

TEACHER SELF-EFFICACY AND ITS RELATIONSHIP
TO TEACHERS' PERCEPTIONS OF THEIR WORKING CONDITIONS

A Thesis Submitted to the
College of Graduate Studies and Research
In Partial Fulfillment of the Requirements
For the Degree of Master of Education
In the Department of Educational Administration
University of Saskatchewan
Canada

Brent J. Guenther

Summer 2014

© Copyright Brent Guenther, August, 2014. All rights reserved.

PERMISSION TO USE

In presenting this thesis in partial fulfillment of the requirements for a Postgraduate degree from the University of Saskatchewan, I agree that the Libraries of this University may make it freely available for inspection. I further agree that permission for copying of this thesis in any manner, in whole or part, for scholarly purpose may be granted by the professor who supervised my thesis work or, in his absence, by the Head of the Department or the Dean of the College in which my thesis work was done. It is understood that any copying or publication of use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition should be given to me and the University of Saskatchewan in any scholarly use which may be made of any material in my thesis.

Requests for permission to copy or to make other use of material in this thesis in whole or part should be addressed to:

Head of the Department of Educational Administration

University of Saskatchewan

Saskatoon, Saskatchewan

S7N 0X1

ABSTRACT

Research has shown links between high levels of teacher self-efficacy and increased student achievement. Theorists and educational researchers have identified conditions and resources that increase teacher self-efficacy. Building on existing research, this quantitative study used data from 46 teacher respondents in one Saskatchewan school division. The purpose of the study was to examine teacher self-efficacy and its relationship to teachers' perceptions of their working conditions. An online questionnaire, based on the Teachers' Sense of Efficacy Scale (TSES) and the Teaching, Empowering, Leading and Learning (TELL) Survey, was used to collect the data. The mode of data analysis consisted of frequency counts (means and standard deviations) for the descriptive items relating to levels of self-efficacy and perceptions of working conditions. Non-parametric methods were used to measure significance and level of differences among variables, and Spearman's rho correlations were employed to identify the level of significance of relationships between and among the dimensions and items of teacher self-efficacy and teacher working conditions. A significant correlation was found between the two major constructs of teacher self-efficacy and teachers' perceptions of their working conditions, and strong correlations were also found between specific dimensions of teacher self-efficacy and dimensions of working conditions. Teacher levels of self-efficacy were predominantly in the moderate and high levels, and teacher leadership was rated highest among working conditions variables. Time availability was rated the lowest of all working conditions, and was found to be significantly related to the teacher self-efficacy dimensions of *classroom management* and *instructional strategies*. Further research, using student achievement data and a greater number of participants, may clarify how teacher self-efficacy and working conditions affect student achievement.

ACKNOWLEDGMENTS

I would like to acknowledge a number of individuals who were instrumental in helping me complete this thesis. First of all, I would like to thank my thesis advisor, Dr. Patrick Renihan, for his encouragement, support, and high expectations. Discussions with Dr. Renihan always included questioning underlying assumptions and theory, and that prepared me for not only this thesis, but for my continued work as a learner and an educator.

Much appreciation is extended to my committee members, Dr. David Burgess, Dr. Tim Claypool, and Dr. Norm Dray. Their broad knowledge base, complementary expertise, and time ensured that I was headed in the correct direction. My external examiner, Dr. Tim Molnar, spent a great deal of time with my thesis, and his feedback and support is greatly appreciated.

I have had the pleasure of working with many great educators in many different places, and their willingness to have meaningful conversations about education helped motivate me to pursue this research. My sincere thanks go to my colleagues, both past and present, for their support of me and the work I have done.

My family has always had high expectations, and that began with my parents, Peter and Marilyn Guenther. I would like to thank them for giving me opportunities for growth and following with unconditional support, no matter the endeavour.

Most importantly, I would like to thank my beautiful and intelligent wife, Marie, who encouraged me throughout this process. Her patience, confidence, and love gave me the opportunity to do my best.

DEDICATION

For my late mother, Velma Guenther, my first teacher.

TABLE OF CONTENTS

PERMISSION TO USE	i
ABSTRACT	ii
ACKNOWLEDGMENTS	iii
DEDICATION	iv
TABLE OF CONTENTS	v
CHAPTER ONE	1
Purpose of the Study	3
Research Questions	3
Significance of the Study	3
Delimitations	5
Limitations	6
Assumptions	6
The Researcher	6
Definitions of Key Terms	7
Overview of the Study	8
CHAPTER TWO	10
Teacher Efficacy and Student Achievement	11
Teacher Self-Efficacy Measures	13
Sources of Teacher Self-Efficacy	14
Early Research into Motivation and Satisfaction	17
Teacher Incentives	22
Financial Incentives	22
Financial Incentives vs. Non-financial Incentives	23
Working Conditions as Motivators	25
Teacher Working Conditions Measures	29
Teacher Working Conditions and Student Achievement	29
Conclusion and Conceptual Framework	30
CHAPTER THREE	33
Research Design	33
Selection of Participants	33

The Instrument	34
Validity of the Instrument	35
Method of Data Analysis.....	36
Ethical Considerations.....	37
Summary	37
CHAPTER FOUR.....	38
The Participants.....	39
Levels of Teacher Self-Efficacy among Participants	41
Self-Efficacy in Student Engagement.....	41
Self-Efficacy in Classroom Management.....	42
Self-Efficacy in Instructional Strategies.....	43
Differences in Teacher Self-Efficacy According to Demographic Variables.....	44
Differences in Self-Efficacy According to Gender	45
Differences in Self-Efficacy According to Position	45
Differences in Self-Efficacy According to Grade Level	46
Differences in Self-Efficacy According to Years of Experience	47
Differences in Self-Efficacy According to Level of Education	48
Teachers' Perceptions of Their Working Conditions.....	48
Teachers' Perceptions of Time Availability	49
Teachers' Perceptions of Facilities and Resources.....	50
Teachers' Perceptions of Community Support and Involvement.....	51
Teachers' Perceptions of Managing Student Conduct	53
Teachers' Perceptions of Teacher Leadership.....	54
Teachers' Perceptions of School Leadership.....	55
Teachers' Perceptions of Professional Development	56
Teachers' Perceptions of Instructional Practices and Support	58
Differences in Teachers' Perceptions of Their Working Conditions	59
Differences in Perception According to Gender.....	60
Differences in Perception According to Position	61
Differences in Perception According to Grade Level	62
Differences in Perception According to Years of Experience.....	63

Differences in Perception According to Level of Education.....	64
Relationships Between Teacher Self-Efficacy and Perceptions of Working Conditions	65
CHAPTER FIVE	68
Summary of Findings	68
1. What are the levels of self-efficacy among teachers in this study?.....	68
2. What are the differences in teacher self-efficacy when analyzed according to gender, experience, level of education, grade level, and professional role?	69
3. What are teachers’ perceptions of their working conditions?	70
4. What are the differences in teachers’ perceptions of their working conditions when analyzed according to gender, experience, level of education, grade level, and professional role?	71
5. What are the relationships between teacher self-efficacy and perceptions of working conditions?.....	71
6. What are the relationships between dimensions of teacher self-efficacy and perceptions of working conditions?	72
Discussion	73
Levels of Teacher Self-Efficacy	73
Perceptions of Working Conditions	74
Teacher Self-Efficacy and its Relationship to Perceptions of Working Conditions	76
Implications.....	80
Theory.....	80
Policy.....	81
Practice	82
Further Research.....	83
Conclusion.....	84
REFERENCES	86
APPENDICES	93
Appendix A: The Instrument	94

LIST OF TABLES

Table 1 Demographic Variable Frequencies.....	40
Table 2 Item Frequencies for Student Engagement.....	42
Table 3 Item Frequencies for Classroom Management	43
Table 4 Item Frequencies for Instructional Strategies	44
Table 5 Differences in Self-Efficacy According to Gender.....	45
Table 6 Differences in Self-Efficacy According to Position	46
Table 7 Differences in Self-Efficacy According to Grade Level	47
Table 8 Differences in Self-Efficacy According to Years of Experience.....	47
Table 9 Differences in Self-Efficacy According to Level of Education.....	48
Table 10 Item Frequencies for Time Availability.....	50
Table 11 Item Frequencies for Facilities and Resources	51
Table 12 Item Frequencies for Community Support and Involvement	52
Table 13 Item Frequencies for Managing Student Conduct	53
Table 14 Item Frequencies for Teacher Leadership	54
Table 15 Item Frequencies for School Leadership	56
Table 16 Item Frequencies for Professional Development.....	57
Table 17 Item Frequencies for Instructional Practices and Support	59
Table 18 Differences in Working Conditions According to Gender	60
Table 19 Differences in Working Conditions According to Position.....	61
Table 20 Differences in Working Conditions According to Grade Level	62
Table 21 Differences in Working Conditions According to Years of Experience	63
Table 22 Differences in Working Conditions According to Education.....	64
Table 23 Correlations Between Dimensions Teacher Self-Efficacy and Dimensions of Working Conditions	66

LIST OF FIGURES

Figure 2.1 Conceptual Framework	31
Figure 4.1 Scatterplot showing the correlation between teacher self-efficacy and teachers' perceptions of their working conditions.	65

CHAPTER ONE

INTRODUCTION

Saskatchewan school divisions have used copious amounts of resources for the purpose of educating teachers in what school divisions and experts believe to be best practice. Although there has been no provincial data to prove or disprove student achievement growth in the province of Saskatchewan, the 2012 PISA assessment found that Saskatchewan students only managed to plateau in the last round of assessment, compared to the previous assessment in 2009 (Brochu, Deussing, Houme, & Chuy, 2012). It is unclear as to why Saskatchewan students are not performing at a higher level, but what is known is that teachers, themselves, are the most significant variable in student learning (Wright, Horn, & Sanders, 1997), therefore, if increased student achievement is the goal, teacher attitudes and practices must be given attention.

Within Saskatchewan, much attention has been given to improving teacher practices, but little attention has been given to teacher attitudes and how they ultimately affect the achievement of students. Some initiatives in the United States that have followed policies such as the No Child Left Behind Act of 2002 and the Race to the Top Fund of 2009 have attached monetary incentives for teachers based on their students' achievement from year to year according to standardized testing. Monetary incentives are used to curb attitudes and efforts in the classroom, and this practice has been passionately debated, with research following suit. Figlio and Kenny (2007) found that students perform better academically when teachers are given individual financial incentives, but there was difficulty in differentiating whether the better performance was because of the incentives or the quality of the school to begin with. On the other hand, Fryer (2013) found no evidence that financial incentives were successful, and concluded that even though teachers may be incentivized to work harder, that does not necessarily mean that teachers

have the skills or aptitude to know how to do a better job. Evidence around financial incentives for teachers continues to remain inconclusive, and this ambiguity creates an opportunity to look at incentives in another way. Non-monetary incentives are of universal concern to all schools, regardless of the presence of monetary incentives, as every educator works in an environment where self-efficacy can be fostered or suppressed. High teacher self-efficacy is imperative if increased student achievement is the goal, as teacher self-efficacy continues to be linked to student achievement growth (Tschannen-Moran & Barr, 2004).

Although much research and theorizing has been done on the motivating factors of work, less attention has been given to research in the area of self-efficacy and its role in the workplace (Stajkovic & Luthans, 2001; Yang & Guy, 2006). Furthermore, the tasks that an educator is asked to perform are unique to the profession, and as self-efficacy relates to the confidence an individual has in performing tasks, teachers would have unique sources of self-efficacy. Working environments for teachers, most notably schools, share many general characteristics, but the extent to which these characteristics are present in each school changes the working environment for teachers.

Teacher working conditions may be viewed as non-monetary incentives for the education of students (Johnson, Kraft, & Papay, 2012), but teacher working conditions can also be conceptualized as the environment where self-efficacy is cultivated or impeded. If strong teacher self-efficacy leads to greater student achievement growth, then the relationship between self-efficacy and working conditions must be given attention in order to create the opportunity for Saskatchewan students to be successful.

Purpose of the Study

The purpose of this study is to examine the relationship between the self-efficacy of teachers and their perceptions of their working conditions in one school division. The research will ultimately attempt to discover the nature of the relationship between levels of teacher self-efficacy and their specific working conditions in the context of one school system.

Research Questions

The following research questions were developed to guide the focus of study:

1. What are the levels of self-efficacy among teachers in this study?
2. What are the differences in teacher self-efficacy when analyzed according to gender, experience, level of education, grade level, and professional role?
3. What are teachers' perceptions of their working conditions?
4. What are the differences in teachers' perceptions of their working conditions when analyzed according to gender, experience, level of education, grade level, and professional role?
5. What are the relationships between teacher self-efficacy and perceptions of working conditions?
6. What are the relationships between dimensions of teacher self-efficacy and perceptions of working conditions?

Significance of the Study

The body of research concerning the effects of teacher self-efficacy on student achievement is growing. Current research (Cantrell, Almasi, Carter, & Rintamaa, 2012) and Canadian research (Ross, 1992) continue to show positive correlations between high teacher self-efficacy and increased student achievement. Teacher self-efficacy is difficult to measure

because self-efficacy is dynamic, as it relates to one's belief in the completion of an outcome. Self-efficacy not only changes depending on the task, but it can change for an individual over time with the same task. Teachers have their own specific sets of tasks and outcomes that are unique to the profession, so it is logical that teacher self-efficacy measures would be unique as well. Tools used to measure teacher self-efficacy have come under some recent scrutiny (Henson, Kogan, & Vacha-Haase, 2001), and Tschannen-Moran and Woolfolk Hoy (2001) created a measurement tool that represents teachers' efficacy across three main correlated factors; *Efficacy in Student Engagement*, *Efficacy in Instructional Practices*, and *Efficacy in Classroom Management*. Although there has been significant research done in the area of teacher self-efficacy, little research has been done in Canada.

Research in the area of teacher working conditions and the effects of those conditions is more extensive and diverse than the research of teacher self-efficacy, but this is probably due to the wide-ranging factors and characteristics that fall under the umbrella of working conditions. Two of the leaders in teacher working conditions research are Susan Moore Johnson and Helen Ladd. Although some of their research is used for the ultimate purpose of improving teacher retention (Ladd, 2011), their findings concerning teacher working environments are nevertheless relevant. As a testament to the significance of this area of research, several states in the USA, such as Colorado, North Carolina, and Maryland, have administered working conditions surveys to teachers across their respective states. These surveys have been largely the creation of Eric Hirsch, of the New Teacher Centre in Santa Cruz, California. In Maryland, Johnson, Kraft, and Papay (2012) conducted a study using a version of Hirsch's survey, and then combined the data with data concerning teacher retention rates and student achievement levels. To date, there has

been some research done in Canada (Leithwood, 2006), but much of it has been regional in nature and small in scale.

There is much potential for the study of teacher working conditions, and even more so in the study of teacher self-efficacy. To date there has been little research into the relationships between teacher self-efficacy and their perceptions of their working conditions. Some studies have correlated teacher self-efficacy within a specific realm of working conditions, such as professional development (Tschannen-Moran & McMaster, 2009), but there is much to learn about what other factors of working conditions correlate with factors and levels of teacher self-efficacy. The findings of this research will bear fruit for the school division in question, not only for the school board and senior administration, but for in-school administrators, as they are continuing to attempt to make their respective schools better places to work and as a consequence, raise student achievement levels. As Hirsch said, “teacher working conditions are student learning conditions” (Hirsch & Emerick, 2006, p. 4), making this research is relevant for anyone attempting to improve the education for all parties involved.

Delimitations

The following constituted the main delimitations of this research:

1. The study only included participants who are teachers and in-school administrators in one school division in the 2013-2014 school year.
2. The study examined participants’ self-efficacy and perceptions of working conditions, and did this in the context of teachers’ current positions.
3. Participants were anonymous.
4. Timeline for data collection was be May 16 to June 20, 2014.

Limitations

The study was limited by the following limitations:

1. Participants were from one school division, thereby limiting the generalizability of the findings.
2. Participants may not have understood the survey questions or may have rushed their responses.
3. Participants may have been biased when answering questions about their working conditions.
4. The time of year may have influenced participants' responses.
5. The researcher's experiences as a teacher in school settings may have affected how data were analyzed, and consequently, how conclusions were drawn.

Assumptions

The research was conducted with an awareness of the following assumptions:

1. The underlying purpose of the education system, and therefore schools, is to increase student achievement.
2. Participants answered the questionnaire to the best of their ability, which was an accurate representation of their self-efficacy and perceptions of their working conditions.
3. Working conditions and self-efficacy are key qualities in the work of school professionals.
4. Teacher working conditions and teacher self-efficacy are measurable qualities.

The Researcher

I grew up in Saskatoon, SK and graduated from Rosthern Junior College in Rosthern, SK. After spending a year studying at Canadian Mennonite University, I moved to Montreal, QC to

study at McGill University in the College of Education. I completed my Bachelor of Education degree at the University of Saskatchewan in 2005, and was awarded the Bates Award for my work during my internship.

I began my teaching career in Theodore, SK, and then moved to work in a community school in Yorkton, SK for four years. After moving on to work in an alternative school in Yorkton, I began teaching at Blaine Lake Composite School, where I work presently. While working in those four schools, I saw the difference that teachers can make in the lives and the education of their students. I recognized that no matter the school, the work of teachers was the most significant to the performance and education of students. I also recognized that teachers can be both motivated and demotivated by a number of different factors present both in and out of school. It was my belief that these factors could be researched from a postpositivist perspective so as to discern what motivates teachers to try new methodology and engage their students.

After entering the Master of Education in Educational Administration Degree program at the University of Saskatchewan, I became interested in teacher incentives and teacher motivation. After researching these topics, I was led to literature in the area of teacher working conditions and teacher self-efficacy, and the relationships they both have with student achievement. As an aspiring administrator, I believe that student achievement begins with strong staff members, and that these staff members need the support of strong administrators who can facilitate strong working conditions for their teachers.

Definitions of Key Terms

A number of key terms used repeatedly in this research are defined in this section.

Teacher. “A person holding a valid certificate of qualification to teach in

schools in Saskatchewan” (The Education Act, 1995, s. 2).

Administrator. “A teacher appointed by a board of education...to perform the duties of a principal pursuant to this Act” (The Education Act, 1995, s. 2). It will also, for the purpose of this study, refer to vice-principals who are teachers appointed to his position by the board of education.

Self-efficacy. "Perceived self-efficacy is concerned with judgments of how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982).

Teacher self-efficacy. "A teacher's efficacy belief is a judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated" (Tschannen-Moran & Woolfolk Hoy, 2001).

Working conditions. “Organizational structure of schools and the occupational conditions and characteristics of teaching” (Ingersoll, 1999).

School level. For the purpose of this study “school level” will refer to the grade levels of students that teachers predominantly teach and will involve three different categories: elementary (teaching Kindergarten – Grade 5) middle years (teaching Grade 6 – Grade 9), and secondary (teaching Grade 10 – Grade 12).

Perception. “The processes that organize information in the sensory image and interpret it as having been produced by properties of objects or events in the external, three-dimensional world” (Gerrig & Zimbardo, 2002).

Overview of the Study

In this chapter, the background to the study has been described, the purpose and related questions have been stated, and a case for the study's significance has been made. The main

parameters, assumptions and related limitations of the study have been identified and the central terms associated with the study have been defined. Chapter Two contains a review of literature related to the themes of this study. In Chapter Three, the methods associated with the selection of respondents, approaches to data collection, instrumentation, modes of data analysis and related statistical tools are described.

In Chapter Four, the data pertaining to the research questions are presented and elaborated. Chapter Five contains a literature-based discussion of the major findings of the study and their implications for teaching, policy, leadership, and organizational theory. The researcher's suggestions for further research in this area are presented.

CHAPTER TWO

A REVIEW OF THE LITERATURE

The purpose of this research was to examine literature that is relevant to teacher self-efficacy and teacher working conditions. The review begins with literature focused on the impact of teachers on student achievement, and is followed by research presenting findings on the link between student achievement and teacher self-efficacy. The work of Albert Bandura concerning self-efficacy is reviewed as a precursor to research into the best methods for which to measure self-efficacy. Findings on how teacher efficacy is fostered in schools lead to the discussion of literature related to teacher working conditions. That section begins with notable research in organizational theory, followed by more specific research in the area of teacher incentives and teacher motivation. The logic behind this is that literature on motivation makes frequent connections to teacher working conditions. Teacher motivation is not the central theme of this study, but as the link is clearly made between motivation and working conditions, a review is necessary. Various teacher incentive initiatives and how they relate to student achievement are reviewed before a comprehensive examination of teacher working conditions as incentives or motivation in and of themselves. Finally, a review of the use of teacher working conditions measures is presented for the purpose of creating a context for the research to follow.

Procedures and contextual factors that create student achievement in schools as organizations are of greatest concern, and this begins with teachers, themselves. Wright, Horn, and Sanders (1997) found that teachers are the most significant variable in student learning. They also found that despite conventional wisdom and teacher concerns, having a homogeneous classroom with regard to student ability levels, had no significant bearing on students' achievement, and that it was effective teachers that made the difference (1997). Similar findings

were presented by Sanders and Rivers (1996), showing that teacher effects are both additive and cumulative. Furthermore, both effective and ineffective teachers have residual effects on student achievement even two years down the line, irrespective of the effectiveness of their teachers within that span of time (1996). If effective teachers make the most difference in student achievement, research into what makes teachers effective must be reviewed.

Teacher Efficacy and Student Achievement

Teacher self-efficacy is one of the factors that have been researched to understand whether or not it has an impact on student achievement. This relationship was first researched by the Rand Corporation in two different studies and both found that there is a positive correlation between teacher self-efficacy and student achievement (Armor, et al., 1976; Berman, McLaughlin, Bass, Pauly, & Zellman, 1977). These studies opened the door for further research into these relationships and Ashton and Webb (1986) also found that there was a positive correlation between teacher efficacy and student achievement. They also found that teachers with strong self-efficacy had classroom climates that were warm and supported student needs (1986). A Canadian study, that sampled teachers from rural Ontario, was conducted to understand the relationship that teacher coaching would have on student achievement (Ross, 1992). Although the study could not completely verify that coaching led to greater student achievement, it did find a correlation between classrooms where teachers had greater senses of teacher self-efficacy and higher student achievement (1992). Teacher self-efficacy was found to have a greater impact on student achievement, than initiatives such as the implementation of reading intervention strategies (Cantrell, Almasi, Carter, & Rintamaa, 2013). Although the aforementioned study was small in the number of participants, it did show that students who had

teachers with high self-efficacy, achieved at greater level than students with teachers with low self-efficacy, regardless of the implementation level of the intervention program (2013).

It must be noted that there is literature concerned with *collective efficacy*, which is theoretically different but related to teacher efficacy. Whereas teacher self-efficacy is the perceived notion of individual classroom performance, collective teacher efficacy is the perceived notion of the competence of the teaching staff as a whole (Tschannen-Moran & Barr, 2004). Not surprisingly, teacher self-efficacy is higher in schools that have higher levels of collective efficacy (Goddard & Goddard, 2001). Efficacy, like other cognitive functions, is influenced by social interaction, so it is easy to conceive that “where teachers tend to think highly of the collective capability of the faculty, they may sense an expectation for successful teaching and hence work to be successful themselves” (2001). As previously mentioned, higher teacher self-efficacy is correlated to higher student achievement, so if collective efficacy is correlated to teacher efficacy, it would also be related to greater student achievement, and this was found to be true (Tschannen-Moran & Barr, 2004). Tschannen-Moran and Barr (2004) also found that collective efficacy did not positively correlate with the socioeconomic status of the schools studied. Once again, conventional wisdom and assumptions may lead one to think that schools with higher socioeconomic status would have higher levels of collective teacher efficacy, but this was not found to be the case.

The teaching profession is home to a myriad of challenging tasks and techniques, and a high sense of efficacy is necessary to be successful. Overall, “people with high efficacy approach difficult tasks as challenges to be mastered rather than as threats to be avoided” (Bandura, 1993, p. 144). Despite the difficult task of educating students, teachers with a strong sense of efficacy, are clearly correlated to higher levels of student achievement.

Teacher Self-Efficacy Measures

As the literature has shown, teacher self-efficacy and collective teacher efficacy is a significant variable in student learning. If administrators and school district personnel hope to increase student achievement, teacher self-efficacy and collective teacher efficacy must be given serious attention. As with other factors of significant importance, a measurement tool is paramount if increasing that factor is a serious initiative. The first studies including questions on teacher efficacy only included two items (Armor et al., 1976; Berman et al., 1977). Ashton (1984) used Bandura's (1977) two-factor theoretical model of self-efficacy, as well as interviews and correlational data to argue that teacher self-efficacy has two dimensions: *teacher efficacy*, or the sense of how well teachers can influence student learning, despite external factors, and *personal teaching efficacy*, or the sense of a teacher's own abilities to influence student learning. One of the most used measurement instruments for teacher efficacy was created by Gibson and Dembo (1984), and this instrument attempted to use Ashton's (1984) two dimensions of teacher efficacy. Gibson and Dembo (1984) created their instrument, provided construct validation support for the variable, and observed teachers to understand the relationship between behaviour and self-efficacy. The result was the Teacher Efficacy Scale (TES), a 30 item measurement instrument with a 6-point Likert scale for each item, having subscales in personal teaching efficacy (PTE) and general teaching efficacy (GTE), to reflect Bandura's (1977) theory. This scale was commonly used for research in teacher efficacy, but came under recent scrutiny for not reflecting Bandura's (1977) self-efficacy and outcome expectancy dimensions of social cognitive theory (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). From a quantitative perspective, the TES was also found to have "potential fluctuation of reliability coefficients...particularly for the TES's PTE and GTE subscales" (Henson, Kogan, & Vacha-Haase, 2001). What followed was

Tshannen-Moran and Hoy's (2001) attempt to create a tool for measuring teacher efficacy that was both valid and reliable. They also sought to create a tool that was generalizable but not so much so that findings would not be useful to the researcher (Tshannen-Moran & Hoy, 2001). The tool was called the Ohio State Teacher Efficacy Scale (OSTES), and is now called the Teachers' Sense of Efficacy Scale. This was the tool used for measuring teacher self-efficacy in the current research and is discussed further in Chapter 3.

Sources of Teacher Self-Efficacy

Student achievement is linked to teacher self-efficacy, and there are tools created that can measure the specific self-efficacy of teachers. These measures have been scrutinized and developed over time. As reliable instruments are available, attention must be turned to the sources of teacher efficacy and how it is both stimulated and suppressed. In his earliest work, Bandura (1977) proposed that there are four major sources of efficacy and they are *performance accomplishments*, *vicarious experience*, *verbal persuasion*, and *emotional arousal*. Performance accomplishments are the direct experiences of participants in given situations and they influence self-efficacy by giving participants the opportunity to be exposed and desensitized to the performance of a task (1977). It is also an opportunity for participants to instruct their own performance and learn from their own modelling. The second source, according to Bandura, is vicarious experience, and this is live and symbolic modeling. Vicarious experience is the when participants observe the experience of others and make comparisons to their own perceptions of their performance abilities (1977). Verbal persuasion involves suggestion, encouragement, and self-instruction, and although verbal persuasion is a common attempt at promoting self-efficacy, like vicarious experience, it is not as strong of a source self-efficacy as performance accomplishments (1977). The final source is emotional arousal, and this is another strong

influence of self-efficacy, involving the agitation and stress that can overtake a participant before a given task (1977). Bandura explained these four sources of self-efficacy within a broad context, but can also be explained within an educational context, which the upcoming research will explain.

According to Bandura (1977), sources of self-efficacy can be compartmentalized into four groups, and of those groups, three of them can be elicited through experience. That is, three sources of self-efficacy can be influenced by the experiences of the participant. Teacher working conditions are just that, as they are the characteristics of the experiences of working within a school. Many working conditions, such as professional development, collegiality, and school leadership are sources of self-efficacy for teachers.

Early research by Ashton (1984) found that “the isolation, the difficulty in assessing one’s effectiveness as a teacher, the lack of collegial and administrative support, and the sense of powerlessness that comes from limited collegial decision-making – make it difficult for teachers to maintain a strong sense of efficacy” (p. 28). Professional development is one source of self-efficacy for teachers, and it would fall mostly comfortably under Bandura’s second realm, vicarious experience, but also under his third realm, verbal persuasion. Professional development in mathematics education has shown increases in both teacher self-efficacy and student achievement (Bruce, Esmonde, Ross, Dookie, & Beatty, 2010). Tschannen-Moran and McMaster’s (2009) study included the professional development of primary teachers for the purposes of reading instruction where coaching was involved. This research was similar to the work of Ross (1992) in that the professional development involved coaching. Tshannen-Moran and McMaster (2009) argued that the involvement of coaching would be an example of Bandura’s (1977) performance accomplishments realm, but as the coach can only give feedback

and model, this claim is difficult to make. Regardless of which realm coaching can be found in, the research did find that those groups who had coaching accompanying their professional development were found to make gains in their self-efficacy. Also of interest is the group that received no coaching after the professional development, experienced a decrease in their self-efficacy (2009). This could possibly be attributed to the strength of Bandura's (1977) fourth source of efficacy, emotional arousal, in that learning and teaching with new procedures may have created doubt of teachers' current habits and anxiety of teaching new processes.

Klassen and Chiu (2010) found that teachers' sense of efficacy increased from early career to mid-career, but then decreased after that. The years of experience could be attributed to the performance accomplishments realm, but as this is the strongest realm, self-efficacy would be expected to continually increase. This could be attributed to the strength of emotional arousal that occurs with the psychological and biological changes related to chronological age (2010). Their research also found disparity among participants teaching at different grade levels. Self-efficacy was strongest for those teaching at the youngest grade levels and decreased as student grade levels increased (2010). The exact opposite was found to be true in research done by Raudenbush, Rowan, and Cheong (1992). With disparity among teachers working in the same school environment, and disparity among research findings, it is necessary to do further research on the differences of working conditions for teachers working with students from different grade levels.

Not only does self-efficacy differ between teachers from the same school, it was also found that teachers, themselves, differ in sense of efficacy from subject to subject or class to class (Raudenbush et al., 1992). Based on Bandura's (1986) theory that self-efficacy is contextual and not merely a characteristic of an individual, the researchers found that the same

teachers would have different levels of efficacy depending on the subject they taught and the level of students they were teaching. Teacher self-efficacy was higher when teaching students on higher academic “tracks”, but it was also higher for teachers who reported higher levels of staff collaboration and control over instructional conditions (Raudenbush, et al., 1992). This once again speaks to the relationship between teacher working conditions and teacher self-efficacy.

There are some parallels in the perceptions of some aspects of teacher working conditions and of collective teacher efficacy. For instance, “schools promoted personal teaching efficacy when teachers perceived that their colleagues (a) set high but achievable goals, (b) create an orderly and serious working environment, and (c) respect academic excellence” (Hoy & Woolfolk, 1993, p. 365). There is opportunity for organizational characteristics to influence individual teacher performance (Goddard & Goddard, 2001), so further research will need to be done in finding these relationships. As has been presented, teacher working conditions are correlated to teacher self-efficacy, and teacher efficacy is correlated to student achievement. A closer look at organizational theory and the organizational framework of schools is necessary to understand the importance of working conditions and their effect on employees.

Early Research into Motivation and Satisfaction

In seeking out the relationships between teacher self-efficacy and working conditions, one must examine social psychology research to uncover the foundations of work and the satisfaction and motivation of employees. Abraham Maslow, an American psychologist, proposed that human beings satisfy their needs in a specific sequence and that a person is only able to move up the hierarchy of needs once the previous need is satisfied (Maslow, 1943). It was his theory that the goal or need in question would dominate a person’s consciousness until

the need was met. Maslow's hierarchy begins with *physiological needs*, such as oxygen, food, and sleep; and above that, *safety needs*, such as the security of body, property and family; following that is *love/belonging needs*, such as with family and friends; above that, *esteem*, such as respect, confidence and self-esteem; and lastly, *self-actualization*, such as morality, creativity, and spontaneity (Maslow, 1943). Although this hierarchy of needs was linear, Maslow did not believe that a person needed to have met all of the previous need before she could move on, and he also postulated that there were exceptions to the order of the hierarchy, depending on the person involved. Finally, Maslow did not theorize that all behavior was motivated by these needs because external stimuli often had an influence, and furthermore, "some behavior is highly motivated, other behavior is only weakly motivated. Some is not motivated at all (but all behavior is determined)" (Maslow, 1943, p. 391).

Building on Maslow's theory, Douglas McGregor (1957/2011) proposed thoughts on the impact of needs within the context of the workplace. He argued, "The fact that management has provided for these physiological and safety needs has shifted the motivational emphasis to the social and perhaps to the egoistic needs" (p. 186). Being comfortable does not make someone satisfied, and this shifts the focus to one of human interaction and the exchange of ideas. Once these needs are met, one's own self-esteem and reputation become paramount. McGregor (1957/2011) argued if people are not meeting their social and egoistic needs at work, they look outside of their work to meet them. It was his suggestion then that, "under proper conditions, participation and consultative management provide encouragement to people to direct their creative energies toward organizational objectives, give them some voice in decisions that affect them, provide significant opportunities for the satisfaction of social and egoistic needs" (p. 188).

Frederick Herzberg (1966), a psychologist and contemporary of Maslow, proposed a theory of motivation for work that included two separate paradigms, called the motivation-hygiene theory. Following the work of Maslow and McGregor, he attempted to differentiate between which needs motivated people and which needs did not. The first paradigm included six factors that he deemed to be “motivators” for work and they included: *recognition, achievement, possibility of growth, advancement, responsibility, and work itself*. The other paradigm included ten “hygiene factors” which included: *supervision, company policy and administration, working conditions, interpersonal relations with peers, interpersonal relations with subordinates, interpersonal relations with supervisors, status, job security, salary, and personal life*. Herzberg argued that motivators have the ability to motivate employees, but cannot create dissatisfaction. On the other hand, he believed that hygiene factors could not motivate employees, but if the hygiene factors were absent, could create dissatisfaction. It was Herzberg’s belief that the motivating factors satisfied the need for self-actualization (Maslow, 1943), and that they were inherent in the work or task itself. On the other hand, hygiene factors were outside the realm of the work or task being completed, so they could not properly motivate employees over time (Herzberg, 1966).

Herzberg’s criticism of incentives in the workplace was summarized in his coarse acronym of KITA, or “kick in the ---”, in that he thought that incentives only created movement for employees for a short time, just as a dog being kicked or being given a bone (Herzberg, 1987). Herzberg explained that negative physical or psychological KITA were examples of punishments and positive KITA were examples of rewards, with neither creating internal motivation for employees, only proof of motivation of the employer. A list of seven principles

were suggested as a starting point for “vertical loading” or creating opportunities for motivating factors (Herzberg, 1987):

- Removing some controls while retaining accountability
- Increasing the accountability of individuals for their own work
- Giving a person a complete natural unit of work (module, division, area)
- Granting additional authority to employees in their activity; job freedom
- Making periodic reports directly available to the workers themselves rather than to supervisors
- Introducing new and more difficult tasks not previously handled
- Assigning individuals specific or specialized tasks, enabling them to become experts

In summary, Herzberg believed in using employees to their best ability and so he said rather bluntly, “if you have employees on the job, use them. If you can’t use them on the job, get rid of them, either via automation or by selecting someone with lesser ability. If you can’t use them and you can’t get rid of them, you will have a motivation problem” (p. 13).

Locke (1976) was critical of Herzberg’s and Maslow’s theories, saying they both lacked experimental evidence, and he pushed those in the field of job satisfaction to conduct more case studies and interviews. Locke believed that neither Herzberg’s nor Maslow’s theories took into account the role of individual thoughts, feelings and beliefs in the context of working environments. Locke (1976) surmised that an employee would be satisfied with work if the working conditions and the agents within that workplace were in line with the personal work goals of the individual and the personal aspirations of the individual. This is especially relevant

to teachers, who are often isolated both physically and professionally from the colleagues and superiors that they work with (Ashton, 1986).

Further to Locke's theorizing, McClelland (1978) offered the notion that a motivation program would help those who are isolated or had low sense of self-efficacy (Ashton, 1984). McClelland's(978) motivation program consisted of a) conceptualization of the attitude, (b) self study in relation to the attitude, (c) planning and goal setting, and (d) group support.

Despite the context of understanding the work with respect to how it affects humans, the previously mentioned theorists tend to be concerned more with the final product rather than the process. Most notably, Schein (2004/2011) offered a theory that encourages a process of working together to not only create a superior product, but create a superior process as well. Schein's theory of organizational culture and change demonstrated that heterogeneous groups of people do not need to have their personalities molded into carbon copies of one another. Rather, a proper understanding of the underlying culture of an organization – and possible changes to that culture can have a great impact on the social and organizational situations within a group (2004/2011). No two staff rooms will ever feel the same or be filled with staff members that interact with each other in the same ways that other school staffs would function. Schein stated, "As teachers, we encounter the sometimes mysterious phenomenon that different classes behave completely differently from each other, even though our material and teaching style remains the same" (p. 352). The same could be said about a school staff. Most schools are part of a larger school district, or at the very least, mandated to teach by a common provincial body. Although expectations remain common for many schools within a district or province, school staff member groupings will always have different cultures, and just as the culture of the classroom rests on the shoulders of the teacher, the culture of the schools rests on its leadership. Schein (2004/2011)

argued “that the unique talent of leaders is their ability to destroy culture when it is viewed as dysfunctional” (p. 352).

Teacher Incentives

Organizational theory and subsequent theories on motivation have been discussed, and now material will be presented on what incentives or motivators have been used in the school context. Johnson (1986) suggested that it was important to differentiate between how incentives are used in education, as there are those that are used to attract teachers, those that are used to retain them, and those that improve their practice. For the purpose of this literature review, the focus will largely be concerned with incentives that are used to improve teachers’ practice.

Financial Incentives

Despite many of the findings presented by researchers in organizational policy and motivation, many employers still use financial incentives in the workplace. In the research previously listed, financial incentives are listed with regard to student achievement, and these often push teachers to largely focus on tested material, which may not be an adequate picture of what students really know (Hout & Elliot, 2011). Although financial incentives for teachers do exist in some districts across the United States, they are less prevalent in Canada. Some educational reformers believe that with the exception of intrinsic motivation, there are few incentives for teachers to perform well (Figlio & Kenny, 2007). Most school districts pay their teachers based on experience, not on performance, so merit pay was introduced to award teachers based on standards outlined by the district. Some districts choose to make their merit pay indiscriminate and award all teachers at a particular school based on performance, while other districts award individual merit pay. Figlio and Kenny (2007) found that “students learn more in schools in which individual teachers are given financial incentives to do a better job, though we

cannot discern whether this relationship is due to the incentives themselves or to better schools also choosing to implement merit pay programs” (p. 913). Individual teacher incentive programs were also found to be successful in Denver, but researchers conceded that successful teachers may have been the ones volunteering for the research in the first place (Goldhaber & Walch, 2011).

Financial Incentives vs. Non-financial Incentives

Gilpin (2012) also echoed the concern that hiring highly skilled and qualified teachers is difficult because teachers are usually paid equally in a salary grid, regardless of skill or qualification. Although he found that there was a correlation between teacher lifetime income and teacher aptitude, it was a small correlation at best. Furthermore, this correlation was only for humanities teachers, while teacher lifetime income had no correlation for 40% of mathematics/sciences teachers (2012). Gilpin concluded, “The low positive correlation between salary and aptitude should not be taken that the scholastic aptitude of teachers cannot be raised, but rather it would require large increases in lifetime teacher salary to raise teacher aptitude” (Gilpin, 2012, p. 27).

Herzberg’s motivation-hygiene theory was put to the test in Frase’s (1989) study where thirty-eight teachers, who were selected by administrators on the basis of their superior classroom teaching performance, were invited to participate. This study gave teachers the opportunity to choose one of two rewards: travel to a professional training conference or money. Frase found that teachers who chose to travel to the professional training conference reported greater “responsibility”, “possibilities for growth”, and “recognition” following their trip (1989). All the previous factors are Herzberg’s “motivators”, while the cash incentive is considered to be a hygiene factor. While this does support Herzberg’s theory, it does raise the question of how

motivation can be created for all teachers, so that the possibility of student achievement can be widespread. Not unlike teaching practice, teacher incentives may need to be differentiated to have greater potential for success.

Five motivational factors were found to be significant by Hildebrandt and Eom (2011), and they were *improved teaching*, *external validation*, *financial gain*, *collaboration*, and *internal validation*. Although *financial gain* was a motivational factor, it was more significant for teachers in their 30s, as compared to teachers above 40 years of age. *External validation* was also found to be more motivational among teachers in their 30s, compared to their colleagues 50 and older (2011). These findings are reasonable, given the social and economic status of teachers in their 30s, who may not be as respected in their schools as older teachers, and may not be as wealthy as their older colleagues. Yang and Guy (2006) also found that motivators were different between employees at different stages of their lives when they surveyed 454 government employees to compare Baby Boomers and GenXers. They found that there was no significant difference between the Baby Boomer generation and the Generation X, as far as their preference for working conditions. It must also be noted that Yang and Guy (2006) make no distinction between “working conditions” and “work motivators”. The lack of semantic discrepancy may be at odds with Herzberg, but it is significant to the literature that will follow.

Berry and Eckert (2012) made four major recommendations after reviewing literature concerning teacher incentives:

1. Use the Teacher Incentive Fund to Spread Teaching Expertise for High-Need Schools
2. Expand Incentives in Creating Strategic Compensation
3. Create Working Conditions that Allow Teachers to Teach Effectively
4. Elevate Best Practices and Policies that Spur School Excellence and Equity

The first recommendation encouraged the use of already existing monetary incentives to apply to teachers who not only improve student learning (as is the norm), but also make gains for school improvement, such as assisting colleagues and service to the community (2012). The second recommendation builds on the first in that it pushes for using monetary incentives for teachers who contribute to the school in its organizational priorities by supporting “hybrid roles for teachers, peer evaluation, increased autonomy, extended time for meaningful collaboration, and needs-based professional development” (2012, p. 12). This recommendation is relevant to the many school districts that do not have the ability to reward individual teachers with money, but could use funds to reward teachers who show commitment to the school’s priorities. The working conditions in Berry and Eckert’s (2012) third recommendation refer to: (1) principals who cultivate and embrace teacher leadership, (2) time and tools for teachers to learn from each other, (3) specialized preparation and resources for the highest needs schools, subjects, and students, (4) no out-of-field teaching assignments, (5) teaching loads that are differentiated based on the diversity and mobility of students taught, (6) opportunities to take risks, (7) integration of academic, social, and health support services for students, and (8) safe and well-maintained school buildings. It must be noted that these working conditions are context specific, and a further look at potential working conditions must be done in order to glean what working conditions may be generalizable to a wider set of teachers.

Working Conditions as Motivators

There is significant evidence that working conditions only have the ability to limit dissatisfaction, which supports Herzberg. Holdaway (1978) found that intrinsic motivators were more likely to be linked to overall job satisfaction. The most important of the intrinsic motivators was working with students and this would undoubtedly fit under Herzberg’s

motivator of “work itself”. This finding was echoed by Brunetti (2001), who concluded that one of the principal motivators of teaching was “working with young people and seeing them learn and grow” (p. 68). These same intrinsic rewards were discovered to be most influential for teachers when asked what factors influence student learning (Dannetta, 2002).

Although Herzberg would suggest that working conditions would not singlehandedly create satisfaction among workers, it is imperative to note that working conditions create a foundation for satisfaction. Rogers (1975) explained:

In other words, adequate salary, good working conditions, respected supervisors, and likeable coworkers will not produce a satisfied worker; they will only produce a worker who is not dissatisfied. However, their levels must be acceptable in order for the motivation factors to become operative – in other words, like medical hygiene practices, they cannot cure an illness, but they can aid in preventing it. (p. 111)

The idea of working conditions preventing teacher dissatisfaction is grounds in and of itself for research into the field, but there is notable evidence that working conditions, themselves, are related to satisfaction among teachers. Brunetti (2001) and Johnson (1986) both found that collegiality is a working condition that is correlated with teacher satisfaction. Dannetta (2002) echoed this sentiment and added that an “orderly school climate” (p. 154) was another working condition that was related to overall teacher satisfaction.

The differences in the effects of incentives and the root causes of teacher efficacy depending on age and experience of teachers were mentioned earlier, but Horng (2009) found that teachers’ preferences for their working conditions were more similar than they were different. Not surprisingly, Horng (2009) found that teachers prefer:

higher salaries to lower ones, smaller class to sizes to larger ones, very good administrative support to poor support, frequently giving input on school-wide decisions to rarely giving input...having enough resources for students to not having enough, facilities that are clean and safe to ones that are not, and higher performing students to lower performing ones. (p. 706)

Within this same sample of teachers, the three most important working conditions were school facilities, administrative support, and class size (2009). The importance of school facilities is surprising, but what is more noteworthy is that, “receiving an additional \$8,000 in salary annually is significantly more important to teachers than student ethnicity, performance, or socioeconomic status” (2009, p. 707). Differences in student demographics, pay scales, and facilities in other school districts and countries make further research necessary for this topic.

The connections between teacher working conditions and motivation or satisfaction have been discussed, but Tschannen-Moran and Barr (2004) more specifically compiled a list of working conditions that are related to teacher efficacy:

- positive school atmosphere
- academic press among staff
- sense of community
- participation by teachers in decisions affecting their work
- lack of barriers to effective instruction
- high expectations for students
- collaboration among teachers

The repetition of some of the working conditions, both in relation to teacher efficacy and teacher motivation, shows the impact of certain working conditions, regardless of whether they promote

teacher self-efficacy or teacher motivation or both. Much of the research concerning teacher working conditions has its roots in teacher acquisition and retention, but it nevertheless is relevant to the conversation how working conditions contribute to teacher satisfaction and teacher self-efficacy.

As mentioned above, some teacher working conditions are undervalued because it is difficult to see the direct connection to teacher satisfaction, and teachers' physical environments would be an example of such conditions. Johnson, Berg, and Donaldson (2005) summarized that:

the physical elements of schooling – the facilities, equipment, and supplies – are easy to identify, inventory, and assess. It is not easy, however, to track the effects of these resources and conditions on student learning and teacher retention, since those effects are largely indirect and often interact with other parts of the teachers' and students' experiences. (p. 50)

Leithwood (2006) differentiated working conditions according to different levels, including classroom, school, principal's leadership, district, province, and broader society. At the classroom level he highlighted that the volume and complexity of teachers' workloads is of greatest significance, while at the school level, it is the school culture, structure, relations with the community, and operating procedures that have the greatest influence on teachers' satisfaction. Leithwood chose to look at principal's leadership on teachers' working conditions separately because "the source of such conditions is so clearly distinct and the effects so alterable" (p. 62). The principal's leadership was also found to be one of the most important working conditions by Johnson, Kraft, and Papay (2012), along with school culture, and teachers' relationship with their colleagues. They further noted, "Teachers have chosen a career

in which social relationships are central, and they find that their work with students is influenced heavily by the relationships they form with other adults – their principal, and their colleagues – in the school” (p. 27). With a vast array of teacher working conditions found to be influential in the teacher efficacy, motivation, and satisfaction, it is necessary look at measurement instruments that will highlight the most important teacher working conditions for the context of specific schools, districts, and regions.

Teacher Working Conditions Measures

Many teacher working conditions measures exist, but one of the most prominent and well-used is the Teaching, Empowering, Leading and Learning (TELL) Survey created by Eric Hirsch, of the New Teacher Center (NTC). This survey has been used in many statewide education initiatives including Kentucky, Tennessee, Colorado, and Maryland. Versions of the survey have also been used in extensive research by Johnson, Kraft, and Papay (2012) in Massachusetts, and by Ladd (2011) in North Carolina. Whether the TELL Survey has been used by other researchers or administered in consultation with the NTC, it has been adapted to the current region or state context. The most recent versions of the TELL Survey include eight major core constructs: time, facilities and resources, community support and involvement, managing student conduct, teacher leadership, school leadership, professional development, and instructional practices and support. The confidence that states have in using this instrument, show that the TELL Survey is a worthwhile tool for measuring teacher working conditions, and was the tool used in this study. It will be further discussed in Chapter 3.

Teacher Working Conditions and Student Achievement

Using a form of the TELL Survey, Ladd (2011) not only found that working conditions were correlated to teachers’ plans on leaving schools, but she also found that better teacher

working conditions were found to be correlated with student math achievement. Similarly, Johnson, Kraft, and Papay (2012) found that “a better work environment is associated with higher levels of student academic growth in both mathematics and English language arts” (p. 23). The NTC (2013) noted that Ladd (2011) and Johnson, Kraft, and Papay (2012) have been two of the few studies to date examining the relationship between teacher working conditions and student achievement.

Conclusion and Conceptual Framework

One of the questions that will need to be answered is how can motivation be created for all teachers, when it has been shown that there are a variety of motivators for different teachers in diverse working situations? Johnson (1986) concluded that “research suggests that it may require the orchestration of organizational incentives that encourage teachers to think about their work in new ways and commit themselves to new standards and goals” (p. 74). Motivating teachers requires context-specific solutions (Berry & Eckert, 2012), and researching the nuances of specific school divisions will be necessary to understanding what measures are needed for specific situations. In order to support student learning, and potential teacher self-efficacy, “creating school environments that support this kind of effective teaching go well beyond the traditional ‘working conditions’ issues of time, class size, and the length of the workday” (p. 12). The conceptual framework for this study is illustrated in Figure 2.1, and it portrays the different dimensions of working conditions chosen for this research.

Teacher working conditions go beyond the working conditions of Herzberg, and many teacher working conditions may fall under some of Herzberg’s motivators, such as responsibility, possibility of growth, and recognition for achievement, but have gone unnoticed as having that effect. Even if teacher working conditions are considered to be hygiene factors, they

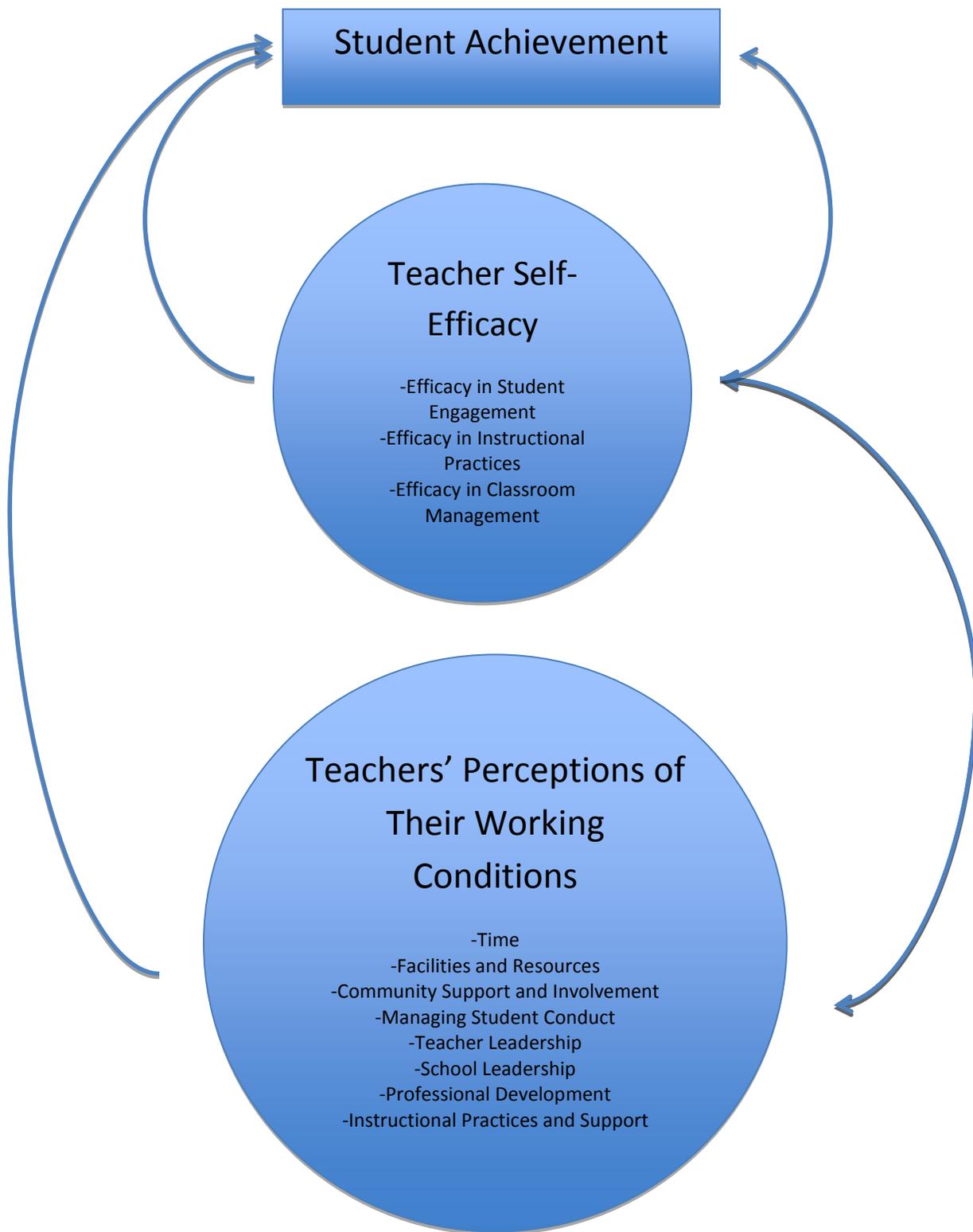


Figure 2.1. Conceptual Framework

nevertheless have an impact on possibility for satisfaction of teachers. Sergiovanni (1967) concluded:

Deriving satisfaction from work-centered activity assumes that one's energies and efforts are not taxed or depleted by unsatisfactory conditions of work. The point is not whether satisfiers are more crucial than dissatisfiers, or *vice versa*, but rather the dependence of the satisfiers on the elimination or tempering of the dissatisfiers. (p. 81)

As illustrated in Figure 2.1, the research will attempt to find any relationships that the eight dimensions of working conditions may have with the three dimensions of teacher self-efficacy. Although this research will not focus on the relationship between working conditions and student achievement, or the relationship between teacher self-efficacy and student achievement, it is the understood to be the ultimate goal for the research itself. Within this review of the literature, a link has been shown between higher teacher self-efficacy and increased student achievement, as well as the link between positive working conditions and higher student achievement, and that is why it has been represented on the conceptual framework. Within the connections and relationships between teacher self-efficacy and teacher working conditions, but not illustrated on the conceptual framework, are the variables of teachers themselves. These variables include gender, experience, level of education, school level, and professional role, and they too may have a role in the relationships between teacher self-efficacy and teacher working conditions. The research to follow will attempt to gather information to understand if working conditions, themselves, have the ability to motivate, or more specifically, if they are connected to the self-efficacy of teachers.

CHAPTER THREE

RESEARCH METHODOLOGY

The purpose of this study was to examine the relationship between teacher self-efficacy and teachers' perceptions of their working conditions. In this chapter, the research design, selection of participants, the instrument, validity of the instrument, the method of data analysis, and the ethical considerations are presented.

Research Design

The research design for this study was quantitative, and more specifically, from a postpositivist perspective. Postpositivism can be explained as “an epistemology that assumes an objective reality, but that this objective reality can only be known imperfectly” (Gall, Gall, & Borg, 2007, p. 16). The researcher understands that there are some limitations to the research, both in its selection of participants and in the instrument used.

Data for this study was collected from participants who had the choice to complete an online questionnaire, and submit it for research. These data were collected and analyzed in order to glean significant tendencies or correlations that answer the guiding research questions.

Selection of Participants

Participants for this research were self-selected, as an invitation to participate was sent via e-mail. The invitation was only sent to teachers in one school division, which limited the amount of potential participants to approximately 700. This school division predominantly serves rural families, and it is made up of 45 schools, including elementary schools, middle schools, high schools, K-12 schools, and Hutterian schools. Participants in this school division were made aware that the results from the questionnaire that they were invited to complete are completely anonymous.

One limitation of the invitation is that participants had the choice of whether to participate in the survey or decline. Participants provided implied consent by participating in the survey and agreeing to "submit" the survey.

The Instrument

The instrument used was a questionnaire including 100 questions that was split into two major sections: *Teachers' Sense of Efficacy Scale* and *Teacher Working Conditions* (see Appendix A). The online survey was administered using FluidSurveys, and a link to the survey was sent to all principals in the school division who could then choose to forward the link to their teachers or decline to do so. The first five introductory questions served to give contextual data such as gender, position, grade level, teaching experience, and level of education, while the remaining 95 questions were in Likert-type format. The first half of the instrument includes 24 questions and is an adaptation of Tschannen-Moran and Woolfolk Hoy's Teachers' Sense of Efficacy Scale (TSES) (2001). Tschannen-Moran and Woolfolk Hoy created a measurement tool that represents teachers' efficacy across three main correlated factors: *Efficacy in Student Engagement*, *Efficacy in Instructional Practices*, and *Efficacy in Classroom Management*. These correlations were created because self-efficacy changes over time and according to task (Bandura, 1977).

The TSES was used with permission and each question on this adapted questionnaire was accompanied by a 5-point Likert scale which was labeled with "Nothing" (corresponding with 1), "Very Little" (2), "Some Influence" (3), "Quite a Bit" (4), and "A Great Deal" (5). In this adapted survey, there were 24 questions for the teacher self-efficacy section, and they were correlated according to the three main factors mentioned above.

The second half of the instrument included questions concerning teacher working conditions, and is an adaptation of the Teaching, Empowering, Leading and Learning (TELL) Survey, created by the New Teacher Center (NTC). Adaptations were made with permission from Eric Hirsch, NTC, and 71 questions were included for this part of the questionnaire. Questions for teachers' perceptions of their working conditions will be measured on a five point Likert-type scale, with participants having five choices: "Don't Know" (1), "Strongly Disagree" (2), "Disagree" (3), "Agree" (4), and "Strongly Agree" (5). Although working conditions in schools can vary a great deal, participants' feedback was confined to a questionnaire, where choices of working conditions were limited. The core constructs of the Teacher Working Conditions section of the survey included: *Time, Facilities and Resources, Community Support and Involvement, Managing Student Conduct, Teacher Leadership, School Leadership, Professional Development, and Instructional Practices and Support.*

Validity of the Instrument

The adapted surveys have been used in academic research and peer-reviewed journals. Tschannen-Moran and Woolfolk Hoy's (2001) TSES has been used by a number of different researchers in the field, and most recently, Haverback and Parault (2011) and Duffin, French, and Patrick (2012). Although this current research was unable to mirror the aforementioned studies in comparing the teacher self-efficacy findings to student achievement or implementation of professional development, it does give an opportunity to see the level of teacher self-efficacy in one particular school division in Saskatchewan and see the levels of each factor of teacher self-efficacy and how they relate to teachers' perceptions of their working conditions.

Tschannen-Moran and Woolfolk Hoy (2001) found the TSES to have construct validity as the survey was administered alongside previous surveys (Armor, et al., 1976; Berman, et al.,

1977; Gibson & Dembo, 1984) and the results were positively correlated ($r=0.18, p<0.01$; $r=0.53, p<0.01$; $r=0.64, p<0.01$, respectively). The questions used for each engagement factor or subscale were streamlined to the point that they had reliabilities of 0.81 for *engagement*, 0.86 for *instruction*, and 0.86 for *management* (2001).

The reliability of the TELL Survey was tested by Swanlund (2011) and found to produce consistent results, and internal reliability testing was also done for each TELL Survey that has been administered. As an example, the TELL Kentucky Survey was confirmed to be “generalizable and will produce similar results with similar populations. The reliability analyses for TELL Kentucky produce Cronbach’s alpha coefficients ranging from 0.86 to 0.95” (NTC, 2013).

Method of Data Analysis

Following the deadline for completion of the survey, the data were analyzed in order to answer the research questions. Gall, Gall, and Borg (2007) described that, “content analyses in education involve collecting data on various aspects of the messages encoded in the communication product. These analyses generally involve fairly simple classifications or tabulations of specific information” (p. 288). The mode of data analysis consisted of frequency counts (means and standard deviations) for the descriptive items relating to levels of self-efficacy and perceptions of working conditions. Non-parametric methods were used to measure significance and level of differences among variables; and Spearman’s rho correlations were employed to identify the level of significance of relationships between and among the dimensions of items among teacher self-efficacy and teacher working conditions.

Ethical Considerations

Ethical guidelines as outlined by the University of Saskatchewan's Ethics Review Board Committee were followed. Although the researcher worked in the same school division in which the data collection took place, all necessary safety measures were taken in order to protect the anonymity of the participants. The use of an online survey that is hosted on Canadian servers ensured the protection of the data itself, and it also protected the participants' anonymity. Data collection was not initiated until the Application for Approval of Research Protocol was approved by the Ethics Review Board.

It was made clear that participation was voluntary, and participants showed implied consent by participating in the survey. There were no known risks for those participating in this research. Data will be stored in a secured place in the College of Education, Department of Educational Administration, and these documents will be kept for a period of five years and then destroyed.

Summary

This chapter has described the research methodology chosen for the study. Online questionnaires using Likert-type scales were used to collect quantitative data. The purpose of the questions in the survey was to gather data about teacher self-efficacy and teachers' perceptions of their working conditions. Research design, procedures for participant selection, validity of the instrument, and description of data analysis were provided in this chapter. Ethical considerations were also examined in this chapter.

CHAPTER FOUR

PRESENTATION OF DATA

The findings related to the research questions outlined in Chapter One are presented in this chapter. The purpose of this study was to examine the relationship between teacher self-efficacy and its relationship to teachers' perceptions of their working conditions. An online questionnaire was sent to all principals in one school division in May, 2014 and they were encouraged to forward this survey to the teaching staff in their school. The questionnaire consisted of three major sections: Introduction, Teachers' Sense of Efficacy, and Teacher Working Conditions. Following the four week deadline, the data from all completed questionnaires were imported to IBM SPSS Statistics Data Editor and they were analyzed according to the approach outlined in Chapter Three.

The presentation of data begins with a short section outlining the participants in the study and the demographics they represented within their schools. The research questions were addressed beginning with the levels of teacher self-efficacy among participants and the differences in teacher self-efficacy according to demographic variables. Perceptions of working conditions among participants are examined and the differences in perceptions according to demographic variables are presented. Finally, the relationships between teacher self-efficacy and teachers' perceptions of their working conditions are examined, with the first section pertaining to the overall relationship and the second section analyzing the relationship between specific dimensions of teacher self-efficacy and working conditions. The final section of this chapter consists of a summary of the research findings.

The Participants

The participants in this study were teachers and administrators within one Saskatchewan school division. As mentioned previously, the online questionnaire was sent to principals within the school division, who then had the choice to forward the survey to their teaching staff. This was done to meet the standards for research conducted within this school division, but this may also have limited the potential number of participants for this study. Overall, 77 participants logged onto and partially completed the questionnaire, but only 46 participants submitted it, thereby implying consent as mentioned in Chapter Three.

There were participants representing almost all demographics within all choices of the five introductory questions. To ensure a more even distribution among categories within each demographic variable, categories were combined or removed in several instances. Under *Position*, “Other educational professional” was removed, and “Principal” and “Vice Principal” were combined under “Administrator”. Under *Experience*, “0-3 years” and “4-10 years” were combined under “0-10 years”. Finally, under *Level of Education*, “Teaching Certificate or Diploma” was removed, and “Graduate classes up to and including Master’s Degree” and “More than one Graduate Degree” were combined under “Graduate classes or Graduate Degree”. The resulting frequencies for each category across the demographic variables are presented in Table 1.

As illustrated in Table 1, 73.9% of the respondents were female, while 23.9% were male. According to position, 80.4% were teachers and 19.6% were administrators (principals and vice principals). Respondents were evenly distributed according to grade level, with 38.4% serving at the elementary level, 32.6% at the middle level, and 30.4% at the high school level. In the teaching experience categories, 37% were in the 0-10 category, 26.1% were in the 11-17

category and 37% had taught for 18 years or more. Finally, in the education category, 56.4% had a Bachelor's degree as their highest attained level, while 43.5% had undertaken some graduate level study or had completed a graduate degree.

Table 1

Demographic Variable Frequencies

GENDER			
		Frequency	Percent
Valid	Male	11	23.9
	Female	34	73.9
	Total	45	97.8
Missing	System	1	2.2
Total		46	100
POSITION			
		Frequency	Percent
Valid	Teacher	37	80.4
	Administrator	9	19.6
	Total	46	100
GRADE LEVEL			
		Frequency	Percent
Valid	Elementary (Pre-K – Grade 5)	16	34.8
	Middle Years (Grades 6 – 9)	15	32.6
	High School (Grades 10 – 12)	14	30.4
	Total	45	97.8
Missing	System	1	2.2
Total		46	100
TEACHING EXPERIENCE			
		Frequency	Percent
Valid	0-10 years	17	37
	11-17 years	12	26.1
	18+ years	17	37
	Total	46	100
LEVEL OF EDUCATION			
		Frequency	Percent
Valid	Bachelor's Degree	26	56.5
	Graduate classes or graduate degree	20	43.5
	Total	46	100

Levels of Teacher Self-Efficacy among Participants

Items 6-29 on the instrument were used to measure teachers' sense of efficacy in three different dimensions. All of the questions were presented with a five point Likert scale. The criteria utilized for the deliniation of levels of teacher self-efficacy were as follows, low efficacy: mean scores less than 3; moderate efficacy: from 3 up to and including 4; and high efficacy: greater than 4. The internal reliability of each dimension had a Cronbach's alpha of .817 for *student engagement*, .871 for *classroom management*, and .828 for *instructional strategies*. The internal reliability mirrored the reliabilities found by Tschannen-Moran and Woolfolk Hoy (2001) with the same questions, with their reliabilities ranging from 0.81 to 0.86.

Self-Efficacy in Student Engagement

Data pertaining to teacher self-efficacy within the dimension of *student engagement* are presented in Table 2. This dimension had the lowest item means in the entire teacher self-efficacy section, with the item, *How much can you assist families in helping their children do well in school?* at a mean of 3.39, followed closely by the item, *How much can you do to motivate students who show low interest in school work?* with a mean of 3.45. The mean for this dimension (3.73) was the lowest of the three dimensions, indicating that teachers have a lower perceived self-efficacy in this area. That being said, most self-efficacy means within this dimension were within the moderate range. The item, *How much can you do to help your students think critically?* was within the high range of efficacy with a mean score of 4.04.

Table 2

Item Frequencies for Student Engagement

Item	N		Mean	Std. Deviation
	Valid	Missing		
6. How much can you do to get through to the most difficult students?	46	0	3.72	.886
7. How much can you do to help your students think critically?	45	1	4.04	.638
9. How much can you do to motivate students who show low interest in school work?	44	2	3.45	.730
11. How much can you do to get students to believe they can do well in school work?	46	0	3.93	.646
14. How much can you do to help your students value learning?	45	1	3.82	.747
17. How much can you do to foster student creativity?	44	2	3.70	.823
19. How much can you do to improve the understanding of a student who is failing?	46	0	3.67	.790
27. How much can you assist families in helping their children do well in school?	46	0	3.39	.714
Dimension			3.73	.507

Self-Efficacy in Classroom Management

The *classroom management* dimension had the highest overall mean (4.12) as seen in Table 3. In the area of classroom management, the relationship between the two items with the highest means and the two questions with the lowest means deserves highlighting. On the items, *To what extent can you make your expectations clear about student behaviour?* and *How well can you establish routines to keep activities running smoothly?* the means were 4.61 and 4.58, respectively. However, the items, *How much can you do to calm a student who is disruptive or noisy?* and *How well can you keep a few disruptive students from ruining an entire lesson?* with means of 3.78 and .3.68, respectively, indicated lower self-efficacy. It would seem as though

teachers perceive disruptive students as outliers and that they are not included in the teacher's ability to establish routines and expectations. Despite these differences, five items were in the high range of efficacy and the remaining three items were within the moderate range.

Table 3

Item Frequencies for Classroom Management

Item	N		Mean	Std. Deviation
	Valid	Missing		
8. How much can you do to control disruptive behaviour in the classroom?	46	0	4.11	.795
10. To what extent can you make your expectations clear about student behaviour?	46	0	4.61	.537
13. How well can you establish routines to keep activities running smoothly?	45	1	4.58	.583
18. How much can you do to get children to follow classroom rules?	45	1	4.11	.647
20. How much can you do to calm a student who is disruptive or noisy?	46	0	3.78	.786
21. How well can you establish a classroom management system with each group of students?	46	0	4.17	.643
24. How well can you keep a few disruptive students from ruining an entire lesson?	44	2	3.68	.771
26. How well can you respond to defiant students?	46	0	3.93	.800
Dimension			4.12	.508

Self-Efficacy in Instructional Strategies

The mean and standard deviation for questions within the *instructional strategies* dimension are presented in Table 4. The items, *How well can you respond to difficult questions from your students?* and *To what extent can you provide an alternative explanation or examples when students are confused?* had the highest means (4.33 and 4.22, respectively). Interestingly, the lowest mean (3.62) was with the item, *How well can you provide appropriate challenges for*

very capable students? Although the mean was not exceptionally low, six other items were within the high range of efficacy within this dimension.

Table 4

Item Frequencies for Instructional Strategies

Item	N		Mean	Std. Deviation
	Valid	Missing		
12. How well can you respond to difficult questions from your students?	46	0	4.33	.560
15. How much can you gauge student comprehension of what you have taught?	44	2	4.14	.632
16. To what extent can you craft good questions for your students?	46	0	4.20	.619
22. How much can you do to adjust your lessons to the proper level for individual students?	46	0	4.04	.729
23. How much can you use a variety of assessment strategies?	45	1	4.02	.812
25. To what extent can you provide an alternative explanation or examples when students are confused?	45	1	4.22	.670
28. How well can you implement alternative strategies in your classroom?	46	0	3.80	.749
29. How well can you provide appropriate challenges for very capable students?	45	1	3.62	.886
Dimension			4.04	.478

Differences in Teacher Self-Efficacy According to Demographic Variables

Due to skewed distribution and a small sample size, a Kruskal-Wallis Test was conducted for each dimension of teacher self-efficacy alongside each of the demographic variables with more than two groups, including grade level and teaching experience. A Mann-Whitney U Test was conducted for each dimension of teacher self-efficacy alongside demographic variables with two groups, including gender, position, and level of education. The alpha level as determinant of significance was .05. Following the analysis there were a number of findings that needed to be

highlighted. The mean, standard deviation, and significance of teacher self-efficacy levels according to their dimension among participant demographics are displayed in Tables 5-9.

Differences in Self-Efficacy According to Gender

The differences in teacher self-efficacy according to gender are displayed in Table 5. Within the *student engagement* dimension, there was a significant difference ($p = .023$) between males and females, with females having a higher mean score.

Table 5

Differences in Self-Efficacy According to Gender

		N	Mean	Std. Deviation	Sig.
Student Engagement	Male	11	3.49	.456	.023*
	Female	34	3.82	.503	
	Total	45	3.74	.507	
Classroom Management	Male	11	4.10	.370	.771
	Female	34	4.12	.555	
	Total	45	4.12	.512	
Instructional Strategies	Male	11	3.99	.489	.958
	Female	34	4.05	.481	
	Total	45	4.03	.478	

*Correlation is significant at the 0.05 level

Differences in Self-Efficacy According to Position

The differences in teacher self-efficacy dimensions according to position are displayed in Table 6. There was a significant difference in efficacy levels when analyzed according to position ($p = .007$ for *student engagement*, $p = .039$ for *classroom management*, and $p = .047$ for *instructional strategies*). Teachers had lower self-efficacy on each dimension compared to their administrators, and the difference was most pronounced in the dimension of *student engagement*.

Table 6

Differences in Self-Efficacy According to Position

		N	Mean	Std. Deviation	Sig.
Student Engagement	Teacher	37	3.63	.490	.007*
	Administrator	9	4.13	.371	
	Total	46	3.73	.507	
Classroom Management	Teacher	37	4.05	.503	.039*
	Administrator	9	4.44	.410	
	Total	46	4.12	.508	
Instructional Strategies	Teacher	37	3.97	.470	.047*
	Administrator	9	4.33	.416	
	Total	46	4.04	.478	

*Correlation is significant at the 0.05 level

Differences in Self-Efficacy According to Grade Level

Even more significant than the differences between teachers and administrators were the differences in self-efficacy according to grade level, presented in Table 7. The differences in teacher self-efficacy were measured among elementary (Grades 1-5), middle years (Grades 6-9), and high school teachers (10-12). Following the Kruskal-Wallis Test, a post hoc analysis was done using the Mann-Whitney U Test to find where the significant differences could be found among the three groups. Middle years teachers had significantly lower self-efficacy scores in the *student engagement* dimension compared to elementary and high school teachers. Middle years teachers also had significantly lower self-efficacy scores within the *classroom management* dimension compared to their high school counterparts. Finally, high school teachers reported significantly higher self-efficacy within the *instructional strategies* dimension than both elementary and middle years teachers.

Table 7

Differences in Self-Efficacy According to Grade Level

		N	Mean	Std. Deviation	Sig.
Student Engagement	Elementary	16	3.82	.428	.020*
	Middle Years	15	3.39	.403	
	High School	14	3.92	.524	
	Total	45	3.71	.499	
Classroom Management	Elementary	16	4.03	.562	.019*
	Middle Years	15	3.92	.452	
	High School	14	4.41	.339	
	Total	45	4.11	.501	
Instructional Strategies	Elementary	16	3.97	.288	.000*
	Middle Years	15	3.73	.493	
	High School	14	4.45	.356	
	Total	45	4.04	.480	

*Correlation is significant at the 0.05 level

Differences in Self-Efficacy According to Years of Experience

The differences in dimensions of self-efficacy according to years of teaching experience

Table 8

Differences in Self-Efficacy According to Years of Experience

		N	Mean	Std. Deviation	Sig.
Student Engagement	0-10 years	17	3.57	.475	.279
	11-17 years	12	3.75	.498	
	18+ years	17	3.87	.528	
	Total	46	3.73	.507	
Classroom Management	0-10 years	17	4.01	.446	.436
	11-17 years	12	4.10	.553	
	18+ years	17	4.26	.529	
	Total	46	4.12	.508	
Instructional Strategies	0-10 years	17	3.97	.528	.817
	11-17 years	12	4.08	.368	
	18+ years	17	4.10	.511	
	Total	46	4.04	.478	

are presented in Table 8. The levels of self-efficacy were relatively similar for all categories. Although none of the differences in teacher self-efficacy were significant, it is worth mentioning that the means for each years of experience category rose with years of experience. The increase in self-efficacy with years of experience is demonstrated in each of the efficacy dimensions.

Differences in Self-Efficacy According to Level of Education

Differences in teacher efficacy were also not found to be significant with regard to the level of education that teachers had attained. The differences in efficacy according the level of education are displayed in Table 9. Although no significant differences were found, those

Table 9

Differences in Self-Efficacy According to Level of Education

		N	Mean	Std. Deviation	Sig.
Student Engagement	Bachelor's Degree	26	3.64	.534	.165
	Graduate classes or graduate degree	20	3.84	.456	
	Total	46	3.73	.507	
Classroom Management	Bachelor's Degree	26	4.03	.550	.209
	Graduate classes or graduate degree	20	4.25	.430	
	Total	46	4.12	.508	
Instructional Strategies	Bachelor's Degree	26	3.94	.486	.114
	Graduate classes or graduate degree	20	4.18	.440	
	Total	46	4.04	.478	

teachers taking graduate classes or holding one or more graduate degrees consistently reported higher efficacy across the dimensions.

Teachers’ Perceptions of Their Working Conditions

Items 30-100 on the instrument were used to measure teachers’ perceptions of their working conditions across eight different dimensions. All of the items were presented with a five point Likert scale. Although “Don’t Know” was one of the options for each question, the

researcher chose to recode these responses as missing so as not to influence the data. The criteria utilized for the delimitation of levels of teacher ratings of their working conditions were as follows, low perception: mean scores less than 2; moderate perception: from 2 up to and including 3; and high perception: greater than 3. The internal reliability of each dimension was measured using Cronbach's alpha, and the coefficients ranged from .686 to .892. The reliability analyses for TELL Kentucky produced Cronbach's alpha coefficients ranging from 0.86 to 0.95 (NTC, 2013). The lower reliabilities found in this study despite using the TELL instrument will be discussed with the dimensions to which they pertain.

Teachers' Perceptions of Time Availability

The first dimension of working conditions measured was *time availability* and the means for each of the items and the overall mean for the dimension are outlined in Table 10. The *time* dimension had a Cronbach's alpha coefficient of .689 with seven items. Although the internal reliability was low, it was most likely due to the items, *Teachers have time available to collaborate with colleagues* and *The non-instructional time provided for teachers in my school is sufficient*. Both of these items had the lowest overall means (1.80 and 1.65, respectively) and were at the low self-efficacy level. The items, *Class sizes are reasonable such that teachers have the time available to meet the needs of all students* and *Teachers have sufficient instructional time to meet the needs of all students*, had the highest mean (2.70 and 2.73, respectively), but were only in the moderate category, along with the remaining items. Despite these items being at the moderate level, the *time* dimension mean (2.32) itself was significantly lower than any other working condition dimension in this study.

Table 10

Item Frequencies for Time Availability

Item	N		Mean	Std. Deviation
	Valid	Missing		
30. Class sizes are reasonable such that teachers have the time available to meet the needs of all students.	46	0	2.70	.891
31. Teachers have time available to collaborate with colleagues.	46	0	1.80	.687
32. Teachers are allowed to focus on educating students with minimal interruptions.	46	0	2.46	.780
33. Teachers have sufficient instructional time to meet the needs of all students.	45	1	2.73	.751
34. The non-instructional time provided for teachers in my school is sufficient.	46	0	1.65	.766
35. Efforts are made to minimize the amount of routine administrative paperwork teachers are required to do.	45	1	2.62	.912
36. Teachers are protected from duties that interfere with their essential role of educating students.	46	0	2.28	.886
Dimension			2.32	.476

Teachers' Perceptions of Facilities and Resources

Facilities and resources was the second dimension measured and the results are shown in Table 11. The Cronbach's alpha coefficient for this dimension was .754 with nine items total, but the coefficient would have been higher if the item, *The reliability and speed of internet connections in this school are sufficient to support instructional practices*, had been removed. However, the standard deviation (1.10) for this item was high, indicating that teachers varied markedly in their ratings of internet speed within their respective schools. This item had a mean of 2.35 and the reliability of internet connections are an obvious concern in the minds of teachers within this school division, but they also seem to be an outlier with regard to the other items within

this dimension. The item related to access to more traditional means of communication, *Teachers have access to reliable communications technology, including phones, faxes and email*, received the highest item mean (3.47). Overall, there were four items within the moderate level and five items within the high level.

Table 11

Item Frequencies for Facilities and Resources

Item	N		Mean	Std. Deviation
	Valid	Missing		
37. The school environment is clean and well maintained.	46	0	3.17	.739
38. Teachers have access to reliable communications technology, including phones, faxes and email.	45	1	3.47	.505
39. The physical environment of classrooms in this school supports teaching and learning.	45	1	3.07	.618
40. Teachers have sufficient access to instructional technology, including computers, printers, software and internet access.	46	0	3.07	.800
41. Teachers have sufficient access to office equipment and supplies such as copy machines, paper, pens, etc.	46	0	3.39	.577
42. Teachers have sufficient access to a broad range of professional support personnel.	44	2	2.70	.734
43. The reliability and speed of internet connections in this school are sufficient to support instructional practices.	46	0	2.35	1.100
44. Teachers have adequate space to work productively.	46	0	2.76	.794
45. Teachers have sufficient access to appropriate instructional materials.	46	0	2.76	.639
Dimension			2.97	.428

Teachers' Perceptions of Community Support and Involvement

The *community support and involvement* dimension was measured using eight items and the results are shown in Table 12. This is the second dimension with a low Cronbach's alpha

coefficient (.686), and this is due to three items: *Parents/guardians are influential decision makers in this school*; *Parents/guardians support teachers, contributing to their success with students*; and *Community members support teachers, contributing to their success with students* with means of 2.68, 2.69, and 2.85, respectively. Each item alluded to the support parents,

Table 12

Item Frequencies for Community Support and Involvement

Item	N		Mean	Std. Deviation
	Valid	Missing		
46. This school maintains clear, two-way communication with parents/guardians and the community.	46	0	3.22	.593
47. This school does a good job of encouraging parent/guardian involvement.	45	1	3.09	.596
48. Parents/guardians are influential decision makers in this school.	44	2	2.68	.674
49. Teachers provide parents/guardians with useful information about student learning.	45	1	3.09	.633
50. Parents/guardians know what is going on in this school.	46	0	3.04	.556
51. Parents/guardians support teachers, contributing to their success with students.	45	1	2.69	.763
52. The community we serve is supportive of this school.	45	1	3.07	.618
53. Community members support teachers, contributing to their success with students.	46	0	2.85	.595
Dimension			2.96	.370

guardians, or community members give to teachers. Participants in this study rated that they were communicating well with parents and guardians, given the highest item mean (3.22) in this dimension was, *This school maintains clear, two-way communication with parents/guardians and the community*, but their ratings of parent/guardian support were moderate.

Teachers' Perceptions of Managing Student Conduct

The data referring to the *managing student conduct* dimension is displayed in Table 13. It had a Cronbach's alpha coefficient of .892 with seven items in the dimension. One particular highlight from this dimension was the disparity between teachers' rating that students

Table 13

Item Frequencies for Managing Student Conduct

Item	N		Mean	Std. Deviation
	Valid	Missing		
54. Students at this school understand expectations for their conduct.	46	0	3.13	.687
55. School administrators consistently enforce rules for student conduct.	46	0	2.61	1.000
56. Policies and procedures about student conduct are clearly understood by the faculty.	46	0	2.78	.786
57. The faculty work in a school environment that is safe.	46	0	3.33	.598
58. Students at this school follow rules of conduct.	45	1	2.78	.795
59. School administrators support teachers' efforts to maintain discipline in the classroom.	46	0	3.02	.977
60. Teachers are relied upon to make decisions about educational issues.	46	0	3.07	.800
Dimension			2.96	.644

understand school expectations, and administrators enforcing those expectations. The item, *Students at this school understand expectations for their conduct* had the highest mean (3.13), while, *School administrators consistently enforce rules for student conduct* had the lowest mean (2.61). The dimension mean was 2.96, as items were split with three at the moderate level and four at the high level. Despite the moderate mean score in the items regarding administrator

consistency in enforcing rules and administrator support for teachers enforcing rules, the high standard deviation suggests a strong variation in teacher rating.

Teachers' Perceptions of Teacher Leadership

Teacher leadership is the fifth dimension of teachers' perceptions of their working conditions and this dimension had a Cronbach's alpha coefficient of .887 with eight items, and it also was the only dimension mean (3.01) at the high level, indicating that teachers rate their opportunities for leadership relatively highly. The data for this dimension are displayed in Table 14, with items, *Teachers are effective leaders in this school* and *Teachers are trusted to make*

Teachers are effective leaders in this school and *Teachers are trusted to make*

Table 14

Item Frequencies for Teacher Leadership

Item	N		Mean	Std. Deviation
	Valid	Missing		
61. Teachers are effective leaders in this school.	46	0	3.28	.584
62. Teachers are recognized as educational experts.	46	0	3.02	.774
63. The faculty has an effective process for making group decisions to solve problems.	45	1	2.80	.815
64. Teachers have an appropriate level of influence on decision making in this school.	46	0	2.93	.879
65. In this school we take steps to solve problems.	46	0	3.00	.760
66. Teachers are encouraged to participate in school leadership roles.	46	0	3.15	.759
67. Teachers are trusted to make sound professional decisions about instruction.	45	1	3.27	.720
68. The procedures for teacher evaluation are consistent.	45	1	2.64	.802
Dimension			3.01	.593

sound professional decisions about instruction having the highest means at 3.28 and 3.27, respectively. The lowest item mean (2.64) was, *The procedures for teacher evaluation are consistent*, being one of three items within the moderate range and all others being within the high range.

Teachers' Perceptions of School Leadership

The *school leadership* dimension had a Cronbach's alpha coefficient of .851 with eleven items. The data for this dimension is outlined in Table 15, showing smaller disparity between item means than many other dimensions. It is necessary to highlight the item, *The school improvement team provides effective leadership at this school*, in that 17 responses were missing due to recoding. All of those "missing" responses were actually respondents who chose "Don't Know" which may have not only skewed internal reliability, but the overall dimension mean as well. The respondents may have been confused with "school improvement team" in the question, and the researcher could have changed this wording to "school leadership team" or "administrative team" to make the language more accessible and relevant to the context of Saskatchewan school divisions. The lowest item mean (2.43) was *Teachers receive feedback that can help them improve teaching*. The highest item means and the only items at the high level in this dimension were *The school leadership facilitates using data to improve student learning* and *Professional learning opportunities are aligned with the school's improvement plan*, with means of 3.05 and 3.07, respectively.

Table 15

Item Frequencies for School Leadership

Item	N		Mean	Std. Deviation
	Valid	Missing		
69. Teachers receive feedback that can help them improve teaching.	46	0	2.43	.720
70. Teachers are held to high professional standards for delivering instruction.	45	1	2.82	.860
71. Teachers feel comfortable raising issues and concerns that are important to them.	46	0	2.72	.834
72. The faculty are recognized for accomplishments.	45	1	2.76	.830
73. The faculty and leadership have a shared vision.	45	1	2.73	.780
74. The school improvement team provides effective leadership at this school.	29	17	2.93	.753
75. Teacher performance is assessed objectively.	42	4	2.71	.742
76. The school leadership consistently supports teachers.	42	4	2.95	.825
77. There is an atmosphere of trust and mutual respect.	45	1	2.80	.944
78. The school leadership facilitates using data to improve student learning.	41	5	3.05	.669
79. Professional learning opportunities are aligned with the school's improvement plan.	46	0	3.07	.800
Dimension			2.82	.604

Teachers' Perceptions of Professional Development

The seventh dimension of teachers' perceptions of their working conditions was *professional development* and the data are displayed in Table 16. The Cronbach's alpha coefficient for this dimension was .845 with twelve items. The two highest means were 3.11 and 3.15 for the items, *Professional development enhances teachers' abilities to help improve student*

Table 16

Item Frequencies for Professional Development

Item	N		Mean	Std. Deviation
	Valid	Missing		
80. Professional development provides ongoing opportunities for teachers to work with colleagues to refine teaching practices.	45	1	2.87	.815
81. Professional development offerings are data driven.	33	13	2.64	.783
82. Professional development deepens teachers' content knowledge.	45	1	2.84	.903
83. Professional development is differentiated to meet the needs of individual teachers.	46	0	2.61	.906
84. Professional development enhances teachers' abilities to help improve student learning.	45	1	3.11	.910
85. Professional development is evaluated and results are communicated to teachers.	42	4	2.07	.838
86. Follow up is provided from professional development in this school.	40	6	2.30	.823
87. Professional development enhances teachers' ability to implement instructional strategies that meet diverse student learning needs.	42	4	2.86	.872
88. Teachers are encouraged to reflect on their own practice.	46	0	3.15	.515
89. Professional development provides teachers with strategies to involve families and other community members as active partners in their children's education.	41	5	2.10	.768
90. Sufficient resources are available for professional development in my school.	46	0	2.63	.903
91. An appropriate amount of time is provided for professional development.	46	0	2.30	.866
Dimension			2.63	.535

learning and *Teachers are encouraged to reflect on their own practice*, respectively, and they were the only items at the high level. All other items fell within the moderate level, with the lowest mean scores being 2.07 and 2.10 for the items, *Professional development is evaluated and results are communicated to teachers* and *Professional development provides teachers with*

strategies to involve families and other community members as active partners in their children's education, respectively. Given some of the low item means in the *community support and involvement* dimension and *student engagement* dimension, teachers also rated that there was a need for professional development that may help improve communication and relationships between their communities and their schools.

Teachers' Perceptions of Instructional Practices and Support

The last dimension was *instructional practices and support* and it had a Cronbach's alpha coefficient of .726 with nine items and the data is displayed in Table 17. One item that should be highlighted is, *Provincial assessment data are available in time to impact instructional practices*, not only because it had a mean of 2.32, but also because it had 8 missing responses and a standard deviation of .93. It is unclear as to whether teachers' moderate ratings (or lack thereof) refer to whether the provincial data has been made available from the province or not, whether it is on time or not, or whether it has been on time and available but not shared with teachers. The second lowest mean was 2.51 with the item, *Teachers work in professional learning communities to develop and align instructional practices*. Professional learning communities are an expectation in many Saskatchewan schools, but the moderate score for this item is unclear in that the results could mean that professional learning communities (PLCs) do not exist in some schools, or they are just not being used to "develop and align instructional practices." The only mean scores at the high level were the items: *Teachers have autonomy to make decisions about instructional delivery* (3.20); *Teachers are encouraged to try new things to improve instruction* (3.35); and *The curriculum taught in this school is aligned with the Saskatchewan Curriculum* (3.43). Despite teachers' high ratings of independence and encouragement to try new things, they rated that the Saskatchewan Curriculum is being taught at their schools.

Table 17

Item Frequencies for Instructional Practices and Support

Item	N		Mean	Std. Deviation
	Valid	Missing		
92. Teachers have autonomy to make decisions about instructional delivery (i.e. pacing, materials and pedagogy).	46	0	3.20	.719
93. Teachers in this school use assessment data to inform their instruction.	43	3	2.98	.672
94. Local assessment data are available in time to impact instructional practices.	41	5	2.68	.789
95. Teachers are assigned classes that maximize their likelihood of success with students.	44	2	2.84	.680
96. Teachers work in professional learning communities to develop and align instructional practices.	45	1	2.51	.895
97. Provincial assessment data are available in time to impact instructional practices.	38	8	2.32	.933
98. Provided supports (i.e., instructional coaching, professional learning communities, etc.) translate to improvements in instructional practices by teachers.	41	5	2.85	.727
99. Teachers are encouraged to try new things to improve instruction.	46	0	3.35	.640
100. The curriculum taught in this school is aligned with the Saskatchewan Curriculum.	46	0	3.43	.688
Dimension			2.92	.450

Differences in Teachers' Perceptions of Their Working Conditions

A Kruskal-Wallis Test was conducted for each dimension of working conditions alongside each of the demographic variables with more than two groups, including grade level and teaching experience. A Mann-Whitney U Test was conducted for each dimension of working conditions alongside demographic variables with two groups, including gender, position, and level of education. Both of these tests were used due to a low number of participants and skewed distribution. The alpha level as determinant of significance was .05.

The mean, standard deviation, and significance of teacher perception levels according to dimension among participant demographics are displayed in Tables 18-22.

Differences in Perception According to Gender

The differences in perceptions of working conditions according to gender are outlined in Table 18. Similar to teacher self-efficacy, there was one significant difference between men and women on Time Availability. Table 18

Differences in Perception of Working Conditions According to Gender

		N	Mean	Std. Deviation	Sig.
Time Availability	Male	11	2.56	.431	.037*
	Female	34	2.25	.475	
	Total	45	2.33	.479	
Facilities and Resources	Male	11	3.10	.465	.277
	Female	34	2.91	.410	
	Total	45	2.96	.426	
Community Support and Involvement	Male	11	2.89	.402	.540
	Female	34	2.99	.367	
	Total	45	2.97	.374	
Managing Student Conduct	Male	11	3.22	.643	.099
	Female	34	2.90	.636	
	Total	45	2.97	.646	
Teacher Leadership	Male	11	3.07	.557	.785
	Female	34	3.01	.613	
	Total	45	3.02	.594	
School Leadership	Male	11	2.78	.589	.765
	Female	34	2.84	.622	
	Total	45	2.83	.608	
Professional Development	Male	11	2.60	.543	.969
	Female	34	2.64	.547	
	Total	45	2.63	.541	
Instructional Practices and Support	Male	11	2.92	.475	.630
	Female	34	2.93	.454	
	Total	45	2.93	.454	

*Correlation is significant at the 0.05 level

women within ratings of working conditions dimensions. Men rated their *time availability* higher than women ($p = .037$). Men also rated the dimension of *managing student conduct* to a higher degree than women.

Differences in Perception According to Position

The only dimension that on which teachers and administrators significantly differed ($p = .008$) was that of *professional development* as seen in Table 19.

Table 19

Differences in Perception of Working Conditions According to Position

		N	Mean	Std. Deviation	Sig.
Time Availability	Teacher	37	2.26	.479	.160
	Administrator	9	2.54	.415	
	Total	46	2.32	.476	
Facilities and Resources	Teacher	37	2.95	.431	.765
	Administrator	9	3.06	.427	
	Total	46	2.97	.428	
Community Support and Involvement	Teacher	37	2.94	.388	.549
	Administrator	9	3.06	.280	
	Total	46	2.96	.370	
Managing Student Conduct	Teacher	37	2.88	.651	.129
	Administrator	9	3.32	.499	
	Total	46	2.96	.644	
Teacher Leadership	Teacher	37	2.96	.625	.382
	Administrator	9	3.22	.394	
	Total	46	3.01	.593	
School Leadership	Teacher	37	2.77	.653	.217
	Administrator	9	3.02	.274	
	Total	46	2.81	.604	
Professional Development	Teacher	37	2.55	.554	.008*
	Administrator	9	2.97	.257	
	Total	46	2.63	.535	
Instructional Practices and Support	Teacher	37	2.91	.485	.683
	Administrator	9	2.96	.278	
	Total	46	2.92	.450	

*Correlation is significant at the 0.05 level

Differences in Perception According to Grade Level

The difference in ratings of the *time availability* dimension was found to be significant when comparing different grade levels as seen in Table 20. Following a post hoc analysis, using Table 20

Differences in Perception of Working Conditions According to Grade Level

		N	Mean	Std. Deviation	Sig.
Time Availability	Elementary	16	2.22	.505	.023*
	Middle Years	15	2.14	.451	
	High School	14	2.56	.324	
	Total	45	2.30	.465	
Facilities and Resources	Elementary	16	2.93	.474	.144
	Middle Years	15	2.83	.382	
	High School	14	3.14	.394	
	Total	45	2.97	.431	
Community Support and Involvement	Elementary	16	3.03	.374	.779
	Middle Years	15	2.90	.413	
	High School	14	2.96	.342	
	Total	45	2.97	.374	
Managing Student Conduct	Elementary	16	3.05	.668	.524
	Middle Years	15	2.81	.667	
	High School	14	3.02	.634	
	Total	45	2.96	.651	
Teacher Leadership	Elementary	16	3.02	.663	.573
	Middle Years	15	2.90	.557	
	High School	14	3.13	.588	
	Total	45	3.01	.599	
School Leadership	Elementary	16	2.86	.635	.503
	Middle Years	15	2.69	.619	
	High School	14	2.90	.600	
	Total	45	2.81	.611	
Professional Development	Elementary	16	2.67	.432	.610
	Middle Years	15	2.56	.502	
	High School	14	2.65	.702	
	Total	45	2.63	.540	
Instructional Practices and Support	Elementary	16	2.84	.484	.544
	Middle Years	15	2.89	.401	
	High School	14	3.06	.476	
	Total	45	2.93	.454	

*Correlation is significant at the 0.05 level

the Mann-Whitney U Test, high school teachers had a significantly higher rating than middle years teachers. While not significant, high school teachers also had higher mean scores on the *facilities and resources* dimension than elementary and middle years teachers.

Differences in Perception According to Years of Experience

Table 21 contains the data comparing teachers' years of experience and perceptions of working conditions. No significant differences were found within the years' experience variable,

Table 21

Differences in Perception According to Years of Experience

		N	Mean	Std. Deviation	Sig.
Time Availability	0-10 years	17	2.26	.477	.820
	11-17 years	12	2.35	.402	
	18+ years	17	2.36	.542	
	Total	46	2.32	.476	
Facilities and Resources	0-10 years	17	3.08	.506	.209
	11-17 years	12	2.84	.333	
	18+ years	17	2.95	.396	
	Total	46	2.97	.428	
Community Support and Involvement	0-10 years	17	2.84	.440	.222
	11-17 years	12	3.00	.256	
	18+ years	17	3.06	.345	
	Total	46	2.96	.370	
Managing Student Conduct	0-10 years	17	2.91	.707	.968
	11-17 years	12	3.01	.693	
	18+ years	17	2.98	.576	
	Total	46	2.96	.644	
Teacher Leadership	0-10 years	17	3.05	.499	.729
	11-17 years	12	3.08	.743	
	18+ years	17	2.92	.587	
	Total	46	3.01	.593	
School Leadership	0-10 years	17	2.69	.622	.288
	11-17 years	12	3.07	.516	
	18+ years	17	2.77	.626	
	Total	46	2.82	.604	
Professional Development	0-10 years	17	2.49	.482	.241
	11-17 years	12	2.83	.487	
	18+ years	17	2.63	.598	
	Total	46	2.63	.535	
Instructional Practices and Support	0-10 years	17	2.88	.427	.458
	11-17 years	12	3.04	.360	
	18+ years	17	2.88	.532	
	Total	46	2.92	.450	

which was similar to findings when comparing this variable within dimensions of teacher self-efficacy.

Differences in Perception According to Level of Education

The data examining differences in ratings of working conditions according to levels of education is presented in Table 22. There were no significant differences between education levels in teachers' ratings of their working conditions.

Table 22

Differences in Perception According to Education

		N	Mean	Std. Deviation	Sig.
Time Availability	Bachelor's Degree	26	2.28	.465	.423
	Graduate classes or graduate degree	20	2.36	.498	
	Total	46	2.32	.476	
Facilities and Resources	Bachelor's Degree	26	3.00	.444	.556
	Graduate classes or graduate degree	20	2.94	.415	
	Total	46	2.97	.428	
Community Support and Involvement	Bachelor's Degree	26	2.91	.411	.251
	Graduate classes or graduate degree	20	3.04	.302	
	Total	46	2.96	.370	
Managing Student Conduct	Bachelor's Degree	26	2.85	.621	.306
	Graduate classes or graduate degree	20	3.11	.660	
	Total	46	2.96	.644	
Teacher Leadership	Bachelor's Degree	26	2.97	.542	.541
	Graduate classes or graduate degree	20	3.06	.664	
	Total	46	3.01	.593	
School Leadership	Bachelor's Degree	26	2.78	.552	.450
	Graduate classes or graduate degree	20	2.87	.677	
	Total	46	2.82	.604	
Professional Development	Bachelor's Degree	26	2.58	.521	.258
	Graduate classes or graduate degree	20	2.70	.557	
	Total	46	2.63	.535	
Instructional Practices and Support	Bachelor's Degree	26	2.95	.406	.841
	Graduate classes or graduate degree	20	2.89	.509	
	Total	46	2.92	.450	

Relationships Between Teacher Self-Efficacy and Perceptions of Working Conditions

In order to run a Spearman's rho correlation between teacher self-efficacy and teachers' perceptions of their working conditions, the mean scores of each individual item within the teacher self-efficacy section and perceptions of working conditions section were used to create a mean score for both teacher self-efficacy as one large construct and working conditions as one large construct. When the reliability analyses were done for each respective construct, it resulted in a Cronbach's alpha coefficient of .924 for teacher self-efficacy and .980 for teachers' perceptions of their working conditions. Both of these reliabilities are very high and this is most likely due to a smaller number of data sets being available due to "missing" data within many of the questions. Only 34 of the possible 46 data sets were available for teacher self-efficacy reliability and only 15 of the possible 46 data sets were available for working conditions reliability.

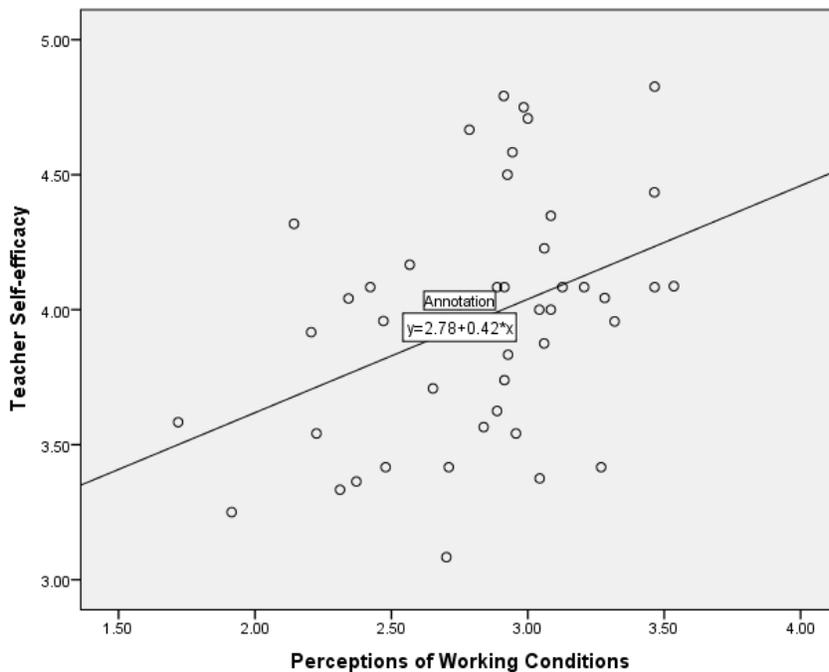


Figure 4.1. Scatterplot showing the correlation between teacher self-efficacy and teachers' perceptions of their working conditions.

Spearman’s rho was used to correlate teacher self-efficacy and teachers’ perceptions of their working conditions and, and the linear relationship is illustrated in Figure 4.1. This provides some initial evidence that there could be a significant positive relationship between teachers' levels of self-efficacy and corresponding perceptions of their working conditions. There were a small number of participants, and there are a number of outliers on the scatterplot, but a significance level of .005 was found with a .406 correlation coefficient.

Further to a correlation between the two larger groups, a Spearman’s rho correlation was run on the specific dimensions of teacher self-efficacy and the specific dimensions of teachers’ perceptions of their working conditions and those results are found in Table 23. Three pairs of dimensions had correlations that were significant to the 0.01 level. *Time availability* and *classroom management* had the greatest correlation with a coefficient of .454 ($p = .002$).

Table 23

Correlations Between Dimensions of Teacher Self-Efficacy and Dimensions of Working Conditions

		Working Conditions								
		Time	Facilities	Community Support	Student Conduct	Teacher Leadership	School Leadership	Professional Development	Instructional Practices	
Self-Efficacy	Student Engagement	Correlation Coefficient	.262	.056	.238	.255	.269	.303*	.382**	.358*
		Sig. (2-tailed)	.078	.713	.112	.087	.070	.041	.009	.015
		N	46	46	46	46	46	46	46	46
	Classroom Management	Correlation Coefficient	.454**	.360*	.375*	.264	.224	.198	.420**	.369*
		Sig. (2-tailed)	.002	.014	.010	.077	.135	.187	.004	.012
		N	46	46	46	46	46	46	46	46
	Instructional Strategies	Correlation Coefficient	.364*	.241	.142	.166	.136	.104	.231	.228
		Sig. (2-tailed)	.013	.106	.347	.271	.368	.491	.122	.127
		N	46	46	46	46	46	46	46	46

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

Classroom management was also correlated with *professional development* with a coefficient of .420 ($p = .004$). *Professional development* was also correlated with *student engagement* with a coefficient of .382 ($p = .009$).

Six additional relationships relating to working conditions and teacher self-efficacy were found to be significant at the .05 level. The strongest correlation ($r = .375$) was between *community support and involvement* and *classroom management*. The second strongest correlation was between *instructional practices and support* and *classroom management* at .369. *Instructional practices and support* was also correlated with *student engagement* with a coefficient of .358, while *student engagement* was also correlated ($r = .303$) with *school leadership*. Self-efficacy in *instructional strategies* had a correlation coefficient of .364 with the *time* dimension. Finally, the *facilities and resources* dimension had a correlation coefficient of .360 with the *classroom management* dimension.

Some of the dimensions that were not significantly correlated were between *classroom management* and *managing student conduct* ($r = .264, p = .077$); *instructional strategies* and *instructional practices and support* ($r = .228, p = .127$); *instructional strategies* and *professional development* ($r = .231, p = .122$); and *student engagement* and *community support and involvement* ($r = .238, p = .112$). It is noteworthy that the *classroom management* dimension was strongly correlated with many of the working conditions, while the *instructional strategies* dimension was correlated with only one of the working conditions.

CHAPTER FIVE

DISCUSSION AND IMPLICATIONS

The purpose of this research was to examine the relationship between teacher self-efficacy and teachers' perceptions of their working conditions. In this chapter, a summary of the procedures and findings of the research is presented and those findings are discussed in the context of related literature. Significant conclusions drawn from this discussion will be presented and implications for policy, theory, practice, and further research will be shared in light of these conclusions.

A quantitative design was used to examine the questions in this study. A questionnaire was sent out to all principals in one Saskatchewan school division who then had the choice to forward this questionnaire to the teachers within their school. From a potential population of approximately 700 teachers, there were 46 respondents. The questionnaire was 100 questions in length, including five introductory questions that gleaned demographic information, 24 questions concerning teacher self-efficacy, and 71 items regarding working conditions. The data gathered from the 46 respondents were analyzed using IBM SPSS Statistics Data Editor, and frequencies, non-parametric analyses, and Spearman's rho correlations were conducted.

Summary of Findings

A summary of the major findings in light of each research questions is presented below.

1. What are the levels of self-efficacy among teachers in this study?

Teacher self-efficacy levels within this sample were high for the *classroom management* dimension and the *instructional strategies* dimension with means of 4.12 and 4.04, respectively. Within the *classroom management* dimension, items pertaining to setting up routines and creating expectations had high self-efficacy scores, but items relating to teachers' abilities to deal

with disruptive or noisy students received moderate scores. Despite most scores being in the high range, the disparity between the two groups of items is noteworthy. Teachers may have perceived disruptive or noisy students as outliers with regard to setting up routines and expectations, or there may have been a slight discrepancy between the theory of setting up routines and expectations, and the practice of making those routines work for difficult students. The *student engagement* dimension had the lowest mean (3.73) among all the teacher self-efficacy dimensions, and the item, *How can you assist families in helping their children do well in school?* had the lowest mean score (3.39) of all the items within the teacher self-efficacy section.

2. What are the differences in teacher self-efficacy when analyzed according to gender, experience, level of education, grade level, and professional role?

No significant differences were found within the dimensions of teacher self-efficacy when comparing years of experience or level of education. However, there were significant differences between teachers and administrators in all three dimensions of teacher self-efficacy, especially in the *student engagement* dimension. Females also had significantly higher self-efficacy scores than males in *student engagement*. Similarly, middle years teachers had significantly lower self-efficacy scores in the *student engagement* dimension compared to elementary and high school teachers. Middle years teachers also had significantly lower self-efficacy scores within the *classroom management* dimension compared to their high school counterparts. Finally, high school teachers reported significantly higher self-efficacy within the *instructional strategies* dimension than both elementary and middle years teachers.

3. What are teachers' perceptions of their working conditions?

Seven of the eight dimensions within the perceptions of working conditions section had dimension means at the moderate level, but the *teacher leadership* dimension mean (3.01) was at the high level. Items and results within this dimension indicated that teachers perceived that they had an influential decision-making role in the school and that they are encouraged to do this. Although the *time* dimension mean (2.32) was at the moderate level it was the lowest among all eight working conditions dimensions. It also had two items that were in the low level and they were, *Teachers have time available to collaborate with colleagues* (1.80) and *The non-instructional time provided for teachers in my school is sufficient* (1.65). Teachers had a low perception of non-instructional time being available to either work independently or collaborate with colleagues. No other items were found to be in the low level.

The *community support and involvement* dimension mean (2.96) was similar to many of the other dimension means, but it is worth mentioning that items within this dimension that alluded to the teachers or the school communicating with parents were in the high level, while items speaking to the reciprocating support from parents/guardians and the community, the item means were at the moderate level. The *professional development* dimension had the second lowest mean (2.63), but was still at the moderate level. The two items with the lowest means were *Professional development is evaluated and results are communicated to teachers* (2.07) and *Professional development provides teachers with strategies to involve families and other community members as active partners in their children's education* (2.10), with the latter, once again, alluding to teachers' perceptions of their abilities to work with families and community members.

The *instructional practices and support* dimension had a moderate mean (2.92), but when it came to items that concerned being autonomous, being encouraged to try new things, and teaching the Saskatchewan Curriculum, all items were in the high range. Items within the moderate level included local and provincial data being available to teachers and teachers' perceptions of the use of Professional Learning Communities (PLCs).

4. What are the differences in teachers' perceptions of their working conditions when analyzed according to gender, experience, level of education, grade level, and professional role?

The only significant differences found amongst demographic variables and teachers' perceptions of their working conditions were in the dimensions of *time* and *professional development*. High school teachers had significantly higher scores than middle years teachers within the *time availability* dimension, and males had significantly higher scores than females with regard to this same dimension. Administrators had higher scores than teachers within the *professional development* dimension. Comparable to demographic variable differences in teacher self-efficacy, there were no significant differences in perceptions of working conditions when comparing scores on the basis of years of experience or level of education.

5. What are the relationships between teacher self-efficacy and perceptions of working conditions?

A moderate correlation of strong significance was found between teacher self-efficacy and teachers' perceptions of their working conditions. Spearman's rho was used to correlate teacher self-efficacy and teachers' perceptions of their working conditions and a significance level of .005 was found with a .406 correlation coefficient between the two constructs.

6. What are the relationships between dimensions of teacher self-efficacy and perceptions of working conditions?

Spearman's rho was run on the specific dimensions of teacher self-efficacy and working conditions. The *classroom management* dimension of teacher self-efficacy was moderately correlated with *time* ($r = .454, p = .002$), *facilities and resources* ($r = .360, p = .014$), *community support and involvement* ($r = .375, p = .010$), *professional development* ($r = .420, p = .004$), and *instructional practices and support* ($r = .369, p = .012$). The most significant correlations ($p < .01$) with self-efficacy in *classroom management* were the working conditions dimensions of *time* and *professional development*.

The *student engagement* dimension was moderately correlated with three working conditions dimensions, and they were *school leadership* ($r = .303, p = .041$), *professional development* ($r = .382, p = .009$), and *instructional practices and support* ($r = .358, p = .015$), with *professional development* being the most significant correlation ($p < .01$). Finally, *instructional strategies* was moderately correlated with *time* ($r = .364, p = .013$). Working conditions dimensions that were correlated to the most dimensions of teacher self-efficacy were *time*, *professional development*, and *instructional practices and support*.

There were 15 instances where dimensions were not strongly nor significantly correlated with each other. The small correlation found between *classroom management* and *managing student conduct*; *instructional strategies* and *instructional practices and support*; *instructional strategies* and *professional development*; and *student engagement* and *community support and involvement* is noteworthy.

Discussion

Levels of Teacher Self-Efficacy

The teacher self-efficacy section of the instrument used in this study was based on the Teachers' Sense of Efficacy Scale (TSES) created by Tschannen-Moran and Woolfolk Hoy (2001). Similar to other recent research using the TSES (Duffin, French, & Patrick, 2012; Haverback & Parault, 2011), high internal reliability was found in the teacher efficacy dimensions of *student engagement*, *classroom management*, and *instructional strategies*.

Teachers at different grade levels varied in their levels of self-efficacy, with middle years teachers having significantly lower self-efficacy scores within the *student engagement* dimension, compared to elementary and high school teachers, and lower *classroom management* scores than high school teachers. In contrast to these findings, Klassen and Chiu (2010) found that teacher self-efficacy decreased as teaching grade levels increased and Raudenbush, Rowan, and Cheong (1992) found that teacher self-efficacy increased as grade levels increased. Similar to Raudenbush et al. (1992), high school teachers were found to have higher self-efficacy than middle years and elementary teachers within the *instructional strategies* dimension.

Klassen and Chiu (2010) found that efficacy increased from early to mid-career and then decreased after that, but this research indicated that there were no significant differences in self-efficacy levels when comparing teaching experience. Although this study had a small number of participants, it and other research highlight discrepancies in levels of efficacy with regard to years of experience and grade levels. These varied findings suggest the need for further research in this area.

Differences in levels of teacher self-efficacy were also found when comparing teachers and administrators. These differences were significant and were across all three dimensions of

teacher self-efficacy. It must be noted that the significance levels may be due to a small number of administrators who participated in the survey. Whether due to low levels of participation or not, the differences in mean scores were present and further discussion will be presented below.

Raudenbush et al. (1992) also found that self-efficacy differed depending on subjects being taught and the achievement level of students being taught. According to Bandura (1986), self-efficacy is contextual and further research into contextual factors such as student demographics or types of schools and how they relate to teachers' self-efficacy would be beneficial.

Perceptions of Working Conditions

Hornig (2009) found that the three most important working conditions were school facilities, administrative support, and class size, while Johnson, Kraft, and Papay (2012) found that the principal's leadership, school culture, and teachers' relationship with their colleagues were most important to teachers. This study did not ask teachers to rate or order working conditions, according to what was most important to them, but it did ask them to share their levels of agreement within eight different dimensions. Seven of the eight dimensions were found to be at the moderate level, while *teacher leadership* was found to be at the high level. Teachers in this school division have rated that teacher leadership is more apparent than any other dimension within the working conditions construct, and this indicates that teachers perceive that the group decision-making processes and the opportunities for leadership are areas of strength for teachers' respective schools.

Time, despite being at the moderate level, was the lowest scoring level of all the working conditions dimensions. Also, high school teachers and males had significantly higher ratings than middle years teachers and females with regard to the *time availability* dimension. Teachers'

perceptions of time availability are a point of discussion for this school division and it may be for others, but these findings may be the result of recent changes within the school division itself. For example, the Government of Saskatchewan recently mandated a minimum number of teaching hours for each school division within the province and this meant that this particular school division had to increase the number of teaching hours within the school year, thereby increasing the number of teaching minutes within a day. This also meant that preparation time was decreased, so these perceptions may have been a result of recent change. That being said, it would be pertinent to investigate the relationship between hours of teaching, hours of preparation, and teachers' perceptions of those times available among teachers within the province of Saskatchewan.

Participants in this study rated that they were communicating well with parents and guardians, given the highest item mean (3.22) in the *community support and involvement* dimension was *This school maintains clear, two-way communication with parents/guardians and the community*, but their perceptions of parent/guardian support were moderate. Are parents/guardians not supporting teachers or do teachers just perceive that to be the case? Also, are both parties truly engaging in effective two-way communication if it is not leading to parent/guardian support?

Another theme from a number of the working conditions items is the moderate levels of agreement among items that involve the use of data in decision-making. It is unclear whether data are available and whether those data are driving instructional practices and professional development. The mean score for the item, *The school leadership facilitates using data to improve student learning*, was at the high level, but other items that pertained to data use in the school continually scored at the moderate level.

Lastly, there were no significant differences in perceptions of working conditions when comparing teachers at different years of experience. This is similar to the research by Yang and Guy (2006), who found that there was no significant difference in working conditions preferences between the Baby Boomer generation and Generation X.

Teacher Self-Efficacy and its Relationship to Perceptions of Working Conditions

Although *motivation*, *satisfaction*, and *self-efficacy* have different definitions, they have been used interchangeably in the discussion of how they relate to working conditions. In this discussion, these terms will be used in the same way, with the knowledge that the relationships between them and working conditions are of greatest importance. For the purposes of this research, *working conditions* have been defined as the “Organizational structure of schools and the occupational conditions and characteristics of teaching” (Ingersoll, 1999). The research presented in this study has used *working conditions* within a variety of contexts, with many underlying definitions, and some were more traditional and narrow in scope, like that of Herzberg (1966). The working conditions items and dimensions used in the instrument “go well beyond the traditional ‘working conditions’ issues of time, class size, and the length of the workday” (Berry & Eckert, 2012, p. 12), but whether traditional or not, the purpose of this discussion is not to argue semantics, but to examine the *relationship* between perceptions of working conditions and teacher self-efficacy.

Connection to theory.

Herzberg (1966) believed that working conditions could not lead to motivation for employees, but this study showed with strong significance that teacher self-efficacy and working conditions are moderately correlated ($r = .406, p = .005$). This does not mean that the results are at odds with Herzberg’s theory, but it does lead to connections that can be made between

Herzberg's *motivators* and this study's *working conditions*. For instance, one of Herzberg's motivators is *recognition*, which many items under the *school leadership* dimension make reference to. The relationship between *school leadership* and *student engagement* was moderately correlated ($r = .303, p = .041$) in this study. Two other motivators were *responsibility* and *work itself*, which the *instructional practices and support* dimension could be related to, as items within this dimension make reference to autonomy and trust given to teachers to make decisions about their students' learning. *Instructional practices and support* was moderately correlated with two teacher self-efficacy dimensions, being *student engagement* ($r = .358, p = .015$) and *classroom management* ($r = .369, p = .012$). Finally, Herzberg's motivator of *advancement* connects with findings regarding the differences within the demographic variable of positions. Administrators in this study were found to have significantly higher self-efficacy scores than teachers in all dimensions, and this could well be attributed to having had the opportunity to be promoted within the school division. That being said, this finding could also be the result of administrators spending less time teaching, thereby being out of touch with a full time or regular teaching schedule.

Contrary to some of Herzberg's work, Schein (2004/2011) believed that people are motivated based on the culture that is developed within an organization. One of the most surprising results of this present study was that the *teacher leadership* dimension was not strongly correlated with any teacher self-efficacy dimensions. Although the organizational culture that Schein described would include more than just the items found under the *teacher leadership* dimension (such as *school leadership*), the collegiality and teamwork described in many of the items within this dimension would reflect Schein's theory. The small correlation between teacher self-efficacy dimensions and the *teacher leadership* dimension also differ from

Ashton (1984), as she said, “the sense of powerlessness that comes from limited collegial decision-making – make it difficult for teachers to maintain a strong sense of efficacy” (p. 28).

Connection to research.

Brunetti (2001) and Johnson (1986) both found that collegiality is a working condition that is correlated with teacher satisfaction. Their research is contrary to the findings in this study, as there were no significant correlations between *teacher leadership* and dimensions of self-efficacy. It is imperative that further research is done in this area, and would be important to define *collegiality*. Is *collegiality* the process of group decision-making, as alluded to in the *teacher leadership* dimension, or is it characterized as more of a social construct, with feelings of friendship being measured?

Berry and Eckert (2012) may have believed *time* to be a traditional working condition, but the research showed that two of the three dimensions of self-efficacy were moderately correlated with the *time* dimension, with the relationship to the *classroom management* dimension being not only of very strong significance ($p = .002$), but also having the greatest correlation coefficient ($r = .454$) among the dimensions. The *time* dimension also had a strong correlation to *instructional strategies* ($r = .364, p = .013$).

The *professional development* dimension had strong correlations between *student engagement* ($r = .382, p = .009$) and *classroom management* ($r = .420, p = .004$). These findings support some of the research done by Bruce, Esmonde, Ross, Dookie, and Beatty (2010); Tschannen-Moran and McMaster (2009); and Ross (1992). Teachers receiving professional development in mathematics had increased levels of self-efficacy (Bruce et al., 2010), and teachers receiving professional development in the form of coaching (Tschannen-Moran & McMaster, 2009; Ross, 1992) also made gains in self-efficacy levels. Although this study did

not measure gains in self-efficacy, it did find that professional development had the second and third strongest correlations among the working conditions dimensions.

Contextual factors and their relationship to teacher self-efficacy and perceptions of working conditions have already been discussed, but are some of the researched and discussed factors more than just contextual? Could some of these factors be seen as *working conditions*? For instance, Horng (2009) found that, “receiving an additional \$8,000 in salary annually is significantly more important to teachers than student ethnicity, performance, or socioeconomic status” (2009, p. 707). Although teachers in that study concern themselves more with salary than student demographics, the fact that a comparison is being made, raises question of whether students themselves can be labeled as working condition.

There was a significant correlation found between *community support and involvement* and *classroom management* ($r = .375, p = .010$), which could speak to the confidence that teachers may have when they perceive to be well supported outside of the school. That being said, items concerning parent/guardian engagement and involvement within the *student engagement* dimension were the lowest, and these sentiments were echoed in the *community support and involvement* dimension. Although there was no significant correlation found between the *student engagement* dimension and the *community support and involvement* dimension, the results from items concerning parents were notably lower than other items within the same dimension. The same low mean score was found in the dimension of *professional development*, concerning opportunities provided to learn how to involve parents/guardians and the community.

Implications

Theory

The two main constructs presented in this research were teacher self-efficacy and teachers' perceptions of their working conditions. Although not presented in the construct title, *teacher self-efficacy* is indeed a perception or a "judgment of [a teacher's] capabilities to bring about desired outcomes of student engagement and learning" (Tschannen-Moran & Woolfolk Hoy, 2001). When comparing two constructs based in perception, there will undoubtedly be questions about the credibility of such findings as far as neither of them being a dependent variable. There is a lack of objectivity when it comes to perceptions, and one could argue that teachers' perceptions of themselves, their work, and their world do not differentiate greatly. However, Bandura's (1986) theory, that self-efficacy is contextual and not merely a characteristic of an individual, is supported by the findings in this research. An overall correlation between the two main constructs was found, but there were differences among participants' perceptions when it came to individual dimensions of self-efficacy and working conditions. Educational research must continue to look to psychology and the influences that self-efficacy, motivation, and satisfaction have on student achievement.

Further research must also be done in defining and constructing the term, *working conditions*. Teachers, like many other professions, have a specific set of working conditions within their work environment, but educational researchers have used a variety of different definitions that encompass a variety of different dimensions. This has been evident in this study, with the results from the *teacher leadership* dimension not corresponding to previous research using the dimension of *collegiality*. However, narrowing the term, *working conditions*, has its

limitations too, making comparisons between working conditions of different occupations difficult, thereby limiting the relevance of research in the broader arena.

Policy

Teacher self-efficacy and student achievement are linked (Tschannen-Moran & Barr, 2004), and this study has shown that teachers' perceptions of working conditions and teacher self-efficacy are strongly correlated. Although the link between working conditions and student achievement were not presented in this study, they have been shown to be correlated in other studies using the TELL Survey (Johnson et al., 2012; Ladd, 2011). If student achievement is of paramount importance within the province of Saskatchewan, policymakers must have research guiding their initiatives. The Government of Saskatchewan has committed to creating and employing provincial student assessments, but these student achievement results must be used alongside research done in the areas of working conditions and teacher self-efficacy, so relationships can be analyzed.

The dimension of *time* received the lowest mean score within the working conditions construct, indicating that teachers perceived their non-instructional time available for working independently or collegially to be lacking in comparison to other working conditions. This perception may be due to recent policy changes at the provincial level, enacting a minimum number of school hours, leaving some teachers frustrated with less preparation time. Regardless of whether this is a recent or ongoing phenomenon, it is an area of significance for teachers, and government officials must be ready to address these issues.

Finally, *student engagement* was the lowest of all the teacher self-efficacy dimensions. The government of Saskatchewan has recently released an initiative to increase student engagement within the province of Saskatchewan, but the initiative only sets goals for greater

student attendance and graduation rates. Surely, students are more engaged when they are *in* school than out of it, but the data in this study point towards a need for student engagement to be improved within the classroom. As *student engagement* and *professional development* are correlated, it is necessary that professional development focus on how to increase student engagement within the classroom.

Practice

Evidence from this study showed that middle years teachers had significantly lower self-efficacy scores in both the *student engagement* and *classroom management* dimensions. If further investigation shows that this phenomenon is present among teachers within the same school, administrators and superintendents must find ways to bolster self-efficacy in the areas of student engagement and classroom management for middle years teachers. This study has shown that professional development is correlated with both of these self-efficacy dimensions, so a solution to lower self-efficacy may be providing opportunities (or creating them) for professional development.

The use of data was another area of discrepancy within the findings of this study. Although teachers reported at a high level that their administrators facilitate the use of data in their schools, items concerning data being available to teachers scored in the moderate levels. If teachers feel as though they have people available to help them use data to inform instruction, but the data is not available in time, it will be difficult for teachers to make relevant and meaningful change. Provincial and school division data must be given to teachers in a timely manner so teachers can make informed decisions about their instruction.

Items referring to parent/guardian engagement within the self-efficacy construct and items concerning parent/guardian support within the working conditions construct had low

scores compared to other items within the same dimension. Although there was no correlation found between the *student engagement* and *community support and involvement* dimension, there was a correlation between *classroom management* and *community support and involvement*. Teachers reported at a high level that there was clear, two-way communication between the school and parents/guardians, but teachers reported at the moderate level with items concerning parents/guardians supporting teachers. It would seem as though teachers are *informing* families of what is going on at school, but may not be *engaging* them, and the data show that there is room for improvement in this area. Teachers also reported at the low level that professional development concerning community and family involvement was available. Considering professional development was significantly correlated with both the *student engagement* and *classroom management* dimensions, there would seem to be considerable potential in school leaders making learning opportunities available for teachers in these areas.

Further Research

In light of the results in this study, there are a number of areas that need further research. First of all, there were five demographic variables used in this study, but adding the variable of *subject taught* may provide information concerning the contextual nature of self-efficacy (Bandura, 1986; Raudenbush et al., 1992). In the construct of working conditions, this study did not ask what conditions or dimensions were most important to teachers. Horng (2009) and Johnson et al. (2012) did report these dimensions in order of most importance in their research, and it would be helpful to understand what working conditions are most important to teachers within the Saskatchewan context. It would also be beneficial to conduct research concerning non-monetary incentives for teachers within Saskatchewan. Are teachers within this province

motivated by *internal* structures, or are there *external* structures (or working conditions) that drive them to do their best?

The small number of participants in this study makes generalizing the results difficult, even within the school division itself. If the research outlined in this study were done with a larger group of participants, the findings may very well be different. Perhaps some differences among demographic variables would be significant, while other areas may be rendered void of significance.

Lastly, this study and the further research suggested above, would be of much more use if student achievement data were available to analyze with the constructs. There is no provincial student achievement data available to researchers at this time, and if it does become available, it will take some time to create data sets for longitudinal studies. Much of the research referenced in this study analyzed working conditions and self-efficacy scores with student achievement data. Given the unique context of Saskatchewan education, it would be beneficial to understand how working conditions and levels of teacher self-efficacy are related to student achievement in this province.

Conclusion

The purpose of this research was to examine the relationships between teacher self-efficacy and teachers' perceptions of their working conditions. A significant correlation was found between teacher self-efficacy and teachers' perceptions of their working conditions. When analyzed according to specific dimensions of these two constructs, a number of significant correlations were found. Most notably, *time availability* was significantly correlated to *student engagement* and *classroom management*. *Time availability* had the lowest score among working conditions dimensions.

Teacher self-efficacy was scored in the high level for the dimensions of *classroom management* and *instructional strategies*, and at the moderate level for the dimension of *student engagement*. Although high levels of self-efficacy were reported by these teachers, student engagement continues to be an area needing improvement for teachers. Like motivating students, motivating teachers requires context-specific solutions (Berry and Eckert, 2012). Further research at all levels is necessary to help us understand teachers' perceptions of their working conditions, improve teacher self-efficacy, and ultimately improve student achievement.

REFERENCES

- Allan, B. M., & Fryer, R. G., Jr. *The power and pitfalls of education incentives. discussion paper 2011-07.*
- Armor, D., Conroy-Osequera, P., Cox, M., King, N., McDonnell, L., Pascal, A., . . . Zellman, G. (1976). *Analysis of the school preferred reading programs in selected los angeles minority schools.* Santa Monica: The Rand Corporation.
- Ashton, P. (1984). Teacher efficacy: A motivational paradigm for effective teacher education. *Journal of Teacher Education, 35*(5), 28-32. doi:10.1177/002248718403500507
- Ashton, P. T., & Webb, R. B. (1986). *Making a difference: Teachers' sense of efficacy and student achievement.* New York: Longman.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist, 37*(2), 122-147.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory* . Englewood Cliffs: Prentice-Hall.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist, 28*(2), 117.
- Berman, P., McLaughlin, M. W., Bass, G., Pauly, E., & Zellman, G. (1977). *Federal programs supporting educational change. vol. VII: Factors affecting implementation and continuation.* Santa Monica: The Rand Corporation.
- Berry, B., & Eckert, J. (2012). *Creating teacher incentives for school excellence and equity.* (). Boulder: National Education Policy Center.

- Brochu, P., Deussing, M., Houme, K., & Chuy, M. (2012). *Measuring up: Canadian results of the OECD PISA study*. (). Toronto: Council of Ministers of Education, Canada.
- Brodsky, A., DeCesare, D., & Kramer-Wine, J. (2010). Design and implementation considerations for alternative teacher compensation programs. *Theory into Practice, 49*(3), 213.
- Bruce, C. D., Esmonde, I., Ross, J., Dookie, L., & Beatty, R. (2010). The effects of sustained classroom-embedded teacher professional learning on teacher efficacy and related student achievement. *Teaching and Teacher Education, 26*(8), 1598-1608.
- Brunetti, G. J. (2001). Why do they teach? A study of job satisfaction among long-term high school teachers. *Teacher Education Quarterly, 28*(3), 49.
- Cantrell, S. C., Almasi, J. F., Carter, J. C., & Rintamaa, M. (2012). Reading intervention in middle and high schools: Implementation fidelity, teacher efficacy, and student achievement. *Reading Psychology, 34*(1), 26-58. doi:10.1080/02702711.2011.577695
- Dannetta, V. (2002). What factors influence a teacher's commitment to student learning? *Leadership and Policy in Schools, 1*(2), 144-171. doi:10.1076/lpos.1.2.144.5398
- Duffin, L. C., French, B. F., & Patrick, H. (2012). The teachers' sense of efficacy scale: Confirming the factor structure with beginning pre-service teachers. *Teaching and Teacher Education, 28*(6), 827-834.
- Figlio, D. N., & Kenny, L. W. (2007). Individual teacher incentives and student performance. *Journal of Public Economics, 91*(5-6), 901-914.
- Frase, L. E. (1989). Effects of teacher rewards on recognition and job enrichment. *Journal of Educational Research, 83*(1)

- Fryer, R. G. (2013). Teacher incentives and student achievement: Evidence from new york city public schools. *Journal of Labor Economics*, 31(2), 373-407. doi:10.1086/667757
- Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction* (8th ed.). Boston: Pearson.
- Gerrig, R. J., & Zimbardo, P. J. (2002). *Psychology and life*. Boston: Allyn and Bacon.
- Gibson, S., & Dembo, M. H. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology*, 76(4), 569-582.
- Gilpin, G. A. (2012). Teacher salaries and teacher aptitude: An analysis using quantile regressions. *Economics of Education Review*, 31(3), 15-29.
- Goddard, R. D., & Goddard, Y. L. (2001). A multilevel analysis of the relationship between teacher and collective efficacy in urban schools. *Teaching and Teacher Education*, 17(7), 807-818.
- Goldhaber, D., & Walch, J. (2012). Strategic pay reform: A student outcomes-based evaluation of denver's ProComp teacher pay initiative. *Economics of Education Review*, 31(6), 1067-1083.
- Haverback, H. R., & Parault, S. J. (2011). High efficacy and the preservice reading teacher: A comparative study. *Teaching and Teacher Education*, 27(4), 703-711.
- Henson, R. K., Kogan, L. R., & Vacha-Haase, T. (2001). A reliability generalization study of the teacher efficacy scale and related instruments. *Education and Psychological Measurement*, 61(3), 404-420. doi:10.1177/00131640121971284
- Herzberg, F. (1966). *Work and the nature of man*. Cleveland: The World Publishing Company.
- Herzberg, F. (1987). One more time: How do you motivate employees? *Harvard Business Review*, 65(5), 5-16.

- Hildebrandt, S. A., & Eom, M. (2011). Teacher professionalization: Motivational factors and the influence of age. *Teaching and Teacher Education*, 27(2), 416-423.
- Hirsch, E., & Emerick, S. (2006). *Teacher working conditions are student learning conditions: A report on the 2006 north carolina working conditions survey*. Carrboro: Center for Teaching Quality.
- Holdaway, E. A. (1978). Facet and overall satisfaction of teachers. *Educational Administration Quarterly*, 14(1), 30-47. doi:10.1177/0013161X7801400106
- Hornig, E. L. (2009). Teacher tradeoffs: Disentangling teachers' preferences for working conditions and student demographics. *American Educational Research Journal*, 46(3), 690-717.
- Hout, M., & Elliot, S. W. (2011). *Incentives and test-based accountability in education*. Washington: National Research Council.
- Hoy, W. K., & Woolfolk, A. E. (1993). Teachers' sense of efficacy and the organizational health of schools. *The Elementary School Journal*, 93(4), 355-372.
- Ingersoll, R. (1999). The problem of underqualified teachers in american secondary schools. *Educational Researcher*, 28(2), 26-37.
- Johnson, S. M. (1986). Incentives for teachers: What motivates, what matters. *Educational Administration Quarterly*, 22(3), 54-79. doi:10.1177/0013161X86022003003
- Johnson, S. M., Berg, J. H., & Donaldson, M. L. (2005). *Who stay in teaching and why: A review of the literature on teacher retention*. Boston: The Project on the Next Generation of Teachers, Harvard Graduate School of Education.

- Johnson, S. M., Kraft, M. A., & Papay, J. P. (2012). How context matters in high-need schools: The effects of teachers' working conditions on their professional satisfaction and their students' achievement. *Teachers College Record, 114*(10), 1-39.
- Klassen, R. M., & Chiu, M. M. (2010). Effects on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology, 102*(3), 741-756. doi:10.1037/a0019237
- Kolbe, T., & Strunk, K. O. (2012). Economic incentives as a strategy for responding to teacher staffing problems: A typology of policies and practices. *Educational Administration Quarterly, 48*(5), 779.
- Ladd, H. F. (2011). Teachers' perceptions of their working conditions: How predictive of planned and actual teacher movement? *Educational Evaluation and Policy Analysis, 33*(2), 235-261. doi:10.3102/0162373711398128
- Leithwood, K. (2006). *Teacher working conditions that matter: Evidence for change*. Toronto: Elementary Teachers' Federation of Ontario.
- Locke, E. A. (1976). The nature and causes of job satisfaction. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 1297-1349). Chicago: Rand McNally.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50*(4), 370-396.
- McClelland, D. C. (1978). Managing motivation to expand human freedom. *American Psychologist, 33*(3), 201-210.
- McGregor, D. M. (1957/2011). The human side of enterprise. In J. M. Shafritz, J. Ott & Y. S. Jung (Eds.), *Classics of organizational theory* (7th ed., pp. 349-360). Boston: Wadsworth.

- New Teacher Center. (2013). *2013 TELL kentucky survey: Validity and reliability report*.
Santa Cruz: New Teacher Center.
- Raudenbush, S. W., Rowan, B., & Cheong, Y. F. (1992). Contextual effects on the self-perceived efficacy of high school teachers. *Sociology of Education*, *65*(2), 150-167.
- Rogers, R. E. (1975). *Organizational theory*. Boston: Allyn and Bacon.
- Ross, J. A. (1992). Teacher efficacy and the effect of coaching on student achievement. *Canadian Journal of Education*, *17*(1), 51-65. doi:10.2307/1495395
- Ross, J. A. (1994). The impact of an inservice to promote cooperative learning on the stability of teacher efficacy. *Teaching and Teacher Education*, *10*(4), 381-394.
- Ross, J. A., Bradley Cousins, J., & Gadalla, T. (1996). Within-teacher predictors of teacher efficacy. *Teaching and Teacher Education*, *12*(4), 385-400.
- Ross, J., & Bruce, C. (2007). Professional development effects on teacher efficacy: Results of randomized field trial. *The Journal of Educational Research*, *101*(1), 50-60,64.
- Sanders, W. L., & Rivers, J. C. (1996). *Cumulative and residual effects of teachers on future student academic achievement*. (). Knoxville: University of Tennessee Value-Added Research and Assessment Center.
- Schein, E. H. (2004/2011). The concept of organizational culture: Why bother? In J. M. Shafritz, J. Ott & Y. S. Jung (Eds.), *Classics of organizational theory* (7th ed., pp. 349-360). Boston: Wadsworth.
- Sergiovanni, T. (1967). Factors which affect satisfaction and dissatisfaction of teachers. *The Journal of Educational Administration*, *5*(1), 66-82.
- Stajkovic, A. D. L., Fred. (2001). Differential effects of incentive motivators on work performance. *Academy of Management Journal*, *44*(3), 580-590. doi:10.2307/3069372

- Swanlund, A. (2011). *Identifying working conditions that enhance teacher effectiveness: The psychometric evaluation of the teacher working conditions survey*. Chicago: American Institutes for Research.
- Tolley, K., & Beadie, N. (2006). Socioeconomic incentives to teach in new york and north carolina: Toward a more complex model of teacher labor markets, 1800-1850. *History of Education Quarterly*, 46(1), 36-72.
- Tschannen-Moran, M., & Barr, M. (2004). Fostering student learning: The relationship of collective teacher efficacy and student achievement. *Leadership and Policy in Schools*, 3(3), 189-209. doi:10.1080/15700760490503706
- Tschannen-Moran, M., & McMaster, P. (2009). Sources of self-efficacy: Four professional development formats and their relationship to self-efficacy and implementation of a new strategy. *The Elementary School Journal*, 110(2), 228-245. doi:10.1086/605771
- Tschannen-Moran, M., Anita Woolfolk Hoy, & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research*, 68(2), 202-248.
- Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, 17(7), 783-805.
- Wright, S. P., Horn, S. P., & Sanders, W. L. (1997). Teacher and classroom context effects on student achievement: Implications for teacher evaluation. *Journal of Personnel Evaluation in Education*, 11(1), 57-67. doi:10.1023/A:1007999204543
- Yang, S., & Guy, M. E. (2006). Genxers versus boomers: Work motivators and management implications. *Public Performance & Management Review*, 29(3), 267-284.

APPENDICES

Appendix A

The Instrument

Teacher Efficacy and Teacher Working Conditions Survey

Introduction

1. Please indicate your gender:
 - a. Male
 - b. Female

2. Please indicate your position:
 - a. Teacher (including instructional coaches, department heads, vocational, literacy specialist, etc.)
 - b. Principal
 - c. Vice Principal
 - d. Other Education Professional (school counselor, school psychologist, social worker, etc.)

3. Please indicate the school level of students you **predominantly** teach:
 - a. Elementary (Pre-K – Grade 5)
 - b. Middle Years (Grades 6 – 9)
 - c. High School (Grades 10 – 12)

4. How many years have you been employed as an educator?
 - a. 0-3 years
 - b. 4-10 years
 - c. 11-17 years
 - d. 18+ years

5. Please indicate the highest level of education you have received:
 - a. Teaching Certificate or Diploma
 - b. Bachelor's Degree
 - c. Graduate classes up to and including Master's Degree
 - d. More than one Graduate Degree

Part 1: Teachers' Sense of Efficacy Scale

	Nothing	Very Little	Some	Quite a Bit	A Great Deal
6. How much can you do to get through to the most difficult students?	(1)	(2)	(3)	(4)	(5)
7. How much can you do to help your students think critically?	(1)	(2)	(3)	(4)	(5)
8. How much can you do to control disruptive behaviour in the classroom?	(1)	(2)	(3)	(4)	(5)
9. How much can you do to motivate students who show low interest in school work?	(1)	(2)	(3)	(4)	(5)
10. To what extent can you make your expectations clear about student behaviour?	(1)	(2)	(3)	(4)	(5)
11. How much can you do to get students to believe they can do well in school work?	(1)	(2)	(3)	(4)	(5)
12. How well can you respond to difficult questions from your students?	(1)	(2)	(3)	(4)	(5)
13. How well can you establish routines to keep activities running smoothly?	(1)	(2)	(3)	(4)	(5)
14. How much can you do to help your students value learning?	(1)	(2)	(3)	(4)	(5)
15. How much can you gauge student comprehension of what you have taught?	(1)	(2)	(3)	(4)	(5)
16. To what extent can you craft good questions for your students?	(1)	(2)	(3)	(4)	(5)
17. How much can you do to foster student creativity?	(1)	(2)	(3)	(4)	(5)
18. How much can you do to get children to follow classroom rules?	(1)	(2)	(3)	(4)	(5)
19. How much can you do to improve the understanding of a student who is failing?	(1)	(2)	(3)	(4)	(5)
20. How much can you do to calm a student who is disruptive or noisy?	(1)	(2)	(3)	(4)	(5)
21. How well can you establish a classroom management system with each group of students?	(1)	(2)	(3)	(4)	(5)
22. How much can you do to adjust your lessons to the proper level for individual students?	(1)	(2)	(3)	(4)	(5)
23. How much can you use a variety of assessment strategies?	(1)	(2)	(3)	(4)	(5)
24. How well can you keep a few problem students from ruining an entire lesson?	(1)	(2)	(3)	(4)	(5)
25. To what extent can you provide an alternative explanation or example when students are confused?	(1)	(2)	(3)	(4)	(5)
26. How well can you respond to defiant students?	(1)	(2)	(3)	(4)	(5)
27. How much can you assist families in helping their children do well in school?	(1)	(2)	(3)	(4)	(5)
28. How well can you implement alternative strategies in your classroom?	(1)	(2)	(3)	(4)	(5)
29. How well can you provide appropriate challenges for very capable students?	(1)	(2)	(3)	(4)	(5)

Part 2: Teacher Working Conditions

This part of the survey is used to determine the occupational conditions and characteristics of teaching in your school.

Time

	Don't Know	Strongly Disagree	Disagree	Agree	Strongly Agree
30. Class sizes are reasonable such that teachers have the time available to meet the needs of all students.	(1)	(2)	(3)	(4)	(5)
31. Teachers have time available to collaborate with colleagues.	(1)	(2)	(3)	(4)	(5)
32. Teachers are allowed to focus on educating students with minimal interruptions.	(1)	(2)	(3)	(4)	(5)
33. Teachers have sufficient instructional time to meet the needs of all students.	(1)	(2)	(3)	(4)	(5)
34. The non-instructional time provided for teachers in my school is sufficient.	(1)	(2)	(3)	(4)	(5)
35. Efforts are made to minimize the amount of routine administrative paperwork teachers are required to do.	(1)	(2)	(3)	(4)	(5)
36. Teachers are protected from duties that interfere with their essential role of educating students.	(1)	(2)	(3)	(4)	(5)

Facilities and Resources

37. The school environment is clean and well maintained.	(1)	(2)	(3)	(4)	(5)
38. Teachers have access to reliable communications technology, including phones, faxes and email.	(1)	(2)	(3)	(4)	(5)
39. The physical environment of classrooms in this school supports teaching and learning.	(1)	(2)	(3)	(4)	(5)
40. Teachers have sufficient access to instructional technology, including computers, printers, software and internet access.	(1)	(2)	(3)	(4)	(5)
41. Teachers have sufficient access to office equipment and supplies such as copy machines, paper, pens, etc.	(1)	(2)	(3)	(4)	(5)
42. Teachers have sufficient access to a broad range of professional support personnel.	(1)	(2)	(3)	(4)	(5)
43. The reliability and speed of internet connections in this school are sufficient to support instructional practices.	(1)	(2)	(3)	(4)	(5)
44. Teachers have adequate space to work productively.	(1)	(2)	(3)	(4)	(5)
45. Teachers have sufficient access to appropriate instructional materials.	(1)	(2)	(3)	(4)	(5)

Community Support and Involvement

46. This school maintains clear, two-way communication with parents/guardians and the community.	(1)	(2)	(3)	(4)	(5)
47. This school does a good job of encouraging parent/guardian involvement.	(1)	(2)	(3)	(4)	(5)
48. Parents/guardians are influential decision makers in this school.	(1)	(2)	(3)	(4)	(5)
49. Teachers provide parents/guardians with useful information about student learning.	(1)	(2)	(3)	(4)	(5)
50. Parents/guardians know what is going on in this school.	(1)	(2)	(3)	(4)	(5)
51. Parents/guardians support teachers, contributing to their success with students.	(1)	(2)	(3)	(4)	(5)
52. The community we serve is supportive of this school.	(1)	(2)	(3)	(4)	(5)
53. Community members support teachers, contributing to their success with students.	(1)	(2)	(3)	(4)	(5)

Managing Student Content

54. Students at this school understand expectations for their conduct.	(1)	(2)	(3)	(4)	(5)
55. School administrators consistently enforce rules for student conduct.	(1)	(2)	(3)	(4)	(5)
56. Policies and procedures about student conduct are clearly understood by the faculty.	(1)	(2)	(3)	(4)	(5)
57. The faculty work in a school environment that is safe.	(1)	(2)	(3)	(4)	(5)
58. Students at this school follow rules of conduct.	(1)	(2)	(3)	(4)	(5)
59. School administrators support teachers' efforts to maintain discipline in the classroom.	(1)	(2)	(3)	(4)	(5)
60. Teachers are relied upon to make decisions about educational issues.	(1)	(2)	(3)	(4)	(5)

Teacher Leadership

61. Teachers are effective leaders in this school. (1) (2) (3) (4) (5)
62. Teachers are recognized as educational experts. (1) (2) (3) (4) (5)
63. The faculty has an effective process for making group decisions to solve problems. (1) (2) (3) (4) (5)
64. Teachers have an appropriate level of influence on decision making in this school. (1) (2) (3) (4) (5)
65. In this school we take steps to solve problems. (1) (2) (3) (4) (5)
66. Teachers are encouraged to participate in school leadership roles. (1) (2) (3) (4) (5)
67. Teachers are trusted to make sound professional decisions about instruction. (1) (2) (3) (4) (5)
68. The procedures for teacher evaluation are consistent. (1) (2) (3) (4) (5)

School Leadership

69. Teachers receive feedback that can help them improve teaching. (1) (2) (3) (4) (5)
70. Teachers are held to high professional standards for delivering instruction. (1) (2) (3) (4) (5)
71. Teachers feel comfortable raising issues and concerns that are important to them. (1) (2) (3) (4) (5)
72. The faculty are recognized for accomplishments. (1) (2) (3) (4) (5)
73. The faculty and leadership have a shared vision. (1) (2) (3) (4) (5)
74. The school improvement team provides effective leadership at this school. (1) (2) (3) (4) (5)
75. Teacher performance is assessed objectively. (1) (2) (3) (4) (5)
76. The school leadership consistently supports teachers. (1) (2) (3) (4) (5)
77. There is an atmosphere of trust and mutual respect. (1) (2) (3) (4) (5)
78. The school leadership facilitates using data to improve student learning. (1) (2) (3) (4) (5)
79. Professional learning opportunities are aligned with the school's improvement plan. (1) (2) (3) (4) (5)

Professional Development

80. Professional development provides ongoing opportunities for teachers to work with colleagues to refine teaching practices. (1) (2) (3) (4) (5)
81. Professional development offerings are data driven. (1) (2) (3) (4) (5)
82. Professional development deepens teachers' content knowledge. (1) (2) (3) (4) (5)
83. Professional development is differentiated to meet the needs of individual teachers. (1) (2) (3) (4) (5)
84. Professional development enhances teachers' abilities to help improve student learning. (1) (2) (3) (4) (5)
85. Professional development is evaluated and results are communicated to teachers. (1) (2) (3) (4) (5)
86. Follow up is provided from professional development in this school. (1) (2) (3) (4) (5)
87. Professional development enhances teachers' ability to implement instructional strategies that meet diverse student learning needs. (1) (2) (3) (4) (5)
88. Teachers are encouraged to reflect on their own practice. (1) (2) (3) (4) (5)
89. Professional development provides teachers with strategies to involve families and other community members as active partners in their children's education. (1) (2) (3) (4) (5)
90. Sufficient resources are available for professional development in my school. (1) (2) (3) (4) (5)
91. An appropriate amount of time is provided for professional development. (1) (2) (3) (4) (5)

Instructional Practices and Support

92. Teachers have autonomy to make decisions about instructional delivery (i.e. pacing, materials and pedagogy). (1) (2) (3) (4) (5)
93. Teachers in this school use assessment data to inform their instruction. (1) (2) (3) (4) (5)
94. Local assessment data are available in time to impact instructional practices. (1) (2) (3) (4) (5)
95. Teachers are assigned classes that maximize their likelihood of success with students. (1) (2) (3) (4) (5)
96. Teachers work in professional learning communities to develop and align instructional practices. (1) (2) (3) (4) (5)
97. Provincial assessment data are available in time to impact instructional practices. (1) (2) (3) (4) (5)
98. Provided supports (i.e., instructional coaching, professional learning communities, etc.) translate to improvements in instructional practices by teachers. (1) (2) (3) (4) (5)
99. Teachers are encouraged to try new things to improve instruction. (1) (2) (3) (4) (5)
100. The curriculum taught in this school is aligned with the Saskatchewan Curriculum. (1) (2) (3) (4) (5)