnership provides participants with first-hand experience working with administrators who have successfully served in leadership roles (Reddekopp, 2008). Leadership academies ensure

that school systems that participate develop and prepare participants for future administrator roles as well as foster leadership skills of teachers (Reddekopp, 2008).

In our society today, organizations strive to get better. Schools are no different and attempt to improve through professional development. In studies conducted by Holton and Baldwin (2003), "the most commonly cited estimate is that 10% of learning transfers into job performance" (p. 4). In professional development, situation learning is assumed to decline if not supported by additional district learning approaches, including learning across organizational levels and regular feedback from a network of peers and supervisors (Watkins, Lyso, & deMarrais, 2011).

If research indicates only 10% of learning impacts job performance, how can we improve the way professional development is offered so a higher percentage of the effort put into learning translates into better job performance? One-way is to eliminate the typical one-day in-service (Webster-Wright, 2009). Professional development that is most effective focuses on critical thinking skills and is content-driven, takes place in a supportive environment, and takes place over long periods of time (Webster-Wright, 2009; Wayne, Yoon, Zhu, Cronen, & Garet, 2008). In order to make real change through professional development, development must be given during longer sessions spread over longer periods of time. Effective professional development should be job-embedded, involve small groups of people, and have a focus on student outcomes (DuFour, DuFour, Eaker, & Many, 2006). Most effective professional development focuses on content, curriculum, and methods of instructional delivery (Wayne et al., 2008).

Teacher Recruitment

"Teacher quality matters. In fact, it is the most important school-related factor influencing student achievement" (Rice, 2003, p. V). "Measures of teacher preparation and certification are by far the strongest correlates of student achievements in reading and math" (Darling-Hammond, 2000, p. 2). No Child Left Behind (NCLB) emphasized that teacher excellence is vital to realizing improved student achievement by defining "highly qualified" (No Child Left Behind Act of 2001). So if teacher quality matters, what are characteristics that reflect teacher quality? Some research has suggested that five broad categories are reflected in teacher quality: teacher experience, teacher preparation programs and degrees, teacher certification, teacher coursework, and teachers' own test scores (Rice, 2003).

If quality teachers matter, how do schools recruit quality teachers? The two main factors affecting teacher labor supply are salaries and working conditions. At the time of this report, recent studies had suggested that working conditions may be more of an influence than salaries (Falch & Strøm, 2005; Hanushek, Kain, & Rivkin, 2001; Scafidi, Sjoquist, & Stinebrickner, 2007). Another study revealed that "most public school teachers take their first public school teaching job very close to their hometown or where they attended college" (Boyd, Lankford, Loeb, & Wyckoff, 2005, p. 117). A variety of strategies have been used by school districts to recruit quality teachers.

Advertising is one of the strategies. Most school districts advertise in local newspapers, in trade publications, on television, or by radio (Balter & Duncombe, 2008). Districts begin this process in March or April for the following school year. Another

strategy is recruiting from colleges. Some school districts have developed relationships

with colleges that have teaching programs and use faculty, bulletins, and campus

newsletters to advertising open teaching positions (Balter & Duncombe, 2008). The

Internet has stretched advertising boundaries and is used by most all school districts to

recruit teachers (Balter & Duncombe, 2008). In hard-to-fill positions, some school

districts are using a variety of incentives to recruit teachers. Some are implementing

signing bonuses, subsidized tuitions, assistance in purchasing or renting homes,

assistance in paying for National Board Certification, or extra compensation not aligned

with typical pay schedules (Balter & Duncombe, 2008). Some school districts frontload

salary schedules in an attempt to recruit high quality teachers (Grissom & Strunk, 2011).

While most districts use a variety of these strategies, larger school districts tend to use

more of the strategies to recruit teachers, while smaller districts use only a few (Balter &

Duncombe, 2008).

Across the nation, universities actually produce many more new teachers than

actual annual demands but not all of these new teachers find their way into the classroom

(Darling-Hammond & Sykes, 2003). The highly qualified teacher challenge is being

faced with what are commonly called hard-to-staff schools. Hard-to-staff schools serve

poor, minority, and lower achieving students and have a significant proportion of

inexperienced, underprepared teachers, as well as higher attrition rates of teachers (Berry,

2004). Other factors that influence recruitment of teachers include geographic

location/isolation, extent of new teacher support and teacher induction, teacher leadership

opportunities, amount of influence teachers have in key decision making, amount of time

set aside for teachers to collaborate, and chances for teachers to work with fewer students (smaller class sizes) and families (Berry, 2004). While these challenges remain, some school districts have focused on trying to "grow their own," developing ways for paraprofessionals to become certified to teach. There are other non-traditional ways to become certified to teach that school districts have utilized to try to fill teacher openings, such as tutor-in-training programs, on-the-job training, and program of study plans that put teachers in the classroom before completing all the requirements for teaching licenses (Berry, 2004).

Administrative support matters in the recruitment and retention of teachers. Administrators have the ability to set the tone in creating a sense of community, establishing school routines, and providing teachers with required resources and professional development opportunities. Administrators can also create positive perceptions in the community by advocating for teachers and a school (Boyd, Grossman, Ing, Lankford, Loeb, & Wyckoff, 2011). One of the most important factors influencing teacher decisions to leave a job is support from administrators (Boyd et al., 2011).

A study conducted by Guarino, Santibañez, and Daley (2006) suggested that entry, mobility, and attrition patterns indicate that teachers exhibit preferences for high salaries and greater working conditions. They also concluded that the attractiveness of teaching depends on the notion of relative "total compensation," a comparison of all rewards stemming from teaching, extrinsic and intrinsic, to the rewards of other possible jobs that could be pursued (Guarino et al., 2006).

New teachers who participate in some sort of induction program or mentoring program are much more likely to return to teaching than those teachers that do not (Ingersoll & Strong, 2011). The objective of these programs is to improve performance of new teachers and to retain beginning teachers. Teachers who participate have a higher satisfaction and commitment to the profession. They also perform better at various aspects of teaching such as keeping students engaged, developing effective lesson plans, asking valuable questions, maintaining positive classroom atmospheres, being able to adjust to meeting students' needs, and demonstrating successful classroom management strategies (Ingersoll & Strong, 2011). Student achievement appears to be higher in classrooms where a teacher was supported by an induction or mentoring program (Ingersoll & Strong, 2011).

Several states have attempted to attract professionals to teaching through alternative teacher certification programs (Johnson, Birkeland, & Peske, 2005). Many people who have taken advantage of alternative teacher certification would not have become teachers if it hadn't been for fast track courses allowing them to teach and collect a pay check while learning on the job (Johnson et al., 2005). States need to balance incentives with efforts to ensure teachers are ready to teach after a relatively short training period.

Schools throughout our country will face or are facing recruiting and retaining issues for a growing number of students (Stockard & Lehman, 2004). This task could be made easier if first-year teachers remained in the field. Results from Stockard and Lehman suggested that promoting first-year teachers' satisfaction is key to teacher

retention. Some ways to increase teacher retention are: providing a supportive culture, giving novice teachers control over their own work environment, providing new teachers with mentoring opportunities, helping new teachers be successful in the classroom, and providing a safe and orderly environment (Stockard & Lehman, 2004). These factors are directly under the control of building administrators (Stockard & Lehman, 2004).

Student Mobility

At the time of this report, our country was experiencing a housing crisis and economic recession, and this caused disruptions in the residential stability of many families. This made it difficult for low-income families to stay in their homes (Voight, Shinn, & Nation, 2012). Policies that include affordable housing, in addition to efforts to enforce fair housing laws and combat predatory lending, tend to be helpful in reducing problems with family, and therefore, student mobility (Voight et al., 2012).

All moves are not inherently bad. Some families move because of a promotion to a higher paying job, which could result in a student attending a better performing school. However, change can be stressful, especially to children (Voight et al., 2012). What happens outside of school has a direct impact on a child's educational development. The home is the most influential setting in a child's development and upward trends in family mobility made the home environment more challenging at the time of this study (Voight et al., 2012).

There is evidence that student mobility is negatively associated with student achievement and high school completion. In fact, one study found that a majority of high school dropouts switched schools at least once (Rumberger & Larson, 1998). It is

estimated that each high school dropout costs our nation around $260,000 (Rouse, 2005). Overall effects of moving vary based on the age of a student at the time of a move. A move during Grades K-2 has lasting negative impacts on an individual in reading and math and is not typically made up over time. Moves that take place during Grades 3-8 tend to have negative effects in reading and math, but don't have the impact as a move occurring during earlier grade levels (Voight et al., 2012).

Findings also suggest that middle school and high school age students who switch schools are those who are operating with a number of existing risk factors to dropout such as behavioral problems, lower test scores, more school absences, a non-intact family, previous substance use, and lower incomes (Gasper, DeLuca, & Estacion, 2012).

The U.S. has the highest national mobility rate in the world as one-fifth of the population moves annually (Titus, 2007). Student mobility creates many challenges for students, parents, and educators. Transferability of school records, credit hours earned, and state assessments can be a problem. Differences in curriculum, grading systems, class rank, schedules (such as a block schedule compared to a period-by-period schedule), and school calendar are just a few of the challenges mobile students may face (Titus, 2007). Highly mobile students and their parents are confronted with various obstacles created by the American education system, which is based on state responsibility and local control (Titus, 2007). Students become mobile for many different reasons, mostly relating to their families. Job changes, divorce or separation, military transfer, change in foster care, natural disasters, and being children of immigrant workers are just a few reasons students may be forced to move (Titus, 2007). Most

highly mobile students are living below the poverty level (Popp, Stronge, & Hindman, 2003).

Student mobility is also difficult on children socially. Students establish a support system at school made up of friends, teachers, and principals that help in the overall academic and social progress of a student (Gasper et al., 2012). Parents develop relationships with school personnel, parents of other students, and community members, all possible supports for their child's educational progress (Gasper et al., 2012). As students switch schools, it is likely they become disengaged academically and socially, not participating in extra-curricular or co-curricular activities (Gasper et al., 2012).

At the very least, student mobility disrupts a child's educational development, in the short term. The more moves a child has to endure, the more educational and social deficits tend to affect that child (Grigg, 2012). The harm associated with mobility is, on average, equivalent to being absent 14 days (Dunn, Kadane, & Garrow, 2003). Student mobility does not routinely influence performance of stable students, nor does it appear to have a substantial effect on teachers of a receiving or departing school (Heywood, Thomas, & White, 1997).

School Planning

There are many aspects to consider during times of population growth and school planning. Funding is one of those elements that have always been at the forefront. According to the North Dakota Century Code, Title 15.1, Chapters 27-35, schools are paid based on enrollment numbers of the previous school year, making it very difficult in times of growth. This makes population projections helpful data for school districts that

are deciding when and where to direct resources (Trouteaud, Tolbert, & Irwin, 2012).

Schools need to accommodate an increase in number of students by having adequate

school facilities (Trouteaud et al., 2012). Many North Dakota school districts have hired

firms to help develop and devise master facility plans, giving schools long-range goals of

what school facilities may need to look like in the future (A. Copas, personal

communication, February 6, 2014). North Dakota school districts have also begun to use

school demographers to help predict student growth (A. Copas, personal communication,

February 6, 2014). North Dakota's Department of Public Instruction (2007) provided

class size guidelines for the purpose of accreditation. The recommendations are as

follows: Grades PK-3, recommendation size is 20, not to exceed 25; Grades 4-8, size

recommendation is 25, not to exceed 30; and high school, the class size recommendation

is 25, not to exceed 30. With the state recommendations in mind, demographers help

school districts develop master facility plans and timelines.

One challenge that comes with growth is providing adequate infrastructure. It has

become difficult to predict the amount of infrastructure a school needs because of a flux

in numbers of students that can occur throughout a school year. Studies have been

conducted that link the quality and space of school infrastructure to student success

(Crampton, Thompson, & Vesely, 2004). Typically, the idea that the physical

environment of a school affects student learning resonates with policymakers, parents,

and the general public (Crampton et al., 2004).

For the most part, school districts have three options to fund school additions,

renovations, or new buildings. They are pay-as-you-go, sinking funds, and bonded

indebtedness (Crampton et al., 2004). Pay-as-you-go is just as it sounds; a school pays cash for a project as it is conducted or built, much like those who pay cash for a car or house. A sinking fund is like a savings account, a district sets a price needed for certain projects, they save money, saved money earns interest that is added to the sinking fund, and when they hit that dollar amount needed for identified projects, they are able to complete the projects (Crampton et al., 2004). Bonded indebtedness is when a school district incurs long-term debt, often for 20-30 years, to fund a project needed immediately. Funding is secured through the selling of bonds (Crampton et al., 2004). In North Dakota, communities must vote on using bonded indebtedness to fund a project and must receive a super majority, 60% to pass.

One of the short-term solutions to school infrastructure problems has been the purchase of portable classrooms. These classrooms do present some issues with air quality and safety, but serve a purpose for schools experiencing growth at a rapid rate (Crampton et al., 2004).

Most growth comes at a cost (Diaz & Green, 2001). Funding formulas vary considerably from state to state (Crampton et al., 2004). Inequities between schools vary greatly, with much variation in how land or property is evaluated. Evaluation of land property is one-way locals control the cost of educating youth in their communities through property taxes (Diaz & Green, 2001). The U.S. Department of Education (2005) reported that the responsibility of education rests with the states, though it continues to remain a national interest. Most states relinquish a portion of that control to local communities (U.S. Department of Education, 2005). Each community is slightly

different or unique, and the mindset of each community concerning growth can be different as well (Diaz & Green, 2001). Some communities see growth as an opportunity, while others see it as something that will pass (Diaz & Green, 2001).

Much work has been done on growth management and "smart planning" when looking at urban sprawl (Howell-Moroney, 2008, Norton, 2007). How does that relate to school planning and decisions to renovate old buildings, add additions to current buildings, or build anew? How do school boards make those decisions and what do they factor in? Many school boards do use consultants and local plan policies to help form their decisions (Norton, 2007).

Our nation's public schools are important aspects of public infrastructure, and the quality of cities depends, at least in part, on the quality of their schools (Vincent, 2006). There appears to be a disconnect that needs to be overcome between the field of education and the field of city planning when it comes to the two fields working together to plan future school infrastructure (Vincent, 2006). Vincent reported four key obstacles to cooperative planning that typically exist between public schools and city planning offices: the silo planning phenomenon, school site acreage requirements, funding issues, and fluctuating student populations.

1. *Silo planning phenomenon.* "School districts have unique local land use autonomy" (Vincent, 2006, p. 434) and are often criticized by planners because of their autonomy and how they use it.

2. *School site acreage requirements.* Site requirements are a major point of contention between city planners and schools, as schools require ample

acreage for athletic areas, parking lots, and school buildings, and school

planners are often criticized as choosing sites for new schools without

considering zoning maps and city plans for "mixed-use environments" or

revitalization of inner neighborhoods. In fact, some say site selections of

school planners has led to the term "school sprawl," a major contributor to

the more general problem of "urban sprawl."

3.   *Funding issues*. In most states, the majority of the funding for new schools

falls on local taxpayers. With this in mind, city planners have had a difficult

time securing funding for new endeavors if a school has a bond issue to pass

and citizens foresee tax increases to support a school project (or projects) in

the near future.

4.   *Fluctuating student populations*. Schools struggle to cope with

demographic changes within a school district. As city planners develop new

housing areas, schools have difficult decisions to make in how and where

students that will live in these new developments are to be educated.

Vincent (2006) believed we have a long way to go to bridge the gap between city

and school planning. One thing continues to be emphasized: the quality of schools

impacts the prosperity of cities and how cities change and develop impacts the quality of

schools. Cities and schools are intertwined (Vincent, 2006).

Academic Challenges Due to Rapid Population Growth

At the time of this study, northwest North Dakota was experiencing a rapid

increase in population growth (U.S. Census Bureau, 2014). With that growth, academic

challenges came to the forefront. One of those challenges dealt with the wide range of abilities of students within a class. The range of high to low achievers in one classroom had increased for a variety of reasons. Curricular changes, changes in state standards, and student mobility, were just a few possible explanations.

One area of interest that developed during times of rapid population growth in western North Dakota was ability grouping. Ability grouping is defined as any school or classroom organization plan that is intended to reduce the heterogeneity of groups of students to be instructed (Slavin, 1990). There are a few ways in which to track students. One way to do this is to assign students to an academic or vocational track and another is block scheduling, where students spend all or most of the day with one homogeneous group of students (Slavin, 1990). Another form commonly used in secondary schools is grouping by academic subjects (Slavin, 1990). Most often groups of students are made up of homogeneous groups of math students and/or English students, but this is not as common for other subjects (Slavin, 1990). Over the years, there have been many arguments for and against ability grouping. Some would say that ability grouping allows students to make progress commensurate with their abilities, reduces failure, makes teaching easier, and makes individual instruction to smaller, slower groups easier (Slavin, 1990). Others say with fewer college bound students in lower achieving sections, there is little modeling for low achievers to learn from (Slavin, 1990).

A meta-analysis of 29 studies revealed the effects of ability grouping on student achievement are essentially zero (Slavin, 1990). There was some evidence that supports the notion that teaching more homogeneous groups is easier, but that was not

substantiated by the study. As schools consider ability grouping, they must consider research conducted over the past 70 years or so.

Another way schools have tried to help with academic challenges associated with growth is to hire paraprofessionals for mainstream classrooms. At the time of this report, over the last 20 years, education had experienced an unprecedented increase in the number of support staff (or paraprofessionals) employed in mainstream classrooms (Gray et al., 2007). Schools establish roles paraprofessionals will take, and training they receive varies from school to school (Gray et al., 2007). Wilson et al. (2002) concluded that the indirect impact on pupil attainment is as important as their ability to work with students as they free up teachers to concentrate on teaching. Some paraprofessionals provide one-on-one support to a student, having their greatest impact be on supporting an at-risk student perhaps, rather than on group performance (Gray et al., 2007). Studies have been conducted on reading performances using a systematic approach on early childhood-age students, and there has been no evidence that paraprofessionals have a positive impact on students in a classroom, and, in some cases, classrooms without paraprofessionals out-perform classrooms with paraprofessionals (Gray et al., 2007). However, interviews of teachers and principals indicate that at least teachers and principals interviewed believe paraprofessionals do have a positive effect on a classroom and on pupils' reading scores. Both teachers and principals believe paraprofessionals increase pupils' self-esteem and provide invaluable support for pupils and teachers, although no evidence has existed to prove their opinions. As schools consider the option of hiring paraprofessionals to help with academic challenges, they too, should look at all

evidence of how paraprofessionals affect student achievement and have a clear plan for paraprofessionals being mainstreamed into their schools.

Another strategy that some have implemented to help with academic challenges in times of rapid growth is class size reduction. Class size reduction (CSR) has been linked to a lowering of the need for disciplining students, allowing teachers to state clear academic and behavioral expectations (Graue, Hatch, Rao, & Oen, 2007). This also allows teachers to use balanced instructional methods and a higher degree of individualization (Zahorik, Halbach, Ehrle, & Molnar, 2003). Some unintentional consequences of CSR are additional classroom space and staff are needed with smaller size classes (Graue et al., 2007). Aspects to consider when implementing CSR are: (a) If there is not any professional development offered to teachers on how to best teach smaller class sizes, teachers continue to teach as if they had 30 students in class (Graue et al., 2007); (b) team teaching, having two teachers teach to a larger class, increases staff and without proper professional development, has no or very little benefits (Graue et al., 2007.) Numerous studies have shown mixed results of team teaching from a positive effect on students, to no effect on students, to harmful effects on students (Betts & Shkolnik, 1999).

Classrooms in western North Dakota are becoming more diverse than ever before because of rapid population growth; people have been moving into the area from all over the country. Creating a supportive school that takes into account cultural and linguistic diversity can make a difference in student achievement. Setting high expectations and encouraging all students to take college prep classes is one strategy for improving student

outcomes (Calaff, 2008). Individual teachers, counselors, and administrators must set the bar high, academically and behaviorally, when they outline their expectations to students, and that should be the norm not the exception (Calaff, 2008). Schools must learn to embrace cultural and linguistic diversity. For example, some schools have hosted various cultural musical events, fashion shows, dance shows, various clubs, and supported students who wanted to participate in extracurricular activities by providing bus service to and from schools after hours (Calaff, 2008).

It's important to develop authentic relationships. Students perform better when they feel they have the support of a teacher, counselor, and/or principal at school (Valenzuela, 1999). Schools that are able to create safety nets to help struggling students by providing extra teacher help before or after school, tutoring services, or supportive classes that help students gain necessary skills for attending college, are other important aspects of creating a supportive school. Schools that are able to create a holistic approach to support culturally and linguistically diverse students have seen the most success in preparing students for college or career (Lopez, 2002; Valdes, 1998).

Summary

Chapter II provided a review of the literature related to effects of rapid population growth on PK-12 public educational organizations. Chapter II examined change theory and school reform, administrative education and professional development, teacher recruitment, student mobility, school planning, and academic challenges due to rapid population growth. The results of the literature review reveal many commonalities that have been successful in dealing with various issues challenging schools experiencing

rapid growth in student enrollment as a result of rapid population growth. There were

also some pitfalls or other strategies implemented in schools experiencing rapid growth

that appeared to have no effect or negative effects on student achievement.

CHAPTER III

METHODOLOGY

Purpose of the Study

Rapid population growth in western North Dakota is evident to all who travel the busy highways of the Bakken region. State and national broadcasts boast of the many job opportunities that are available as a result of oil exploration. This economic boom has changed the appearance of western North Dakota. At the time of this study, small communities continued to grow as housing and living costs continued to rise. School districts were not exempt from this population explosion, and included the challenges of educating additional students with limited space and resources. The purpose of this study was to determine the perceptions of school leaders in western North Dakota regarding the effects of rapid population growth on PK-12 educational organizations. The researcher administered a survey to school leaders and examined secondary data from the North Dakota DPI.

Quantitative Data

This quantitative study examined differences between various school leaders' perceptions of how rapid population growth has affected their educational organizations. The researcher reviewed school leaders' perceptions on planning for growth, recruiting

and retaining teachers, facility adequacies, academic achievement of students, school culture, and student mobility.

Research Questions

Numerous discussions with western North Dakota school leaders indicated a need for this study. A thorough literature review indicated limited research had been conducted regarding the effects of rapid enrollment in PK-12 educational organizations, especially rural settings. In order to address the concerns noted by western North Dakota school leaders, the researcher developed five research questions to gain a better understanding of perceptions of school leaders and effects of rapid population growth on PK-12 educational organizations in western North Dakota.

The following are the research questions that guided the study:

1. What areas of strategic planning for school districts have changed due to rapid population growth?

2. What personnel issues have changed due to rapid population growth?

3. What are the academic challenges related to rapid population growth?

4. What facility changes were addressed due to rapid population growth?

5. What professional development changes were addressed for school leaders experiencing rapid population growth?

Rapid population growth occurring in western North Dakota at the time of this study had a direct impact on education and was impacting public PK-12 educational organizations. In this study, the researcher used quantitative methods to gather research data. The Institutional Review Board reviewed and approved this study (Appendix A).

Population

In order to glean information from western North Dakota school districts directly affected by rapid population growth, the researcher selected eight western North Dakota school districts that qualified for the 2011-2012 School District Rapid Enrollment Growth Grant (North Dakota Department of Public Instruction, Office of School Finance, 2011-2012). These school districts included: Divide County; McKenzie County; South Prairie; Stanley; South Heart; Nesson 2, better known as Ray Public School; Williston; and Bowman County. Of the eight school districts solicited for the study, all school districts participated.

Research participants included eight school district superintendents, twenty-four building level principals, four activities directors, eight school board presidents, eight local education association (LEA) presidents, and five special education directors. These 57 participants were asked to complete an on-line survey. This research project has Institutional Review Board approval, IRB- 201402-310 (Appendix A).

Survey Instrument

The on-line survey (Appendix B) was made available to participants in April of 2014. Data were gathered and analyzed through the use of Qualtrics software offered through the University of North Dakota. Survey questions were developed based on professional dialogue with school administrators in western North Dakota, a thorough review of current literature at the time of the study, and previous assignments completed

in graduate classes. In one class in particular, the researcher developed a similar survey with formatting comparable to the survey used in this dissertation. The information gleaned from that assignment aided the researcher in the development of a more effective survey for this study. The literature review was limited, as the researcher was unable to find studies or surveys relating to rapid population growth in schools. The professional dialogue did not include any of the identified participants for this study.

The survey (Appendix B) was divided into three sections seeking both categorical and quantitative variables (Warner, 2013). The first section of the survey was numbered 1 through 6 and pertained to participants' demographic information. The second section of the survey was numbered 1 through 18 and included questions that aligned with five constructs: change theory and school reform, administrative education and professional development, personnel issues, facilities, and academic challenges. These questions were based on a six-point Likert-type scale. The Likert-type scale included the following choices: *strongly agree*, *agree*, *slightly agree*, *slightly disagree*, *disagree*, and *strongly disagree*. A neutral choice was not included so participants had to choose a position. The last section consisted of two open-ended questions numbered 19 and 20. Of 25 participants who completed the survey, 22 answered the open-ended questions.

Data Collection

Individuals identified as potential participants received an introductory email (Appendix C) explaining the study's purpose, the researcher's background information, and, if they chose to participate, instructions on how to complete the survey by following a web link provided. By completing the survey, participants granted the researcher

permission to use their answers in the study. If participants did not want to participate, they simply refused to complete the survey. The introductory email explained that information gathered would not include individually identifiable information, would remain confidential, and would only be used for this specific study. The survey was available to potential participants for a period of 10 business days, starting April 2, 2014. After 10 business days, because the researcher lacked a required response rate, a second email was sent to potential participants reminding them of the survey, and the survey remained open for an additional 5 business days, closing April 23, 2014. Data were gathered with the computer program, Qualtrics, available at the University of North Dakota. Qualtrics software was developed by a private company, also called Qualtrics, based in Provo, Utah. The researcher received a 44% return rate, 25 individuals responded out of the 57 individuals asked to participate. Secondary data in regard to school performance was also collected from a review of North Dakota DPI public documents.

Data Analysis

The Statistical Package for Social Sciences 18 (SPSS 18) was used to analyze the quantitative data gathered. An analysis of variance was conducted comparing group perceptions/responses on a total scale score and a multiple analysis of variance was conducted comparing groups across all subscale scores.

Ethical Considerations

It was an expectation of the researcher that participants respond honestly to survey questions. The researcher's personal relationships with some of the participants

were not acknowledged to pressure them into participating in the study. Participants,

who chose to participate could do so; or if participants elected to discontinue the survey,

they were able to do so without consequences. Participants were informed there would

be no compensation for participation in the study.

Summary

Chapter III describes the purpose of the study, research questions, survey

population, survey instrument, collection of data, data analysis, and ethical

considerations. Chapter IV shows data results gathered from this study. Chapter V

includes a summary and discussion of the findings, which are aligned with the literature

review and the researcher's experience. The researcher identified recommendations for

school districts, North Dakota DPI, and state legislators based on the findings of this

study.

CHAPTER IV

RESULTS

Purpose of the Study

The purpose of this study was to provide an understanding of perceptions of school leaders in western North Dakota regarding the effects of rapid population growth on PK-12 educational organizations. The researcher examined North Dakota Department of Public Instruction data, school data, and surveyed school leaders.

Research Questions

The following research questions helped guide the study:

1. What areas of strategic planning for school districts have changed due to rapid population growth?

2. What personnel issues have changed due to rapid population growth?

3. What are the academic challenges related to rapid population growth?

4. What facility changes were addressed due to rapid population growth?

5. What professional development changes were addressed for school leaders experiencing rapid population growth?

The survey used in this study (Appendix B) was developed through professional dialogue with educational leaders. The survey consisted of three parts, the first part included six demographic questions on gender, current position, education, number of

years in position, district population, and leadership positions held prior to the 2008-2009

school year. The second part included 18 statements and used a 6-point Likert-type scale,

which allowed survey participants to rate their level of agreement with survey statements.

The scale ranged from 1 (*strongly disagree*) to 6 (*strongly agree*). The third part of the

survey included two open-ended questions. An alpha level of .05 was set for all

statistical tests. Of 57 school leaders asked to complete the survey, 25 completed it for a

return rate of 44%. The dissertation committee considered that a high return rate. The

researcher has been a teacher, coach, and principal in central and western North Dakota

for the past 13 years. The researcher has also served as the Region 1 Director and state

president for the North Dakota Association of Secondary School Principals in recent

years. It is the belief of the researcher that a collegial working relationship with school

leaders in western North Dakota, name recognition, and interest in and relevance of the

topic compelled participants to complete the survey. Results for Chapter IV are reported

in narrative and table format.

Demographic Findings

Table 1 includes a summary of data related to survey participants' demographics.

It includes frequencies and percentages of responses by participants.

Table 1. Number of Participants ($N = 25$) by Demographic Grouping.

Demographic Category	Sample Count ($N = 25$)	%
Gender		
Male	17	68
Female	8	32

Table 1. cont.

Demographic Category	Sample Count ($N = 25$)	%
Position		
Superintendent	2	8
Principal	8	32
Assistant Principal	3	12
Athletic/Activities Director	3	12
School Board President	5	20
LEA President	1	4
Special Education Director	3	12
Highest Degree Earned		
High School Diploma	0	0
Skill/Trade/Two Year	2	8
B.S./B.A.	5	20
M.Ed.	16	64
Ph.D. or Ed.D.	2	8
Other	0	0
Years in Current Position		
Less than 1	5	20
1-5	9	36
6-10	7	28
11 or more	4	16
District Population		
1-100	3	12
101-200	7	28
201-250	0	0
251 or more	15	60

Leadership Position Held Prior to 08-09 School Year		
Superintendent	2	8
Principal	5	20
Assistant Principal	0	0
Athletic/Activities Director	3	12
School Board President	4	16
LEA President	0	0
Special Education Director	2	8
Other	9	36

Of the participants ($N = 25$) who completed the survey, 68% were male and 32% were female. Eight percent of participants were superintendents, 32% were principals, 12% were assistant principals, 8% were athletic/activities directors, 20% were presidents of school boards, 4% were presidents of local education associations, and 16% were special education directors.

In the demographic category of highest degree earned, 8% had a two-year associate or trade or skills degree, 20% had a Bachelor of Science or Bachelor of Art Degree, 64% had a Masters Degree, and 8% had a Ph.D. or Ed.D. Of the participants, 20% had less than a year of experience at their current position, 36% had worked 1-5 years at their current position, 28% had 6-10 years of experience at their current position, and 16% had worked 11 or more years at their current position.

Of the participants who completed the survey, 12% worked in school districts with a population of 1-100, 28% worked in districts with a population of 101-200, 0% worked in communities with a population of 201-250, and 60% worked in areas having a population of 251 or more. Number of participants working with a school district

population of 251 or more was almost double the next most frequently worked category surveyed in this section.

The last demographic category surveyed was leadership positions held prior to the 2008-2009 school year. Of participants, 8% held superintendent positions, 20% held principal positions, 0% held assistant principal positions, 12% held athletic/activities director positions, 16% were presidents of school boards, 0% were presidents of LEAs, 8% held special education director positions, and 36% held other positions not listed.

Table 2 contains information on participants correlating "Current Position" with gender, highest degree earned, number of years at current job, and population of school district.

Table 2. Current Position Correlated With Gender, Highest Degree Earned, Years on the Job, and School District Population ($N = 25$).

Current Position	Male	Female	Degree	Experience	Population
Superintendent	1	0	M.Ed.	Less than 1	1-100
	1	0	M.Ed.	11 or more	101-200
Principal	1	0	M.Ed.	6-10	1-100
	1	0	M.Ed.	11 or more	1-100
	1	0	M.Ed.	1-5	251 or more
	1	0	M.Ed.	Less than 1	251 or more
	0	1	M.Ed.	1-5	101-200
	1	0	M.Ed.	6-10	251 or more
	0	1	M.Ed.	6-10	251 or more
	1	0	Ph.D or Ed.D.	6-10	101-200
Assistant Principal	1	0	M.Ed.	1-5	251 or more
	1	0	M.Ed.	1-5	251 or more
	0	1	M.Ed.	Less than 1	251 or more
Athletic/Activities Director	1	0	M.Ed.	6-10	101-200
	1	0	M.Ed.	6-10	101-200
	1	0	B.S./B.A.	11 or more	101-200

School Board	0	1	Skill/Trade/2 yr	1-5	251 or more
President	1	0	Skill/Trade/2 yr	1-5	251 or more
	0	1	B.S./B.A.	6-10	251 or more
	1	0	B.S./B.A.	Less than 1	101-200
	1	0	B.S./B.A.	Less than 1	101-200
LEA President	1	0	B.S./B.A.	1-5	251 or more
Special Education	0	1	Ph.D. or Ed.D.	1-5	251 or more
Director	0	1	M.Ed.	6-10	251 or more
	0	1	M.Ed.	1-5	251 or more

The information contained in Table 2 clearly shows a majority of participants were male and the job category containing the greatest number of participants was "Principal." The majority of participants worked in a school district that had 251 or more students.

Constructs and Internal Measures of Consistency

Table 3 shows the five constructs used as a base for developing the online survey and reliability measures of each construct.

Table 3. Correlation of Constructs and Measures of Internal Consistency.

Construct	Subscale	C1	C2	C3	C4	C5	*a*
C1. Change Theory & School Reform	Q1, Q2, Q3						.424
C2. Personnel Issues	Q4, Q5, Q6	.570					.550
C3. Academic Challenges	Q16, Q17, Q18	-.066	.013				.913
C4. Facilities	Q10, Q11, Q12, Q13, Q14, Q15	.715	.488	.062			.863
C5. Administrative Education & Professional Development	Q7, Q8, Q9	.130	.107	-.33	.012		.764

Data show the correlation between each of the constructs and measures of internal

consistency of survey statements addressing each construct. In Table 3, Column 1 lists

each construct and Column 2 lists survey statements meant to address each construct in

Column 1. Alpha scores for Constructs C3, C4, and C5 indicate high levels of internal

reliability among survey statements.

<div align="center">**Research Questions Aligned With Survey Data**</div>

The following is a description of quantitative data, including tables, showing the

alignment between research questions and survey statements. Data for this section was

obtained from the second part of the survey, which was designed to address five

constructs: change theory and school reform, administrative education and professional

development, personnel issues, facilities, and academic challenges. This section is

subdivided by research questions.

Research Question 1

What areas of strategic planning for school districts have changed due to rapid

population growth? Table 4 pertains to the first three statements of the second section of

the survey. Data is based on participants' responses to each statement using the Likert-

type scale described earlier in this report. Table 4 contains percentage of agreement

participant responses showed to each relevant statement, the mean Likert response rating

of responses to each statement (3 = *slightly disagree*, 4 = *slightly agree*, so a mean value

of 3.6 is very close to *undecided*), and standard deviations.

Table 4. Percentage of Agreement by Participants, Mean Responses, and Standard
Deviations for Survey Statements 1, 2, and 3 ($N = 25$).

Survey Statements	Participants Who Agreed (%)	M	SD
Q1. Considering our budget, our school district has been able to plan a year ahead of time for rapid student growth.	52.0	3.60	1.58
Q2. Considering our transportation needs, our school district has been able to meet the needs of our patrons in a growing community.	32.0	3.00	1.44
Q3. Considering our housing availability, our school district has been able to plan for district housing to meet the needs of new teachers in a growing community.	28.0	2.96	1.72

Participants' responses were split (52%) over the first question, and only a quarter to a third (28-32%) were in agreement with the second and third correlating statement. So, over half the respondents had some form of agreement (*strongly agree*, *agree*, or *slightly agree*) that their school district was able to plan a year ahead for rapid growth in students enrolled in school. Since the mean answer was only 3.6 though, on average, respondents only slightly agreed (4 = *slightly agree*, 5 = *agree*, 6 = *strongly agree*) with this statement. Only about a third of respondents felt the need for transportation was being met. So, the majority of respondents felt transportation needs were not being met. Because the average response rate was 3 (*slightly disagree*), respondents did not strongly disagree with this statement. Just over a quarter of respondents felt the need for housing for new teachers was being met. On average, though, respondents only slightly disagreed that housing needs were not being met (mean response was 2.96 and 3 = *slightly disagree*).

Table 5 contains fall enrollment numbers reported to the DPI from districts included in this study. The data shows a five-year trend of student enrollment numbers. The student enrollment numbers reveal gains by all school districts included in the study. Five-year enrollment gains were figured on the lowest enrollment number and the highest to compute the total increase in student enrollment, not the fall enrollment numbers for 2007-2008 compared to the fall enrollment of 2011-2012.

Table 5. Student Enrollment Numbers, Fall Semesters (2007-2012).

School District	07-08	08-09	09-10	10-11	11-12	Total Increase in Enrollment
Divide County	233	228	232	226	280	54
McKenzie County	533	520	540	586	700	180
South Prairie	140	148	133	147	174	41
Stanley	367	395	411	472	550	183
South Heart	227	233	200	205	233	33
Ray	161	164	191	219	247	86
Williston	2110	2184	2275	2467	2659	559
Bowman County	434	420	413	402	432	30

Research Question 2

What personnel issues have changed due to rapid population growth? Table 6 pertains to the three survey statements numbered 4, 5, and 6. Data were based on

participants' responses to each statement and analyzed using a Likert-type scale. Table 6

contains percentage of agreement participant responses showed to each statement, mean

response to each statement, and standard deviations. Participants were split in their

agreement over statements. As shown in Table 6, only slightly more than half (52% to

56%) the responses agreed with correlating statements and the average mean response for

the three survey questions was 3.47 (4 = *slightly agree*).

Table 6. Percentage of Agreement by Participants, Mean Responses, and Standard
Deviations for Survey Statements 4, 5, and 6 ($N = 25$).

Survey Statements	Participants Who Agreed (%)	M	SD
Q4. Our new teachers in our district have been able to find adequate housing.	52.0	3.36	1.72
Q5. Our school district has been able to recruit teachers to teach in a growing school district.	52.0	3.48	1.16
Q6. Our school district has been able to retain teachers in our growing school district.	56.0	3.56	1.23

Research Question 3

What are the academic challenges related to rapid population growth? Table 7

pertains to Survey Statements 16, 17, and 18 correlated with Research Question 3. Data

were based on participants' responses to each statement using a Likert-type scale. Table

7 contains percentage of agreement participant responses showed to each statement, mean

response to each statement, and standard deviations.

Table 7. Percentage of Agreement by Participants, Mean Responses, and Standard Deviations for Survey Statements 16, 17, and 18 ($N = 25$).

Survey Statements	Participants Who Agreed (%)	M	SD
Q16. Rapid population growth has affected our overall academic performance.	96.0	4.96	1.02
Q17. Rapid population growth has affected our school culture.	92.0	4.92	1.15
Q18. Rapid population growth and student mobility has affected our school culture.	92.0	5.04	0.98

As shown in Table 7, respondents overwhelmingly agreed with Statements 16 (96% agreed), 17 (92% agreed), and 18 (92% agreed). In other words, respondents agreed that rapid population growth had affected overall academic performance of students and school culture. The average mean response for the three survey questions was 4.97 (5= *agree*). In addition school leaders felt student mobility had affected school culture as well.

Table 8 shows trends in North Dakota state assessments for reading proficiencies of students enrolled in school districts included in this study for the five-year period starting in school year 2007-2008 and ending in 2011-2012. Scores were rounded up to the nearest whole number. Some of the schools' results appear to show an upward trend in reading scores, while others are inconsistent, yet others appear to be on a downward trend. Thus, no conclusion can be made of the effects of rapid population growth in the area of reading on the North Dakota State Assessment.

Table 8. North Dakota State Assessment Results in Reading (2007-2012).

School District	07-08	08-09	09-10	10-11	11-12
Divide County	76	78	68	75	68
McKenzie County	79	77	76	83	84
South Prairie	69	67	69	85	86
Stanley	76	82	80	79	71
South Heart	76	75	89	83	83
Ray	82	72	79	74	77
Williston	79	84	80	79	74
Bowman County	72	74	83	82	81
State Average	*75*	*77*	*76*	*76*	*75*

Table 9 shows trends in North Dakota state assessments for math proficiencies of students enrolled in school districts included in this study for the five year period starting in school year 2007-2008 and ending in 2011-2012.

Table 9. North Dakota State Assessment Results in Math (2007- 2012).

School District	07-08	08-09	09-10	10-11	11-12
Divide County	71	75	68	83	78
McKenzie County	75	75	77	79	81
South Prairie	76	74	80	87	88
Stanley	74	79	78	76	70
South Heart	79	82	92	90	85
Ray	87	76	78	84	81
Williston	83	85	82	82	78
Bowman County	71	80	84	84	85
State Average	*75*	*77*	*78*	*77*	*77*

Scores were rounded up to the nearest whole number. Most of the schools' results appear to show an upward or consistent trend in scores in the area of math.

Table 10 shows trends in composite ACT scores during a four-year period for 11th grade students who completed the ACT test. The state of North Dakota had been giving this test to 11th graders during the last five years prior to this report. At the time this report was written, results for the 2013-2014 school year were not available.

Analysis of these scores reveals an inconsistent or irregular pattern. Some schools appear to be on an upward trend, others appear to be inconsistent or wavering up and down, while others appear to be trending downward. Thus, no conclusion can be made of the effects of rapid population growth in relation to scores on the ACT Test.

Table 10. ACT Composite Scores (2009-2013).

School District	09-10	10-11	11-12	12-13
Divide County	18.00	Not Available	23.33	20.00
McKenzie County	20.17	19.78	18.82	20.05
South Prairie*				
Stanley	20.14	19.10	18.33	18.36
South Heart	22.31	19.25	20.68	21.00
Ray	20.54	20.62	19.63	20.39
Williston	20.14	20.34	20.61	20.20
Bowman County	19.41	21.6	20.04	20.76
State Average	*21.5*	*20.7*	*20.7*	*20.5*

* South Prairie School is a K-8 school and ACT scores do not exist.
* Divide County data were not available for the 2010-2011 school year.

Table 11 shows five-year trends regarding number of special education students who participated in state assessment exams within school districts involved in this study.

For the time period shown in Table 11, total number of special education students who participated in state assessments in all districts increased and within some districts the increase was substantial. The total increase of students who participated in state assessments over the five-year trend shown was determined by subtracting the lowest enrollment number from the highest number to compute the total increase of students in special education who participated in state assessments, not the fall enrollment numbers for 2007-2008 compared to the fall enrollment numbers of 2011-2012.

Table 11. Number of Special Education Students Who Participated in State Assessments for Selected School Years (2007-2012).

School District	07-08	08-09	09-10	10-11	11-12	Total Increase of Students Enrolled
Divide County	8	12	11	8	18	10
McKenzie County	23	32	32	28	44	21
South Prairie	11	13	15	12	14	3
Stanley	40	37	44	43	50	13
South Heart	9	10	10	11	14	5
Ray	10	18	18	20	22	12
Williston	170	173	203	210	213	43
Bowman County	19	19	22	25	32	13

The number of special education students in the Divide County school district more than doubled from 2007-2008 to 2011-2012. Williston school district noted the largest number increase, but a smaller percentage increase (20%) of special education students during the same time period. Although the percentage in Williston was smaller, the

increase in student population would equate to two full-time, and often hard to find, special education positions.

Research Question 4

What facility changes were addressed due to rapid population growth? Table 12 pertains to six survey statements. Data were based on participants' responses to each statement using a Likert-type scale. Table 12 contains percentage of agreement participant responses showed to each statement, mean response to each statement, and standard deviations.

Table 12. Percentage of Agreement by Participants, Mean Responses, and Standard Deviations for Survey Statements 10-15 ($N = 25$).

Survey Statement	Participants Who Agreed (%)	M	SD
Q10. Considering the capacities of our classrooms, we are able to handle rapid population growth.	44.0	3.04	1.34
Q11. Considering the capabilities of our school building, we are able to handle rapid population growth.	28.0	2.72	1.24
Q12. Considering the capacities of our lunchrooms, we are able to handle rapid population growth.	32.0	2.84	1.34
Q13. Considering the capabilities of our lunchroom, we are able to handle rapid population growth.	32.0	2.84	1.34
Q14. Considering the capabilities of our athletic areas, we are able to handle rapid population growth.	60.0	3.44	1.33
Q15. Considering the capabilities of our athletic areas in our school building, we are able to handle rapid population growth.	52.0	3.28	1.31

Participant responses indicated participants disagreed with Survey Questions 10 (44% agreement), 11 (28% agreement), 12 (32% agreement), and 13 (32% agreement). However, when it came to athletics, participants were more likely to agree with the statements. When presented with Question 14 regarding capabilities of athletic areas to cope with rapid population growth, slightly over half (60%) of respondents agreed with the statement. When presented with Question 15 regarding athletic areas within school buildings, respondents were split with only slightly over half (52%) agreeing with the statement. The average mean response for the six survey questions was 3.03 (4= *slightly agree*).

Research Question 5

What professional development changes were addressed for school leaders experiencing rapid population growth? Table 13 pertains to Survey Statements 7, 8, and 9. Data were based on participants' responses to each statement using a Likert-type scale. Table 13 contains percentage of agreement participant responses showed to each statement, the mean response to each statement, and standard deviations.

Table 13. Percentage of Agreement by Participants, Mean Responses, and Standard Deviations for Survey Statements 7, 8, and 9 ($N = 25$).

Survey Statement	Participants Who Agreed (%)	M	SD
Q7. I have the education and experience to successfully handle rapid population growth.	64.0	3.92	1.12
Q8. I have the education and experience to successfully handle an increase in school staff.	88.0	4.32	0.90
Q9. I have the education and experience to successfully handle the variety of learning styles our students possess.	75.0	4.21	1.10

Respondents had some form of agreement with Statements 7, 8, and 9 indicating they believe they have the education and experience to deal with issues that arise from rapid population growth. The average mean response for the three survey questions was 4.15 (5= *agree*).

Thematic Findings

Participants were asked to complete two open-ended questions at the end of the survey (Appendix B) relating to rapid population growth. Of the 25 participants that took the survey, 22 (88%) responded to the open-ended questions. The first open-ended question on the survey was Question 19: How has rapid population growth impacted your school positively? Analyzing collective responses of participants resulted in the following themes emerging from the data:

1. Cultural diversity has a positive impact on a school.

2. An increase in teachers and staff has resulted in more collaboration opportunities.

3. After years of declining enrollment, our schools are growing.

Many that answered the first open-ended question focused on positive experiences associated with diversity. One participant stated, "It has provided a cultural influence to the usual rural-in-nature communities." While another stated, "Diversity is good for students and teachers." "Students have been exposed and [are] able to learn from

different cultures, races, and lifestyles," responded another. Another participant reflected on cultural change, "I think the variety of cultures and the diversity of our population is helping to positively impact a more diverse curriculum." Interpretations of this open-ended question were made evident by the many responses that centered on a positive impact made by the implosion of cultural diversity into a relatively homogeneous community.

Another consistent theme that was gleaned from the first open-ended question centered on the increased number of teachers and staff. One participant stated, "More teachers has meant more collaboration opportunities." "There are more teachers moving into the area with their spouses who are looking for jobs in the field of special education," said another participant. An increase in teachers and staff is seen as a positive among the participants that completed the question.

A third theme discovered from respondents centered on the ability to keep school doors open. Some schools in this study had experienced years of declining enrollment in the past (Decker, 2007). One participant made the following response, "The rapid population growth has impacted us positively because without it, we had a rapidly declining student population. It has brought life and excitement back into our school." While another stated, "Our school was declining in enrollment so the new students help keep the doors open." Another stated, "It kept the doors open." In the past, before the present oil boom, school closure was a threat to many communities in western North Dakota, and the growth in population at the time of this study helped reestablish those schools in their communities.

The second open-ended question on the survey was Question 20: How has rapid population growth impacted your school negatively? Collective responses from participants resulted in the following themes:

1.   Students are mobile, with gaps in education. An increase in population has also meant an increase in the number of students with special needs.

2.   State funding does not increase to meet educational needs of a growing student population.

3.   Schools are running out of space or are out of space for meeting the needs of a growing population.

Many responses centered on the negative academic impact of rapid population growth. "By far the biggest negative that I see is the gaps in education in these students. Many students have moved multiple times and are lacking the basic skills for their ages," stated one participant. Another stated, "The number of students on IEPs [Individual Education Programs] has grown immensely. Trying to keep up with the emotional needs and extreme behaviors of these students has been very challenging." "The attendance at school is very poor," responded another. Another response was, "The first is the issue with highly mobile [students]." In summary, according to participants, there have been a number of negative impacts on academics resulting from mobile students.

Another theme that developed from responses to the survey question on negative impacts of rapid population growth centers on funding. "State funding does not increase to meet educational needs of a growing student population. The lack of state grants for infrastructure projects . . ," responded a participant. Another stated, "Increase in costs

with no funding to assist for the first year." While another responded, "We were struggling financially to keep up with our needs." An increase in student population at the time of this study had helped some schools become more efficient as they were able to operate at or closer to capacity. However, perceptions of survey participants indicated participants believed rapid population growth to be negative because funding had not kept up with the rate of student increase.

The last theme centered on a shortage of space in schools. One participant responded, "School buildings are filled to capacity." While another stated, "In two short years, we needed five [classrooms] and were forced to purchase modular/portable classrooms." "The buildings are maxed out," responded another. Responses indicating buildings filled to capacity were consistently obtained from all participants.

Summary

Chapter IV described the purpose of the study, research questions, the data analysis, and results for this study. Chapter V includes a summary of findings, conclusions, limitations, and recommendations. The researcher developed recommendations for school districts, the North Dakota DPI, and state legislators based on the findings of this study.

CHAPTER V

SUMMARY

Introduction

Chapter V is divided into four sections; a summary of the findings, conclusions, limitations, and recommendations for the study. The purpose of this study was to determine the perceptions of school leaders in western North Dakota regarding the effects of rapid population growth on PK-12 educational organizations. The study was guided by five research questions. The researcher gathered data through an online survey of school leaders from eight different North Dakota school districts that qualified for the first rapid enrollment grant which was distributed in the 2011-2012 school year. The survey (Appendix B) was divided into three sections and sought both categorical and quantitative variables (Warner, 2013). The first section included Questions 1 through 6 and pertained to participants' demographic information.

The second section of the survey included eighteen statements, numbered 1-18, aligned with five constructs identified through the literature review. Respondents rated their agreement with each statement based on a six-point Likert-type scale. The Likert-type scale included the following choices: *strongly agree*, *agree*, *slightly agree*, *slightly disagree*, *disagree*, and *strongly disagree*. A neutral choice was not included, encouraging participants to choose a position on each statement.

The third section contained two open-ended questions, Questions 19 and 20. Quantitative data were also gathered from school leaders' responses to the survey and compared to secondary data gathered from the North Dakota DPI. The data received from the North Dakota DPI included the following: fall enrollment numbers, state assessment results in both reading and math, ACT results for eleventh graders, and the trend in the number of special education students participating in state assessment for selected years.

<div align="center">**Summary of Findings**</div>

The following sections describe the research questions, the survey statements that correlate with each research question, and the findings.

Research Question 1

What areas of strategic planning for school districts have changed due to rapid population growth? The following are the survey statements (1, 2, and 3) that correlate with Research Question 1:

S1.   Considering our budget, our school district has been able to plan a year ahead of time for rapid student growth.

S2.   Considering our transportation needs, our school district has been able to meet the needs of our patrons in a growing community.

S3.   Considering our housing availability, our district has been able to plan for district housing to meet the needs of new teachers in a growing community.

Participants responded at a rate of 52% agreement when considering their districts ability to plan ahead of time in terms of budgets; just a little over half of respondents felt

school districts were able to plan ahead. But this shows almost half did not think school districts were budgeting ahead for increased enrollment in the future. Also, only 32% of respondents agreed, when considering transportation needs that their schools were meeting those needs. This indicates a significant 68% felt transportation needs were not being met. Only 28% of respondents agreed the school district had been meeting the housing needs of new teachers. That translates into 72% of respondents felt housing needs were not being met (Table 3). Participants that chose to answer open-ended questions consistently responded on how difficult it was to budget due to lack of funding for student growth and how short they were of school space for new students. The research indicated that school districts affected by rapid population growth have been required to adjust strategic initiatives to compensate for recruitment of transportation personnel and lack of housing for district employees.

Research Question 2

What personnel issues have changed due to rapid population growth? The following are survey statements that correlate with Research Question 2:

S4.   Our new teachers in our district have been able to find adequate housing.

S5.   Our district has been able to recruit teachers to teach in a growing school district.

S6.   Our district has been able to retain teachers in our growing school district.

Participants' responses were split, 52% agreed the school district was able to recruit new teachers and find them adequate housing, but that would indicate 48% or almost half respondents felt recruitment of new teachers was inadequate and the housing

needs of those new teachers were not being met (Table 5). However, respondents were

slightly more in agreement with Statement 6, 56% rate of agreement, when considering

their school districts' abilities to retain those new teachers that were hired (Table 5). The

research indicated, at the time of this study, school districts continued to struggle with

recruitment of new teachers, which was exacerbated by a lack of affordable housing.

Research Question 3

What are the academic challenges related to rapid population growth? The

following are survey statements that correlate with Research Question 3:

S16. Rapid population growth has affected our overall academic performance.

S17. Rapid population growth has affected our school culture.

S18. Rapid population growth and student mobility has affected our school

culture.

Participants' responses showed strong agreement with all three of these

statements. Participants responded at a 92% rate of agreement when considering if rapid

enrollment and student mobility affected school culture (Table 6). Participants were at a

96% rate of agreement when considering if rapid enrollment had affected academic

performance (Table 6). This group of survey statements displayed the highest rates of

agreement from survey participants' responses to statements on the survey.

State assessment scores in reading (2007-2012) obtained from the North Dakota

DPI revealed some schools appear to have been experiencing an upward trend in reading

scores, while others show inconsistent reading scores – that is, scores appear to be

jumping around in value, and yet other schools appear to show a downward trend in

reading scores (Table 7). State assessment scores in math (2007-2012) obtained from the North Dakota DPI revealed most schools appear to have been experiencing an upward or consistent trend in scores in the area of math (Table 8).

Since the 2009-2010 school year, North Dakota has required all juniors to complete the ACT test. North Dakota DPI data, examining all juniors completing the ACT test, revealed an inconsistent pattern in test scores (Table 9). Again, some schools appear to show an upward trend in scores, others appear to be inconsistent with scores moving up and down from year to year, while others appear to be trending downward. Enrollment numbers of special education students participating in state assessments (obtained from the North Dakota DPI public records) for school years 2007-2008 through 2011-2012, revealed an increase in special education students taking state assessment tests (Table 10).

Participants that chose to answer open-ended questions commented on a number of issues they believed affected student academic performances. At the time of this study, students had gaps in their education because of mobility issues that developed from population explosions in western North Dakota, the number of special needs students had increased significantly; and, an average increase of 15 special education students had occurred among the eight schools included in this study. Naturally, these factors have contributed to overall school performances. The research indicated that rapid population growth has had an effect on academic processes in school districts in western North Dakota.

Research Question 4

What facility changes were addressed due to rapid population growth? The following are survey statements that correlate with Research Question 4:

S10. Considering the capacities of our classrooms, we are able to handle rapid population growth.

S11. Considering the capabilities of our school building, we are able to handle rapid population growth.

S12. Considering the capacities of our lunchrooms, we are able to handle rapid population growth.

S13. Considering the capabilities of our lunchroom, we are able to handle rapid population growth.

S14. Considering the capabilities of our athletic areas, we are able to handle rapid population growth.

S15. Considering the capabilities of our athletic areas in our school building, we are able to handle rapid population growth.

Participants were asked to consider the capacities and capabilities of their schools' classrooms and school building, lunchroom space, and athletic areas. Roughly one-third of participants, 36% rate of agreement, agreed there was adequate classroom space and 32% agreed there was lunchroom space almost two-thirds (62% rate of agreement) agreed their athletic areas were adequate (Table 11). Participants who chose to answer the open-ended questions consistently responded how short of space they were and that their buildings were "maxed out." The research indicated that school districts

affected by rapid population growth continued to struggle finding the necessary space to educate students, including ancillary spaces such as lunchrooms.

Research Question 5

What professional development changes were addressed for school leaders experiencing rapid population growth? The following are survey statements that correlate with Research Question 5:

S7. I have the education and experience to successfully handle rapid population growth.

S8. I have the education and experience to successfully handle an increase in school staff.

S9. I have the education and experience to successfully handle the variety of learning styles our students possess.

Participants were asked if they had the education and experience to successfully handle rapid population growth, an increase in staff, and the variety of learning styles their students possessed. About three-quarters of participants agreed or felt they had the education and experience to successfully handle all challenges that came with rapid population growth such as an increase in staff (88% agreed) and a variety of learning styles (75% agreed; see Table 12). However, when focusing on having the education and experience to handle rapid population growth alone, only 64% agreed they had what they needed. The research indicated that rapidly growing school districts are able to meet the professional development needs of staff members, including how to address the learning styles of a diverse student population.

Conclusions

At the time of this report, school leaders shared a concern in accessing housing for new staff as their communities continued to grow, and housing markets continued to tighten. Leaders were also concerned with the rising costs of housing in their communities. Both Stanley and Divide County school districts developed teacher housing for new employees (Associated Press, 2012, and North Dakota Department of Public Instruction, 2012). This option helped recruit and retain new teachers to school districts in this study. Although these districts did not want to "get into the landlord business," they believed it to be the best option for them for solving the housing crisis their new teachers faced.

Another concern school districts faced at the time of this study was the difficulty in planning for transportation in rapidly growing school districts. Transportation services in rapidly growing communities comes at a cost. The increase in both fuel and number of busses running, coupled with additional miles traveled, made it difficult to plan. Another problem school districts reported was the problem of recruiting and retaining bus drivers. In some school districts, bus drivers were leaving for higher paying jobs in the oil field or retiring and no one was willing to step in and take their position. In rural areas, bussing is important to families and meets a need in the communities.

A discrepancy existed between participant responses to survey statements in the second half of the survey and responses to the open-ended questions in the third section of the survey. The discrepancy concerned budgeting. This discrepancy showed a 52% rate of agreement that school districts have been able to plan and budget a year ahead of

time for rapid student growth. However, responses to open-ended questions at the end of the survey consistently revealed a concern with the uncertainty of enrollment numbers and the cost of educating students with insufficient funding. North Dakota legislation currently determines school payments on a per-pupil basis on the previous year's spring enrollment number. Participants believed the state was not considering the rapid growth of populations in western North Dakota or influx of students arriving at schools in the fall when looking at spring enrollment numbers. The number of students enrolled in schools the spring semester is used for determining funding for the following school year. Fall enrollment numbers have consistently been higher than previous spring enrollment numbers in several years leading up to this study. In this scenario, school districts are responsible for funding additional students out of carry-over monies or deficient spend.

When it comes to recruiting and retaining teachers, and finding adequate housing for new teachers, school leaders believe they have experienced some success. School districts have utilized a variety of strategies to meet their needs. They have worked collaboratively with the North Dakota Education Standards and Practices Board to modify licensure rules to make it a bit more reasonable to obtain a teaching license through non-traditional methods. This has helped in the recruitment of new teachers that might have been working in industry, to move into teaching, while not giving up a salary and not having to interrupt a career to attend a university full time. Praxis tests are now available for someone with a teaching degree to take to become qualified to teach a hard-to-fill position (North Dakota Education Standards and Practices Board, 2014a). Also teaching prospects who have a teachable degree to teach the usual subjects taught in a

school, can develop a program of study to be completed so they will be highly qualified and able to obtain a highly qualified licensure (North Dakota Education Standards and Practices Board, 2014b). Berry (2004) supported what is occurring in North Dakota. One successful strategy within the literature review gives credence to alternative licensure. The ability to obtain a teaching license through alternative means makes it more economical for teaching candidates to obtain a teaching license and also lessens the amount of time spent at earning a degree through traditional methods. This quantitative study did not consider the quality or training of teachers; and therefore, no determination as to the cause and effect of teacher performance in regard to student achievement was considered. School districts have also broadened the scope of their searches for teaching candidates. Attending job fairs at universities and colleges is becoming a common practice and is supported in the literature review as a successful means to recruit new teachers to a district (Balter & Duncombe, 2008). Other school districts have built affordable teacher housing. Those school districts believe this has given them an advantage over those districts that do not offer this benefit.

When it came to the education and experience of school leaders, a majority of participants (76%) agreed they had the ability to handle an increase in rapid population growth, an increase in staff, and the variety of learning styles students needed to be successful. Based on Decker's (2007) work, a conclusion was determined that for years school districts in western North Dakota were dealing with declining student enrollments. Declining enrollment presents the opposite challenges that rapid population growth requires such as the reduction in staff or cutting of extra-curricular programs because of

low enrollment numbers. The intent of this research was to establish what areas needed professional development for school leaders in the realm of their ability to handle rapid population growth, an increase in staff, or a variety of some new learning styles that new students may require. The results indicated participants were confident in their abilities as school leaders to cope with increases in staff and students, and changes in school culture.

School leaders were consistent in their responses dealing with the capacities and capabilities of their school districts. School leaders believed their schools were short, both in capacities and capabilities, when it came to classroom space. This was echoed in responses to the open-ended questions that participants completed. Some schools developed short-term solutions to problems dealing with a shortage of classrooms by purchasing portable classrooms (Woods, 2012), while others adjusted their schedules in an attempt to provide relief (K. Hjelmstad, personal communication, May 9, 2012).

School leaders believed their schools were short both in capacities and capabilities when it came to lunchroom space. This belief was echoed in the open-ended questions that participants completed. School leaders consistently responded that they were short of space in both capacity and capability. The size of lunchrooms, as well as the inability to adjust schedules for various reasons, leads a reader to understand school leaders' responses.

School leaders were also consistent in their responses regarding their ability to handle rapid population growth in both capacity and capability when it came to their schools' athletic areas. A variety of reasons for these responses may exist. A variation in

athletic facilities for any given season appears to exist. In the fall, schools utilize football

fields, soccer fields, and gyms. These are all different areas that school districts have that

offer opportunities to many students for many different activities. Another reason for the

responses has to do with the flexibility in scheduling. Some schools schedule practices in

gym time in the morning, afternoon, or evenings. Others have purchased dividers that

create two practice areas within one gym. A majority of coaches are teachers and

flexibility exists before and after school hours for this group of people. This flexibility

could be one reason increased numbers of students are more easily accommodated into

athletics – football, soccer, and basketball.

Although school leaders responded strongly, at a 96% rate of agreement, that

rapid population growth had affected their schools' academic performances. Evidence

gathered through the North Dakota DPI did not indicate a fall-off or gain in performance

of students on state assessments or the state ACT test as a result of rising student

enrollments. One piece of evidence showed an increase in number of students enrolled in

special education that have participated in state assessments. The average increase in

special education students participating in state assessments of the eight-school districts

included in this study was, on average, 15 more students per school district. In some

cases, this presented a challenge to recruit hard-to-find special education teachers, as 15

special education students is a typical caseload for one teacher. So an increase in special

education students of 15 would mean a school would need another full-time special

education teacher to cope with the increased number of special needs students. Pressures

that come from an increase in number of special education students may have influenced

school leaders' perceptions on this particular question. Also, pressure from NCLB may have contributed to the responses of participants. Each year, schools are required by NCLB to make gains in student proficiencies or "adequate yearly progress," and failure to do so puts a school district on a school improvement program and leaves the future of the school "in question" within a community.

Rapid population growth has affected school culture according to perceptions of the participants. This perception was noted in the open-ended responses provided by participants. These school districts are seeing diversity amongst the student body that has not existed before the rapid population growth occurred. This has created learning opportunities for all – administrators, teachers, students, parents, and the entire community alike. It has also helped prepare students to interact, work, and develop friendships with a diverse group of students and helped improve the abilities of students to get along with an inter-culturally diverse student body.

Student mobility has affected school culture as perceived by school leaders. This too, is echoed in the open-ended responses of participants. Student mobility has contributed to gaps in education of some students as perceived by participants and confirmed in the literature review (Dunn, Kadane, & Garrow, 2003; Gasper et al., 2012; Grigg, 2012; Heywood, Thomas, & White, 1997; Rumberger & Larson, 1998; Titus, 2007; Voight et al., 2012). Research referenced in the literature review confirmed the more mobile a student is, the more academically behind the student tends to fall. Many of these mobile students are served on an IEP or are placed on an IEP because of a discrepancy in their ability and their actual performance.

As the researcher for this project, I found it interesting, based on the survey responses, that school leaders showed some form of agreement with almost every statement; and yet when participants answered open-ended questions, their comments sometimes did not align with survey responses. There were several concerns, as shown by survey results, school leaders had with rapid population growth and the impacts of that growth on their schools. These concerns were exemplified by a western North Dakota school administrator who stated that some school districts (at the time of this study) were in survival mode (A. Larson, personal communication, October 16, 2013). The uncertainty of growth, coupled with concerns of space, staffing, and funding created an environment of stress for schools in western North Dakota that were directly affected by rapid population growth. The survey data and open-ended questions indicated that school leaders thought state legislators did not act in a swift manner in trying to help ease the burden of educating many more students each year.

Limitations of the Study

- The study was conducted in western North Dakota within eight school districts that qualified for a rapid enrollment grant for the 2011-2012 school year.

- There had never been a study on rapid population growth among our public schools in North Dakota at the time of this study.

- The study included 25 participants with varying school leader perspectives. Some leader categories, such as LEA presidents, were not well represented by the sample population, with only one participant.

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- The study was based on rapid population growth and did not take into account other variables prior to the growth, such as employee turnover, student preparation, school culture, school facilities, and housing.

- The survey statements were developed through dialogue among some school leaders of growing school districts, but not necessarily the school leaders within these eight school districts. There may have been areas that were not addressed in the study that related to these districts.

Recommendations

Legislators, North Dakota DPI, and School Leaders

School leaders, with the help of the North Dakota DPI, should promote to legislators that the higher fall enrollment number should be used in funding formulas for schools. In many situations, schools are asked to educate a number of students without adequate funding because funding is based on May enrollment numbers and several new students may enroll in the fall boosting student enrollment beyond earlier estimates. In the absence of real time funding of the student population, school districts are forced to raise property taxes, draw from reserve accounts, or cut operational costs. School leaders must work collaboratively with legislators and the North Dakota DPI ensuring they have the necessary information for quality decisions about the state's fiscal responsibility regarding rapid population growth in western North Dakota School Districts.

School Leaders

A coalition should be formed amongst school districts that are experiencing growth. The ability to collaborate and problem solve with schools may have positive

impacts. Also, the ability to present a consistent message to all stakeholders, including legislators, can have positive impacts. School leaders who share ideas and seek solutions to common problems are more effective in the day-to-day operations of school districts. School leaders, who experience rapid population growth, should collaborate with other leaders experiencing the same problem to offer support for academic services.

Legislators and North Dakota DPI

School leaders must intensify their efforts to increase the amount of money available in grants or low interest loans for school improvements. During times of declining enrollment, many school districts were not able to maintain facilities the way they may have desired. However, at the time of this study, a rapidly growing population, neglected facilities, and insufficient space has created a dilemma. An increase in oil activity had provided the state with excise tax dollars, which should have been infused into school districts that experienced this rapid growth. This infusion of state funds may alleviate many issues resulting from rapid population growth, and may level the playing field for rapidly growing school districts. The state legislature should consider real time funding options for school districts experiencing rapid population growth, including school districts that do not currently meet specific requirements of the rapid enrollment grant but continue to increase in enrollment.

School Leaders and North Dakota DPI

Professional development should be provided to teachers and administrators in school districts experiencing a rapid increase in student enrollment on successful strategies to meet the needs of mobile students. School leaders should expect the North

Dakota DPI to develop successful professional development tools and/or workshops

supporting their "current" needs. Mobile students present challenges to school districts

not seen before. School districts should engage in targeted professional development

opportunities to meet the needs of mobile students, which may improve overall academic

performance, attendance, and create a positive change in school culture.

APPENDICES

UND UNIVERSITY OF **NORTH DAKOTA**   **UND.edu**

DIVISION OF RESEARCH & ECONOMIC DEVELOPMENT

Institutional Review Board
c/o Research Development
and Compliance
Twamley Hall, Room 106
264 Centennial Drive Stop 7134
Grand Forks, ND 58202-7134
Phone: 701.777.4279
Fax: 701.777.6708

February 20, 2014

Scott Faul
1609 Parkside Drive
Minot, ND 58701

Dear Mr. Faul:

We are pleased to inform you that your project titled, "The Effects of Population Growth on PK-12 Educational Organizations in Western North Dakota" (IRB-201402-310) has been reviewed and approved by the University of North Dakota Institutional Review Board (IRB). The expiration date of this approval is December 1, 2014.

As principal investigator for a study involving human participants, you assume certain responsibilities to the University of North Dakota and the UND IRB. Specifically, any adverse events or departures from the protocol that occur must be reported to the IRB immediately. It is your obligation to inform the IRB in writing if you would like to change aspects of your approved project, prior to implementing such changes.

When your research, including data analysis, is completed, you must submit a Research Project Termination form to the IRB office so your file can be closed. A Termination Form has been enclosed and is also available on the IRB website.

If you have any questions or concerns, please feel free to call me at (701) 777-4279 or e-mail michelle.bowles@research.und.edu.

Sincerely,

Michelle L. Bowles, M.P.A., CIP
IRB Coordinator

MLB/jle

Enclosures

Appendix B
Online Survey

Effects of Rapid Population Growth on Public PK-12 Educational Organizations in Western North Dakota

I am a doctoral candidate at the University of North Dakota. I am asking for assistance in completing the data collection phase of my dissertation "The Effects of Rapid Population Growth on PK-12 Public Educational Organizations in Western North Dakota."

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1. **Gender**
   □ Male
   □ Female

2. **Current Position**
   □ Superintendent
   □ Principal
   □ Assistant Principal
   □ Athletic/Activities Director
   □ President of School Board
   □ President of Local Education Association
   □ Special Education Director

3. **Education**
   □ High School Diploma
   □ Skill/Trade/Two Year Associate
   □ B.S/B.A.
   □ M.Ed.
   □ Ph.D. or Ed.D.
   □ Other:_____

4. **Number of years in current position**
   □ Less than 1
   □ 1-5
   □ 6-10
   □ 11 or more

5. **District Population**
   □ 1-100
   □ 101-200
   □ 201-250
   □ 251 or more

6. **Please check leadership positions that you held prior to the 2008-2009 school year**
   □ Superintendent
   □ Principal
   □ Associate Principal
   □ Activities/Athletic Director
   □ Local Education Associate President
   □ School Board Member
   □ Special Education Director
   □ Other:_____

	Please fill the circle that best provides your beliefs or practices.	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
1.	Considering our budget, our school district has been able to plan a year ahead of time for rapid student growth.	1	2	3	4	5	6
2.	Considering our transportation needs, our district has been able to meet the needs of our patrons in a growing community.	1	2	3	4	5	6
3.	Considering our housing availability, our district has been able to plan for district housing to meet the needs of new teachers in a growing community.	1	2	3	4	5	6
4.	Our new teachers in our district have been able to find adequate housing.	1	2	3	4	5	6
5.	Our district has been able to recruit teachers to teach in a growing school district.	1	2	3	4	5	6
6.	Our district has been able to retain teachers in our growing school district.	1	2	3	4	5	6
7.	I have the education and experience to successfully handle rapid population growth.	1	2	3	4	5	6
8.	I have the education and experience to successfully handle an increase in school staff.	1	2	3	4	5	6
9.	I have the education and experience to successfully handle the variety of learning styles our students possess.	1	2	3	4	5	6
10.	Considering the capacities of our classrooms, we are able to handle rapid population growth.	1	2	3	4	5	6
11.	Considering the capabilities of our school building, we are able to handle rapid population growth.	1	2	3	4	5	6
12.	Considering the capacities of our lunchrooms, we are able to handle rapid population growth.	1	2	3	4	5	6
13	Considering the capabilities of our lunchroom, we are able to handle rapid population growth.	1	2	3	4	5	6
14.	Considering the capabilities of our athletic areas, we are able to handle rapid population growth.	1	2	3	4	5	6
15.	Considering the capabilities of our athletic areas in our school building, we are able to handle rapid population growth.	1	2	3	4	5	6
16.	Rapid population growth has affected our overall academic performance.	1	2	3	4	5	6
17.	Rapid population growth has affected our school culture.	1	2	3	4	5	6
18.	Rapid population growth and student mobility has affected our school culture.	1	2	3	4	5	6

19. How has rapid population growth impacted your school positively?

20. How has rapid population growth impacted your school negatively?

Appendix C
Invitation to Participate/Consent

Date: 04/07/2014

Dear Education Leaders:

I am a doctoral candidate at the University of North Dakota. I am asking for assistance in completing the data collection phase of my dissertation, "The Effects of Rapid Population Growth on PK-12 Public Educational Organizations in Western North Dakota."

Voluntary Participation and Right to Withdraw: Participation in the survey is entirely voluntary. You may refuse to participate or withdraw at any time without consequence.

Confidentiality: Survey forms will be kept confidential and consistent with the University of North Dakota regulations regarding research. You will not be identified individually in the survey in any manner, and all information collected will be anonymous. Your email address and any personal information will be kept secure and not be distributed. The data results will be kept in a locked cabinet in the researcher's office. Only the researcher, the advisor, and University of North Dakota IRB will have access to the data. The research will be destroyed after three years.

Consent: By completing the survey and submitting it, you are agreeing to be included in the study.

Procedures: Please take five to ten minutes to complete the online survey at http://www.qualtics.com.

If you have any questions please contact Scott Faul at (701) 833-6760, his advisor, Dr. Sherryl Houdek at (701) 777-2394, or the University of North Dakota IRB at (701) 777-4279.

Sincerely,

Scott Faul   Sherryl A Houdek, EdD
H.S. Principal   Associate Professor
Minot High School-Magic City Campus   University of North Dakota
Minot, ND   Grand Forks, ND
Scott.Faul.1@sendit.nodak.edu

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