THE *DRIVE* TO IMPROVE: A QUANTITATIVE STUDY OF THE RELATIONSHIP BETWEEN PROFESSIONAL LEARNING COMMUNITIES AND TEACHER MOTIVATION

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Abstract

This paper explored the perceived level of Professional Learning Community (PLC) implementation in secondary schools in Missouri who participate in the State Professional Learning Communities Project (PLCP) based upon a quantitative survey given to teachers. The components studied were derived from the work of Oliver, Hipp, and Huffman (2003) and further refined by Guerin (2008). It also quantitatively explored teachers' self-perceived level of motivation when viewed through Pink's (2009) conceptual framework of intrinsic motivation which includes autonomy, mastery, and purpose. Finally, the research looked for correlations between the perceived implementation of PLC components and teacher motivation and used multiple regression techniques to determine a predictive model to show which component of PLCs can be expected to produce the highest levels of teacher motivation.

The research determined that teachers who participated in the study rated the PLC components of Supportive Conditions—Structures the highest and Shared Personal Practice the lowest based upon their mean scores. The motivational factors of mastery and purpose were rated similarly while autonomy was determined to be significantly lower. Correlational analysis determined that the PLC component of Supportive Conditions—Relationships was most highly correlated with each of the motivational subscales. Further, Supportive Conditions—Relationships was also found in each of the regression models used to predict autonomy, mastery, and purpose.

These findings support previous research related to the decreasing levels of autonomy found in the education profession. Further, the significance of professional relationships was supported by this research. School leaders could interpret these findings as evidence

for the importance of allowing teachers choice (autonomy) when possible in order to facilitate their level of motivation. One could also interpret the results of this study as an indication to spend the necessary time to invest in professional relationship building.

Keywords: Motivation, Professional Learning Communities, Autonomy, Mastery, Purpose

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CHAPTER ONE

INTRODUCTION TO RESEARCH

Introduction to Study

Art Butchwald stated, "Whether these are the best of times or the worst of times, it's the only time we've got" (as cited in Farrar, 2009, p. 165). This quote was used by Farrar in relation to the challenges of being a father and husband in today's challenging culture. The quote, however, can be applied to nearly any arena in which one finds change is necessary, and in which change seems to be the only constant. Change has bombarded the field of education from every angle: from both sides of the political aisle and from multiple levels of government. However, further change is needed, and the success or failure of those changes will ultimately hang on the acceptance and implementation by classroom teachers.

In a changing educational environment, the classroom teacher remains the greatest influence on children (Hattie, 2009; Wright, Horn & Sanders, 1997). State and Federal accountability measures, as well as changing family expectations, have made the teaching profession more and more challenging. In many parts of the country, changing demographics also contribute to the challenges faced by those in public education (Matthews & Crow, 2010). However, research has shown that today's students can be successful in spite of the many challenges (Barley & Beesley, 2007). One contributing factor, in fact, one of the most significant factors, is the teacher. Hattie (2009) outlined, using effect sizes based upon a standard deviation in student achievement, that the teacher has a profound impact on student performance. This finding seems obvious, yet

the factors that lead some teachers to have profound impact, while others have minimal impact, are yet to be conclusively discovered. One thing is certain: the teaching profession is challenging, and one in which hard work and high levels of motivation are a must. However, research has shown that teachers continue to show signs of decreased motivation to continually improve their practice (Gokce, 2010).

In the late 1980's and early 1990's, Dufour and his colleagues began to propose a concept new to school culture called Professional Learning Communities (PLCs). Embedded within this approach is an understanding that teachers must be learners as well as facilitators of learning (Dufour, 2004). Further, teachers must continually learn in order to effectively instruct students, to continue to grow professionally, and be motivated to continue to work to improve their practice (Dufour, 2004; Dufour & Eaker, 1998; Eaker & Gonzales, 2006;). This study will seek to understand the relationship between the components of a PLC, when implemented in secondary (6-12) schools, and teacher motivation when viewed through Pink's (2009) framework of motivation as presented in *Drive: The Surprising Truth About What Motivates Us.*

Chapter One of this research will consist of ten sections. The introduction laid the foundation for the research project in current educational practice. The statement of the problem outlines the areas of need this research seeks to address. The purpose section sets forth why this research is significant and its contribution to the educational arena. The research questions for this project are presented to show the specific focus of the researcher. The conceptual framework sets forth the lenses through which the research will be viewed as well as how this research fits into the existing educational conversation.

The design and methods section briefly outlines the approach to data collection and statistical analysis.

Statement of the Problem

In spite of the increased accountability instituted by the federal and state governments, America's students continue to perform near the middle of the pack when compared to students of other developed countries. In 2009, students in 33 developed countries, as defined by the Organization for Economic Cooperation and Development, took part in The Program for International Student Assessment (PISA). The PISA is a system of academic assessments given to 15-year old students to determine performance in reading literacy, mathematics literacy, and science literacy (Institute, 2013). The results of this study indicated American students achieved a level lower in reading literacy than students from six other countries who participated in the assessment. Further, U.S. students were not measurably different from 14 other countries included in the study (Institute, 2013). In mathematics literacy, 17 of the 33 participating countries outperformed America's students, and scores from students in 11 other countries were not measurably different (Institute, 2013). In scientific literacy, students from 12 other countries outscored America's students while the scores were not measurably different from 12 other countries (Institute, 2013).

According to the National Center for Educational Statistics, students from a small number of undeveloped countries (as defined by the Organization for Economic Cooperation and Development) outperformed American students on the PISA in 2009. The data presented above indicate American students continue to be outperformed by students from other countries on these particular assessments. In order to prepare

American students to be successful in a 21st century global economy, the American education system should seek to continually improve instruction in order to improve student success, and ultimately, national success. Federal and state governments are acutely aware of this need for improvement and have begun to take action, often in the form of increased accountability.

Educational reform efforts seem to bubble to the surface every four years, if not more frequently. Terry Moe stated, "Education reform has become the new status quo. Every president aspires to be the education president, every governor the education governor. The reform process has never ended because the reforms have typically led to disappointment—and to constant demands for still more reforms" (Dufour, Dufour, & Eaker, 2008, p. 31). The reforms that accompanied President George W. Bush's *No Child Left Behind (NCLB)* legislation in 2001 called for higher accountability for schools and sanctions if they did not perform adequately (Dufour, et. al, 2008). Increased accountability, though noble in its intentions, has not produced the results that were anticipated and mandated.

Finnigan and Gross (2007) investigated the motivational effects of high accountability on teachers. Their research focused on the accountability sanctions imposed on Chicago Public Schools with the passing of the 1995 School Reform Act by the Illinois State Legislature. This piece of legislation created criteria school districts were to meet in order to avoid being placed on probation or receiving other sanctions. One key finding suggested if teachers believe the expectations set forth by state and/or federal mandate are unrealistic, then motivation will wane (Finnigan & Gross, 2007). This finding is congruent with expectancy theory of motivation, to be discussed later,

which states that a person must feel the goal is attainable in order to be motivated to achieve it (Finnigan & Gross, 2007). Teacher motivation is a factor in instructional effectiveness, and ultimately, student performance (Finnigan & Gross, 2007). School leaders must find ways to maintain, and even increase teacher motivation, in order to ensure the continual improvement of instruction and continual improvement of student success.

The data above attest to the need for improvement in America's schools. Based upon Hattie's (2009) findings indicating the importance of the classroom teacher, one should consider what factors allow some teachers to lead their students toward high achievement, while others continue to struggle in assisting their students to meet the high expectations set forth by state and federal mandates. More specifically, one should consider what factors leaders can influence that will lead to increased motivation for teachers.

Because motivation is such an integral part of success in all parts of professional and personal life, researchers have continued to study factors that affect it. In 2009, Pink released a book entitled *Drive: The surprising truth about what motivates us*. Pink (2009) outlined three factors that lead to high levels of intrinsic motivation: autonomy, mastery, and purpose. Pink defined autonomy as a person's feelings of control over his or her work and the environment in which he or she performs this work. Mastery was defined as a feeling of improving at one's work. Purpose was defined as a feeling of being a part of something larger than oneself or a feeling that what you are doing is important or of significance. The concepts Pink addressed are documented in the literature (Brown, 2012; Critchley & Gibbs, 2012; Feldman, 2011; Pearson & Moomaw,

2005) (particularly autonomy), but there seems to be a gap when all three are addressed as one conceptual framework related to intrinsic motivation.

Further, because Pink's framework is relatively recent, there seems to be a gap in the literature on its quantification. At present, there is no existing survey tool to measure Pink's (2009) concepts of autonomy, mastery, and purpose collectively. Finally, teachers are viewed as learners within the PLC philosophy (Dufour, Dufour, Eaker, & Many, 2006). There seems to be a gap in the literature outlining the relationships between key PLC concepts and teacher motivation when viewed through Pink's framework.

Purpose

Some educational reform efforts sweeping the nation have focused on collaboration throughout the entire school community (Dufour, et. al, 2008). The ideas embedded within the PLC philosophy involve a great deal of collaboration at all levels of the school hierarchy, with particular emphasis placed on teacher collaboration (Dufour, et. al, 2008). Because of this, the perceptions of teachers on the implementation of these ideas seems valuable. This research sought to understand the perceived level of implementation of key PLC concepts across secondary schools in Missouri. It also sought to quantify teacher motivation levels by measuring perceived levels of teacher autonomy, mastery, and purpose (Pink, 2009). After better understanding the two variables independently, this study sought to determine if a relationship exists between the components of a PLC and Pink's concepts of intrinsic motivation. Pearson Correlation analysis (Field, 2009) was used to determine the direction and strength of any relationships that exist between the constructs of a PLC as presented by Geurin (2008) and the constructs of internal motivation at presented by Pink (2009). One premise of the

PLC philosophy is that teachers must continually learn in order to stay abreast of, and be able to implement, current best practices in order to positively affect student learning. As such, this study sought to understand teacher's motivation as learners. Finally, this study sought to determine a predictive model of the factors of the PLC model that lead to the highest level of teacher motivation. Multiple regression analysis was used to develop this predictive model (Field, 2009).

Research Questions

The following research questions guided the focus of this study:

1. What is the motivation of secondary teachers using Pink's framework (autonomy, mastery, and purpose)?
2. What is the level of PLC implementation in secondary schools?
3. Does a relationship exist between the perceived levels of PLC implementation and teacher motivation as defined by Pink (2009)?
4. What is the best predictive model for teacher motivation as defined by Pink (2009) from PLC concepts?

Conceptual Framework

The conceptual framework outlines the lens through which the major components of the study will be understood. This section will introduce the concept of motivation that was used in the study including the terms autonomy, mastery, and purpose as defined by Pink (2009). It will also introduce the components of a Professional Learning Community as refined by Geurin (2008) that will frame the study. Finally, it will briefly explain the relationships between these two components the study explored.

Motivation

Human motivation theory played an important role in the framework of this study. The present research looked at teacher motivation issues and determined if a relationship exists between the components of a PLC and teacher perceptions of motivation. Because the literature on human motivation is so extensive, the researcher focused the literature review and conceptual framework portions of the paper to be most relevant to teachers in a PK-12 environment. As part of the funneling process, the researcher addressed major concepts and theories that have been historically presented to explain the motivation of individuals. This study also described the difference between intrinsic and extrinsic motivation and the place of each in the PK-12 setting. Because PLCs played such a large role in the research, the researcher explored the advent of the concept and its implementation in schools across the country. The literature associated with PLCs is also extensive. Therefore, the researcher sought to funnel this portion of the literature from the historical advent of the concept to the systematic implementation in school districts.

The conceptual framework of this study was based upon Pink's theory of intrinsic motivation as described in his book *Drive* (2009). Pink (2009) outlined his theory by describing how the concepts of autonomy, mastery, and purpose affect the intrinsic motivation of people. Autonomy is best described as being in control of one's own actions by having a choice of how, where, when, and with whom you work. Mastery is defined as a feeling of improvement; a person will be motivated when they feel they are getting better at a given task. Purpose is defined as a sense of belonging to something larger than oneself. Pink (2009) also dealt with extrinsic motivation and the potential negative consequences that can result from a focus upon rewards and punishments;

however, the richness of the book is found in the benefits of facilitating intrinsic motivation.

Autonomy. Autonomy, as stated above, is a person's perception of his or her level of control over what occurs to and around him or her (Pink, 2009). The areas in which a person can express autonomy are in their task, their time, their technique, and their team (Pink, 2009). As will be explored in Chapter Two, accountability measures have robbed teachers of much of their autonomy over their task. Strong (2011) stated, "…the substantial changes in education have probably reduced the extent of this freedom. Teachers must now adhere to federal, state, and district procedures and accountability measures that did not exists to this obtrusive level earlier" (p. 4). Teachers also have very little control over their time, due to the schedule of the school day, or their team, those they interact with on a daily basis. That leaves teachers with the opportunity to have influence mainly over their technique used inside of the classroom with students. This research will attempt to better understand teacher's perceived level of autonomy over the instructional practices (techniques) used in the classroom on a routine basis.

Mastery. Mastery is defined as a person's sense of improving at a task that is important to him or her (Pink, 2009). Csikszentmihalyi (1975) developed the term "flow" to describe the state of mind people reach when engaged in an activity that is neither too easy nor too hard; when the difficulty level is just beyond their current ability they are motivated to work hard and thus have a sense of improvement that is very motivating. A person must feel he or she is capable of improving his or her performance in order to experience the feeling of mastery Pink described. Dweck (2006) described entity theory which states that one's abilities are fixed and relatively unchangeable. Dweck also

described incremental theory which states that ability is expandable and can change with adequate effort. In order for a person to be motivated based upon mastery, he or she must first believe in the incremental theory of ability. Only through this belief will he or she put forth adequate effort to result in the feeling of improvement that is so motivating. This research will explore teachers' perceptions of mastery by focusing on their perceptions of improvement and support of improvement in their setting.

Purpose. Pink (2009) defined purpose as a sense of doing something that is important or being a part of something bigger than oneself. Pink stated that the number of volunteer hours worked in the United States continues to rise suggesting that volunteer work is sustaining people in a way their paid work is not. "We're learning that the profit motive, potent though it is, can be an insufficient impetus for both individuals and organizations. An equally powerful source of activation energy, one we've often neglected or dismissed as unrealistic, is what we might call the 'purpose motive'" (Pink, 2009, pp. 134-135). In studying factors important to employee satisfaction, Hewlett (2009) found that people do not rate money as the most important form of compensation. Instead, according to her research, people reported factors such as working on a great team and the ability to give back to society as important factors that are motivating. This research will seek to determine and better understand factors to which teachers hitch their purpose.

Professional Learning Communities

The six components of a PLC served as the second portion of the conceptual framework for this study. Oliver, Hipp, and Huffman (2003) presented an instrument to measure the level of PLC implementation in schools. This instrument is known as the

Professional Learning Communities Assessment (PLCA). The instrument created subscales that consisted of: (a) Shared and Supportive Leadership, (b) Shared Values and Vision, (c) Collective Learning and Application of Learning, (d) Supportive Conditions, and (e) Shared Personal Practice. Based upon the work of Geurin (2008), the supportive conditions construct was subdivided to include Supportive Structures and Supportive Relationships. Geurin's work, which is a modification of the Oliver, Hipp, and Huffman's (2003) work, will serve as the conceptual framework through which PLC implementation will be understood.

Shared and supportive leadership. Hipp and Huffman (2003) asserted that in order for a PLC to function effectively, leadership must be distributed to teachers and other stakeholders within the school. Further, they asserted that along with shared leadership there should be a culture of shared responsibility for student outcomes.

Shared vision and values. Hipp and Huffman (2003) stated that the vision and values of a Professional Learning Community must be focused on student learning with high expectations established for all. Senge (1990) stated, "You cannot have a learning organization without a shared vision" (p. 209). The vision and values should be stated and lived in order for them to be effective.

Collective learning and application of learning. Bruffee (1999/2009) outlined his beliefs and findings related to adult and organizational learning in his book entitled *Collaborative Learning.* One of the key premises of this work was that socialization aids in the learning process. This principle is played out in the PLC model in which teachers are encouraged to collaborate with their peers, share their individual learning with the group in order to aid the learning of all, and facilitate the implementation of best practices

for the betterment of students. The utilization of teams within the PLC model facilitates the learning of the organization as a whole. Bolman and Deal (2003) asserted that teams have, "more knowledge, diversity of perspective, time, and energy than individuals working alone" (p. 173).

Supportive relationships. Hipp and Huffman (2003) proposed that the relationships within a PLC should be built upon a foundation of trust and respect in which risk taking is encouraged. A strong sense of community is developed within well-functioning PLC's. Louis and Kruse (1995) determined that schools with a strong sense of community had teachers and students who were more motivated and had higher levels of personal satisfaction.

Supportive structures. The proper supports should be in place in order for PLCs to function most effectively. Hipp and Huffman (2003) outlined the structures of time, money, materials, people, facilities, and communication systems as necessary to ensure the most effective learning.

Shared personal practice. Within high functioning PLCs, reflection and feedback are the norms (Hipp & Huffman, 2003). Teachers are encouraged to share strategies that are both effective and ineffective and are encouraged to spend time observing other teachers to reinforce the previous learning as well as question their long standing beliefs. Coaching and mentoring are often well established in professional learning communities.

Pink's concepts of autonomy, mastery, and purpose were explored independently through a review of current literature and will be directly tied to the practice of PLCs. The research will seek to understand if a relationship exists between the components of a

PLC and teacher's perceptions of autonomy, mastery, and purpose, and thus their motivation. This research will function under the assumption that teachers who are motivated to learn will also be motivated to improve their practice in the classroom and thus positively affect student achievement.

Design and Methods

The study was approached quantitatively but also made use of open response items on the survey instrument to facilitate future research. A survey tool was developed to measure teacher perceptions of autonomy, mastery, and purpose. Geurin's (2008) survey was used to determine teacher perceptions of the implementation of Professional Learning Communities within their organization. These tools allowed the research to quantitatively describe teacher perceptions of PLC implementation as well as perceptions of motivation when viewed through the lens of autonomy, mastery, and purpose. The survey tool allowed the researcher to look for relationships between the components of a PLC, as defined by Geurin (2008), and motivation when viewed through the framework of Pink's (2009) work. Finally, the survey tool generated data which allowed the researcher to determine which component of a PLC is the best predictor of teacher motivation when viewed through the lens of Pink's (2009) work.

Assumptions

The primary assumption associated with this research is that teachers who are motivated to learn will also be motivated to improve their practice in the day-to-day instruction of students. The research is assuming teachers would take new knowledge gained from collaboration with peers and implement that knowledge within their classrooms. The second assumption of this study is that improved instruction will

increase student achievement. There are a number of factors that influence student achievement as outlined in the literature but none greater than the teacher (Hattie, 2009). Though it cannot be implied that better instruction will cause better performance, a positive correlation does exist (Hattie, 2009). The third assumption is that the sampled population's perceptions are indicative of the general teaching population in Missouri. This study made use of teachers within schools who are seeking support from the Professional Learning Communities Project (PLCP) on the implementation of PLC concepts. The beliefs and attitudes of this population cannot be assumed to apply to all teachers across Missouri.

Definitions of Key Terms

A consistent understanding of, and use of, key terms was essential to the study. The following definitions were used for key terms in the study:

Autonomy

Autonomy is one component of Pink's model of intrinsic motivation. Autonomy is defined as the feeling of being in control of one's own actions; being in control of one's own time, task, and team (Pink, 2009).

Collaboration

Dufour, et al. (2008) defined collaboration as a "systemic process in which people work together *interdependently*, to analyze and impact professional practice in order to improve individual and collective results" (p. 464). Senge (1990) and Dufour, et al. (2008) suggested this collaboration must focus on essential topics in order for student learning to be influenced.

Collective Learning and Application of Learning

Oliver, Hipp, and Huffman (2003) presented collective learning and application of learning as a component of their PLCA. This construct deals with the sharing of information with peers in order to facilitate the learning of all, the seeking of new ideas and knowledge to aid learning, and collaborative problem solving that occurs within PLC teams (Hipp, & Hufman, 2003).

Common Assessments

Common assessments are evaluations (formative or summative) that are used by multiple teachers of a common course that are identical. These assessments are generally collaboratively developed and collaboratively analyzed. The data from these assessments allow teachers to: (a) determine which students need additional time and support, (b) through collaboration, determine which instructional strategies were most successful in facilitating student learning, (c) understand overarching issues across the entire student population which may indicate a problem with curriculum, for example, and (d) develop goals that apply to individuals or the entire team (Dufour, et. al, 2008)

DESE

DESE is the acronym for the Missouri Department of Elementary and Secondary Education. DESE is the state accrediting body for public schools in the state of Missouri. This department has been active in creating and monitoring many of the accountability measures now in place in the state of Missouri.

Extrinsic Motivation

Extrinsic motivation is provided by an expectation to receive something (materially, emotionally, or other) for completing a given task (Pink, 2009). Pink (2009)

stated that extrinsic motivation can be extremely useful in a very narrow band of activities, but it can be equally detrimental related to tasks that are more creative or involve problem solving that is not straight forward.

Intrinsic Motivation

Intrinsic motivation is an internal drive which pushes an individual to continually put forth effort and continually seek to improve. Pink (2009) stated that fostering intrinsic motivation will allow for significant, sustained effort toward established goals.

Learning Organization

Senge (1990) defined a learning organization as an, "Organization where people continually expand their capacities to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (p. 3). Senge (1990) further explained that in order for organizations to move forward they must continually learn.

Mastery

Mastery is the second component of Pink's model of intrinsic motivation. Mastery is defined as the feeling of improving at a task that is important to the individual (Pink, 2009).

Mission

Dufour, Dufour, and Eaker (2008) defined mission as "the fundamental purpose of an organization exists. Mission answers the question, 'Why do we exist?'" (p. 468). Dufour, Dufour, and Eaker (2008) stated that in public education the mission of any school should be to educate all students.

NCLB

NCLB is an acronym for the federal legislation passed in 2001 called the *No Child Left Behind Act*. This legislation called for increased accountability and sanctions for schools who did not meet the criteria established by the law. The law called for annual increases in proficiency levels for America's students, ultimately requiring 100% of students to be proficient by the year 2014 (*No Child Left Behind*, n. d.)

PLCA

The PLCA is a survey instrument developed by Oliver, Hipp, and Huffman (2003) to measure the perceived level of implementation of the following constructs: (a) Shared and Supportive Leadership, (b) Shared Values and Vision, (c) Collective Learning and Application of Learning, (d) Supportive Conditions, and (e) Shared Personal Practice.

Professional Learning Community (PLC)

A professional learning community is defined as a group of "educators committed to working collaboratively in an ongoing process of collective inquiry and action research to achieve better results for the students they serve. Professional learning communities operate under the assumption that the key to improved learning for students is continuous, job-embedded learning for educators" (Dufour, Dufour, Eaker, & Many, 2006).

Professional Learning Communities Project (PLCP)

The Professional Learning Communities Project is a division of DESE that serves districts and schools in their efforts to implement the Professional Learning Communities

model. The project provides resources and training to schools and districts of all sizes across the state of Missouri.

Purpose

Purpose is the final component of Pink's model of intrinsic motivation. Purpose is defined as a feeling of being a part of something larger than oneself (Pink, 2009).

Shared Personal Practice

Oliver, Hipp, and Huffman (2003) presented shared personal practice as one component of a PLC, and it is measured through the PLCA instrument. This construct deals with the sharing of successful and unsuccessful instructional practices. It also includes peer observation and feedback to improve classroom instruction (Hipp, & Huffman, 2003).

Shared and Supportive Leadership

Oliver, Hipp, and Huffman (2003) presented shared and supportive leadership as one component of a PLC, and it is measured through the PLCA instrument. This construct deals with the distribution of decision making across the learning organization as well as shared responsibly for student outcomes.

Shared Values and Vision

Oliver, Hipp, & Huffman (2003) presented shared values and vision as one component of a PLC, and it is measure through the PLCA instrument. This construct encompasses the collective creation of the values and vision of the learning organization. It also includes the commitment to high standards for all students within a PLC school

SPSS

SPSS refers to the Statistical Package for the Social Sciences (Field, 2008). SPSS is a statistical analysis software often used in educational research and was used to analyze survey results for this study.

Supportive Relationships

Oliver, Hipp, and Huffman (2003) presented supportive conditions as one component of a PLC. Guerin (2008) divided supportive conditions into two subcomponents: supportive relationships and supportive structures. Supportive relationships between PLC team members should be based upon trust and respect for each other, celebration of successes, and the encouragement of risk-taking (Hipp & Huffman, 2003). Supportive relationships were measured through the PLCA.

Supportive Structures

Oliver, Hipp, and Huffman presented supportive conditions as one component of a PLC. Guerin (2008) divided supportive conditions into two subcomponents: supportive relationships and supportive structures. Supportive structures involves the allocation of resources such as time, money, and materials, as well as the facilities and communication systems necessary to support the collaborative process (Hipp & Huffman, 2003). Supportive structures were measured through the PLCA.

Values

Dufour, Dufour, and Eaker (2008) defined values as "the specific attitudes, behaviors, and commitments that must be demonstrated to advance the organization's vision" (p. 471). Values can also be referred to as collective commitments.

Vision

Dufour, Dufour, and Eaker (2008) defined vision as "a realistic, credible, attractive future for an organization. Vision answers the question, 'What do we hope to become at some point in the future?'" (p. 472).

Significance of Research

The present research holds significance for the academic world as well as the world of practitioners: current or aspiring school leaders. The PLC model is prevalent in the world of K-12 education; however, there are concerns with the fidelity of its implementation (Dufour, et. al, 2008). This research will help academics and practitioners better understand the perceived level of implementation of the PLC concepts described by Geurin (2008). A better understanding of teachers' perceived level of implementation will help leadership teams better focus their efforts to support teachers in the implementation process.

Likewise, motivation is a heavily discussed term in education arenas. Pink's model of intrinsic motivation is relatively new to motivation research and to the world of education. A better understanding of this model, as well as the quantification of Pink's concepts, may allow school leaders to measure and better understand the motivation of their teachers. The use of this model will also allow school leaders to better understand ways they can influence teachers' perceptions or autonomy, mastery, and purpose, and ultimately maximize teacher motivation to continually learn and continually improve their practice.

Finally, the predictive model established in the study will allow school leaders, and leadership teams, a model to implement in order to better ensure teacher motivation.

The take-aways from this study will better inform and better prepare school leaders and leadership teams to facilitate growth through the PLC concepts, and in turn, they will facilitate teacher motivation and ultimately improve student success.

Summary

Though educational reform has been a constant in America's landscape, the success of the reform efforts have been minimal at best. The result: change is still needed. Research has consistently shown over time that the teacher is the primary influencer of student success, (Hattie, 2009; Wright, Horn, & Sander, 1997); therefore, reform efforts should and must influence the behavior of teachers over a sustained period of time (Dufour, et. al, 2008). As Pink (2009) suggested, tapping into the intrinsic motivation of individuals holds the most promise for sustained changes in behavior. Leaders should have the knowledge and skills to foster this motivation through the change process. The principles of PLCs, when properly implemented, can lead to substantive change (Dufour, et. al, 2008). This study was designed to show the relationship between the components of a PLC and teacher motivation. A better understanding of both constructs could allow leaders to facilitate the change needed in America's schools.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

In December of 1862 during the inaugural address of his second term in office, President Abraham Lincoln stated:

> The dogmas of the quiet past are inadequate to the stormy present. The occasion is piled high with difficulty. As our case is new, so we must think anew and act anew. We must disenthrall ourselves and then we shall save our country (Robinson, 2011, p. 7).

Though Lincoln was speaking of the difficulty surrounding the changes occurring in a land embroiled in civil war, his words are apt to today's world of education as well. Public education has changed dramatically since Lincoln's time in office, and it has also changed dramatically in the much more recent past. These changes have occurred as the American people have called for evidence of student preparedness and as the global economy has placed new demands upon America's graduates (Office, 2009). The result has been much legislation and an increase in accountability for those in the education world.

In 1791 the Bill of Rights was passed by the first congress of the United States (National, n.d.). The Bill of Rights stated that those things not specifically mentioned were to be left to the control of individual states. Because there was no mention of education in the Bill of Rights, states were left to govern education within their perimeter. This arrangement, with states directing the affairs of its schools, has existed from that

time. In recent years, the federal government has begun to play a more active role in the education of America's youth. Though this has created much controversy, the fact remains, educational reform efforts have been adopted and implemented at the federal level.

The following sections will present relevant literature that relates to the arena of education, in general, and specifically, secondary education. The sections are: Federal Reform Efforts, State Reform Efforts, The Importance of the Teacher, Teacher Motivation and Satisfaction, Historical Theories of Motivation, Conceptual Underpinnings, and the chapter Summary. These sections will explore education through a broad lens initially and will progressively focus more tightly on the issues under study in this research.

Federal Reform Efforts

Significant legislation was passed during the terms of President George W. Bush and President Barack H. Obama that has called for increased accountability and the constant improvement of the nation's schools. In 2000, President George W. Bush signed the *No Child Left Behind* (NCLB) legislation into law and in so doing dramatically altered the landscape of the nation's public schools (Robinson, 2011). The goals of this legislation were to raise academic standards, make teachers accountable for student performance, increase college preparedness, and increase the United States' economic competitiveness (Robinson, 2011). This legislation called for high levels of learning for all students by 2014, and in the time preceding this date, goals for achievement were incrementally increased in order to facilitate school districts in reaching this lofty goal. Districts worked feverishly to meet the demands of this legislation but also argued the

demands with state and federal legislators. Though the requirements of *NCLB* were eventually deemed unrealistic and schools were able to appeal its requirements (Robinson, 2011), the legislation was groundbreaking in its reach and firmly established the federal government in the educational landscape.

During his first term in office, President Barak Obama signed the *American Recovery and Reinvestment Act of 2009* (U.S., 2009). This legislation created the *Race to the Top* fund which is a grant schools can apply for if they are showing significant gains in student achievement. This piece of legislation again raised the stakes for local school districts to push for increased achievement for all students in order to have an opportunity for increased funding. Once again, the federal government established itself in the educational landscape that was once dominated by the states.

Many researchers have argued the issues that surround federal education reform efforts. Robinson (2011) stated, "The septic focus is clearly evident in the education reform movements like NCLB that focus on certain parts of the system while neglecting the system as a whole" (p. 63). Robinson asserted that the focus on very narrow parts of the curriculum at the expense of others is leading to very little progress toward the nation's educational goals.

> In practice, it has largely failed to meet its own objectives and has been widely condemned for demoralizing teachers and students, for inculcating a numbing culture of teaching to the test, and for encouraging schools to adapt the testing systems to avoid financial and other penalties. Meanwhile students are dropping out at alarming rates, while overall achievement in literacy and mathematics has scarcely budged. (Robinson, 2011, pp. 61-62)

State Reform Efforts

States have followed suit in establishing lofty goals for their schools. In 2011, the Missouri Department of Elementary and Secondary Education (DESE) established the goal of being a *Top 10 by '20* state. The plan called for increased accountability and higher performance for the state's students (Missouri, 2011). The initiative proposed three sub-goals in order to meet the overarching goal of being a top 10 school system by the year 2020. The first goal was to ensure graduating seniors are college and career ready. Second, a continuing emphasis was placed on early childhood education to ensure children are well prepared when they enter formal education opportunities. The final goal was to ensure quality teachers are in place and supported within our state's schools. The state has realized the importance of the teacher and its role in supporting teacher success (Missouri, 2012).

The state of Missouri has been active in school reform and accreditation efforts since the 1950's. During that time, and until the 1980's, the State classified schools as A, AA, AAA, or U (unaccredited) based upon several categories, excluding student performance. In the mid-1980's, the state began to reconsider its accreditation process. After considerable exploration and dialogue a set of standards and indicators related to school resources, instructional practices, and student achievement were developed. These standards and indicators and the application to evaluation and accreditation of Missouri's schools became known as the Missouri School Improvement Program (MSIP). According to legislation passed in 1987, every public school in the state would be reviewed using the MSIP standards and indicators at least once every five years. (Missouri, n.d.)

Since 1987, the MSIP has gone through multiple revisions and iterations. The first two cycles of MSIP introduced an extensive review of district practices and performance. Districts were asked to perform a self-study of their practices and performance when compared to the standards and indicators set forth by the MSIP process. Surveys were distributed to students, teachers, administrators, and community members, in order to involve more stakeholders in the process (Missouri, n.d.).

In 1993, the Missouri State legislature passed the *Outstanding Schools Act of 1993*. This piece of legislation supported the school improvement program still in its infancy. The legislation also required the Department of Education to create academic standards for students and a performance-based assessment to determine how well students were meeting those standards. The Act also required the Department to identify chronically low-performing schools and for the first time gave the Department the authority to intervene in those buildings (Missouri, n.d.).

The 3rd cycle of MSIP began in 2001 with significant changes. The primary change in the third iteration was the heavy emphasis for accreditation placed on student performance. Data from a variety of sources were used to evaluate student performance: Missouri Assessment Program (MAP) results, ACT results, student enrollment in advanced placement courses, drop-out rates and attendance rates, among others were all considered. These data were compiled and used to generate an Annual Performance Report (APR) of the performance related to the MSIP standards (Missouri, n.d.).

The 4th cycle of MSIP took effect during a time of limited resources for the Department of Elementary and Secondary Education. Because of this, the on-site review for all schools was reviewed and determined unnecessary for those schools who had

consistently shown positive performance. However, those schools who showed consistently low performance or declining performance over multiple years would still be subject to the intensive on-site review which would result in a report identifying areas of needed improvement. The district was then required to create an Accountability Plan outlining how the performance issues would be addressed (Missouri, n.d.).

The Missouri Department of Elementary and Secondary Education recently developed and implemented the 5th cycle of MSIP. This version of the improvement program focuses on student outcomes and places a greater emphasis on preparing students for college or career. Points are awarded to the district in five categories: Academic achievement, subgroup achievement, college and career readiness, attendance, and graduation rate. The overall point total for the district determines their accreditation status which is public information (Missouri, n.d.).

The call for increased performance and in turn, increased accountability, has led many districts to seek ways to better help teachers in order to better help students in the classroom. The end result has been increased accountability for all in PK-12 education. Accompanying increased accountability from the state has been increased visibility from the public. The influx of technology in education has allowed parents, guardians, and other patrons to better understand, and therefore scrutinize, the actions of educators. For example, parents can now access teacher grade books via the internet, allowing them to view their student's grade on a cell phone or other hand-held device. Increases in accountability and visibility for those in education have led some to truly contemplate the critical factors that influence student achievement.

The Importance of the Teacher

Hattie's (2009) research revealed a number of factors shown to effect the achievement of students. Hattie conducted a meta-analysis of more than 800 meta-analyses in order to quantify the effects of a variety of factors on student achievement (Reeves, 2011). Hattie reported his finding in effect sizes. The specific data reported was based upon the "percentage of a standard deviation in student achievement. Thus an effect size of .6 means that the relationship between a particular factor and student achievement was 60 percent of one standard deviation" (Reeves, 2011, p. 11). As one would expect, there are a number of factors that influence student achievement outside of school control, namely socioeconomic status (effect size, .57), home environment (.57), and parental involvement (.51) (Hattie, 2009). However, of greater interest are the factors within the control of the school that have a significant impact on student achievement. Hattie (2009) reported the following effect sizes for factors that are within the control of schools: teacher-student relationships (.72), professional development (.62), teacher clarity (.75), and feedback (.73). Note Hattie (2009) reported teacher clarity (a factor within the control of schools) as having the highest effect size of any factor in his research. Hattie solidified the validity of the importance of the teacher by quantifying his or her significance, but other researchers knew of the influence of the teacher much earlier. In 1997, Wright, Horn, and Sanders stated, "The results of this study will document that the most important factor affecting student learning is the teacher… The immediate and clear implication of this finding is that seemingly more can be done to improve education by improving the effectiveness of teachers than by any other single factor" (p. 63). Robinson (2011) also stated:

> National reform efforts almost invariably focus on curriculum and assessment. They set national and state standards, sometimes specify content and put in place national systems of testing. The element that is most often overlooked is the only one that really makes a difference to student achievement and that is the quality of teaching. (p. 267)

As in any endeavor, quality performance requires quality effort. Common sense would seem to suggest a teacher would not put forth best effort in the classroom if he or she is not motivated to do so; this phenomenon holds true in a broad array of arenas, including athletics and business, and seems to hold true in the classroom as well. In order to ensure teachers are performing to their maximum potential, one should consider the variables that can lead to either increased or decreased teacher motivation.

Teacher Motivation and Satisfaction

Gokce (2010) made the assertion that motivation levels of teachers play a more important role in student success than teacher competence and further explained the correlation between teacher motivation and job satisfaction as well as the negative correlation between teacher motivation and burnout levels. In order for teachers to be motivated and satisfied in their roles, they must have some authority to create the learning environment they desire in the classroom. Robinson (2011) contended that teaching is a creative profession and that the current educational environment is diminishing the creativity of teachers and thus diminishing their effectiveness. "A creative culture in schools depends on re-energizing the creative abilities of teachers" (Robinson, 2011, p. 267).

The ability of a teacher to improve instruction is affected by teacher motivation, organizational factors, and leadership practices (Thoonen, Sleegers, Oort, Peetsma, and Geijsel, 2011). Thoonen, et al. (2011) concluded that the above factors do affect teacher quality but indirectly. "Transformational leadership, school organizational conditions, and teacher motivation have indirect effects on the quality of teaching practices through teachers' engagement in professional learning activities" (2011, p. 499). Here, as in the current research, a connection is made between motivation and professional learning. The model proposed by Thoonen et al. can be seen in Figure 1.

Thoosen et al. (2011) related teacher motivation to teacher self-efficacy or the teacher's belief in his or her abilities. The researchers found that when "teachers believe stronger in their capabilities to achieve a desired result, they are more engaged in professional learning activities" (Thoosen et al., 2011, p. 514). This relationship can be better understood when viewed through the lens of expectancy theory which will be explored later. The authors also found that collaboration among teachers was positively related to teacher's willingness, or motivation, to participate in professional learning opportunities (Thoosen et al., 2011). Collaboration also led to greater participative decision making amongst teachers and along with shared leadership is a cornerstone of the Professional Learning Communities (PLC) approach to school improvement which will also be further explored.

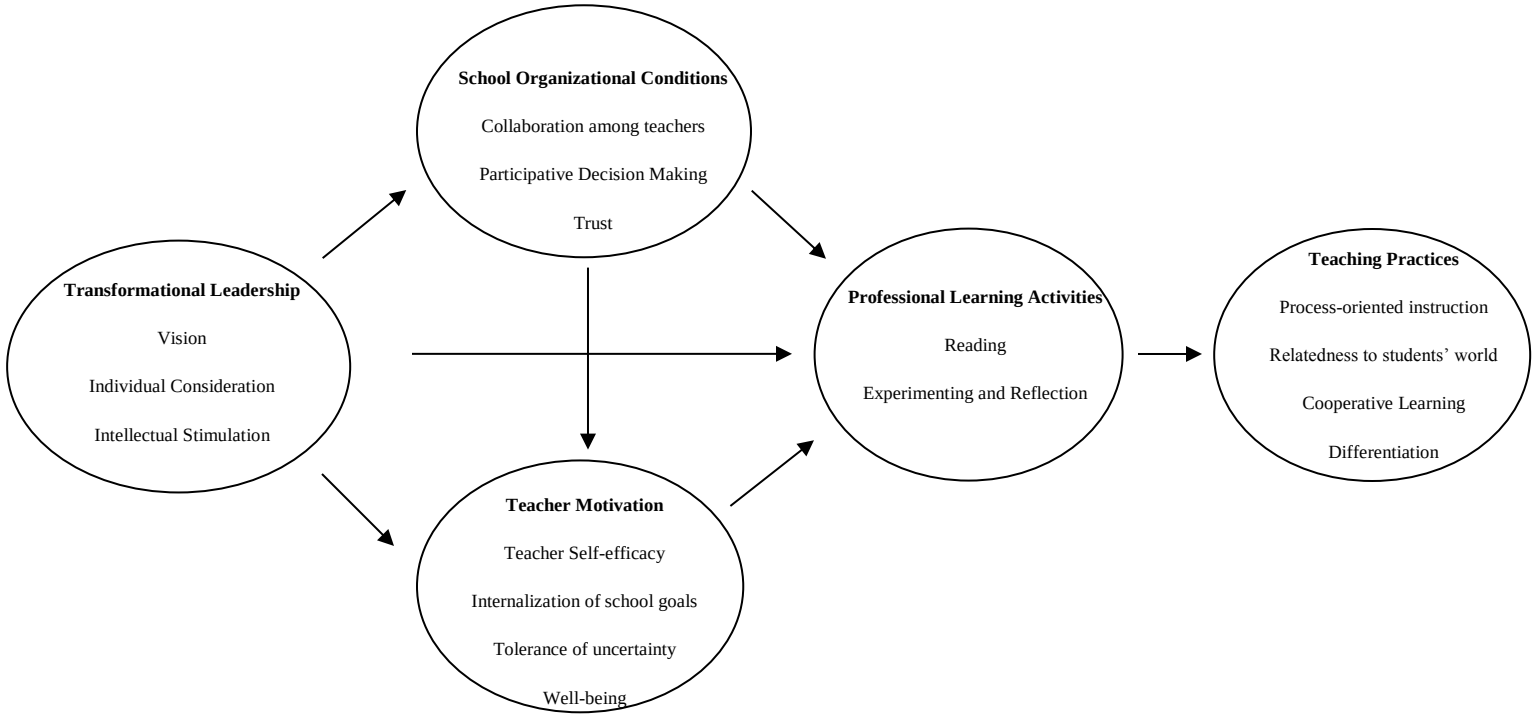


Figure 1. Model depicting the influence Transformational Leadership, School Organizational Conditions, and Teacher Motivation have on Professional Learning Activities and thus Teacher Practices by Thoonen, E. E., Sleegers, P. J., Oort, F. J., Peetsman, T. T., & Geijsel, F. P. (2011). How to improve teaching practices: The role of teacher motivation, organizational factors, and leadership practices. *Educational Administration Quarterly*, *47*(3), 496-536.

The research above leads one to consider how school districts can make the most of their greatest investment: teachers. More specifically, this research will seek to understand the motivation of some teachers to constantly improve their practice while others seem to become comfortable and complacent in their positions and often continue the same instructional practices year after year. In order to understand the factors that affect teacher motivation, specifically, it is necessary to understand various theories of human motivation in more general terms.

Historical Theories of Motivation

As stated above, the value of the teacher cannot be overstated. As the educational environment continues to evolve, teachers have been called to evolve as well. The change process for anyone in any setting is difficult; changing the practices of teachers is no different. Marzano, Pickering, and Pollock (2001) stated, "There is a growing sentiment that schooling, in general, is resistant to change and that classroom teachers, in particular, are almost impervious to change" (p. 157). Though the difficulty of the change process can be daunting, educational researchers have called for it nonetheless. Marzano et al. (2001) also stated, "…educators must have a desire and commitment to change" (p.157). Considering the value of the teacher in the classroom it seems logical to consider what motivates some teachers to continually seek to improve their practices while others seem to settle for mediocrity in their practice and in the performance of their students.

Human motivation is a very complex topic and one researchers have sought to understand for some time. Because motivation is such a complex phenomenon, no single theory can explain it entirely (Gokce, 2010). This section will outline only two of the

landmark studies related to human motivation, namely Maslow's Hierarchy of Needs and Expectancy Theory.

Maslow's Hierarchy of Needs

In 1943, Abraham Maslow introduced a theory of human motivation known as the "Hierarchy of Needs" that has remained well known across many academic arenas. Maslow's hierarchy outlined five levels of needs he believed could motivate human behavior: physiological needs, safety needs, love needs, esteem needs, and self-actualization needs (Maslow, 1943/2011).

The physiological needs serve as the base of Maslow's pyramid of motivation. These needs are best described as the needs for sustenance (Maslow, 1943/2011). Maslow (1943/2011) stated higher level needs (safety, love, esteem, and self-actualization) will tend to have less influence on an individual, that is, they will not motivate behavior, if the physiological needs are not met. Conversely, when the physiological needs of an individual are met, they become less motivational to the individual and safety needs have greater influence. The basic premise of Maslow's theory was that low level needs must be satisfied to a minimal level before needs at higher levels can begin to become a motivator for behavior (Maslow, 1943/2011). For example, a perpetually hungry individual will act in such a way to meet his basic physiological need to eat and will not be overly interested in self-actualizing behavior until the physiological needs (as well as the other needs in the hierarchy) are met (Maslow, 1943/2011). Once the physiological need for food has been satisfied to an acceptable degree, the next level of needs, safety needs, can begin to influence, or motivate, the behavior of the individual. Though Maslow did provide exceptions to the

hierarchical nature of his theory, the general premise remained: low level needs must be met before higher level needs will motivate human behavior (Maslow, 1943/2011). Maslow (1943/2011) also stated multiple levels of the hierarchy could motivate human behavior at any specific time. That is to say that though human motivation tends to follow a hierarchical pattern generally, this hierarchy is quite flexible in reality. Maslow (1943/2011) stated, "most members of our society who are normal, are partially satisfied in all their basic needs and partially unsatisfied in all their basic needs at the same time. A more realistic description of the hierarchy would be in terms of decreasing percentages of satisfaction as we go upon the hierarchy of prepotency" (p. 178). Figure 2.2 represents the hierarchical nature of Maslow's theory.

Expectancy Theory

In 1964, Vroom outlined the basic principles of his motivation theory in his book entitled, *Work and Motivation.* He defined motivation as "a process governing choices made by persons or lower organisms among alternate forms of voluntary activity" (Vroom, 1964, p. 6). Vroom included the term "voluntary" in his definition in order to exclude those responses that are involuntary, such as the dilation of the eyes or the quickening of the heart rate. He further stated, "It is reasonable to assume that most of the behavior exhibited by individuals on their jobs as well as their behavior in the "job market" is voluntary, and consequently motivated" (Vroom, 1964, p. 9). Within this book, Vroom (1964) defined a key term used in his exploration of motivation: expectancy. Vroom defined expectancy as, " a momentary belief concerning the likelihood that a particular act will be followed by a particular outcome" (p. 17). From the term expectancy, came what is now referred to as expectancy theory. The basic

premises of Vroom's theory were that people would be motivated to complete a task (work) if:

1. He or she felt capable of completing the task
2. He or she believes that completing the task will result in a certain outcome, and
3. He or she feels the potential payoff from completing the task is sufficient.

(Foley, 2011, pp. 198-199)

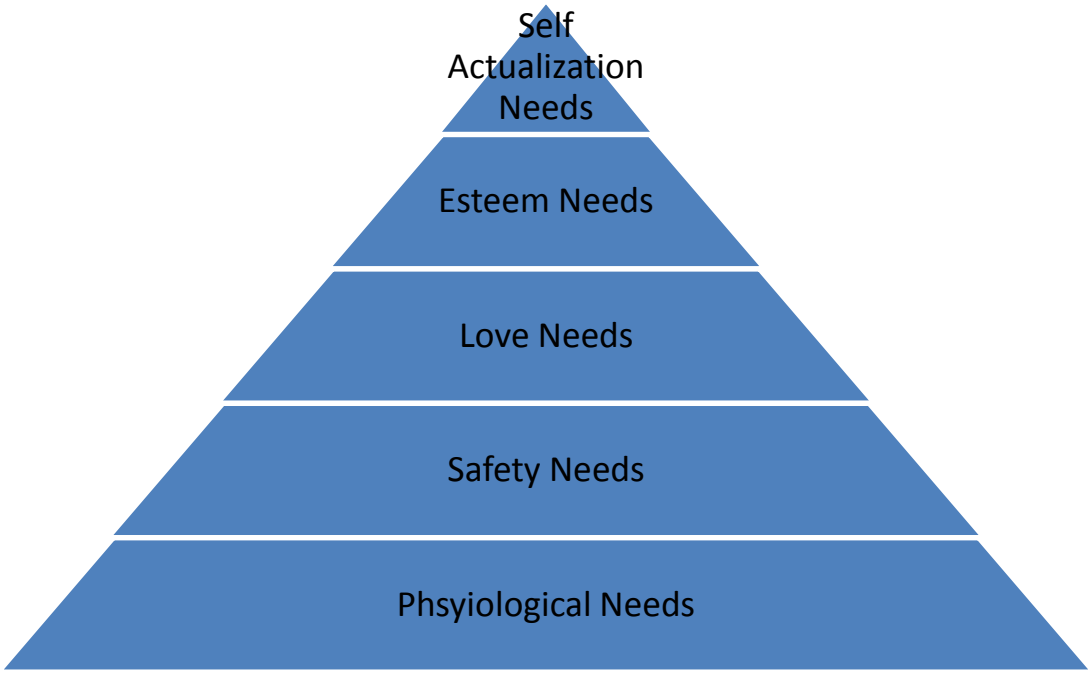


Figure 2. Visual representation of Maslow's Hierarchy of Needs showing the order in which needs are met according to his theory. Maslow, A. (1943/2011). A theory of human motivation. In J. M.Shafritz, J.S. Ott, & Y. S. Jang (Eds.) *Classics of Organizational Theory* (pp. 171-182). Boston, MA: Wadsworth.

Steel and Konig (2006) explained Vroom's theory mathematically. If expectancy is symbolized as E and value, or, how much the expected outcome is valued, is

symbolized as V, then the determinant for behavior lies in the instantaneous, personal calculation of E X V. In other words, when presented with two or more options, the person considers the likelihood that he or she can complete the given task, and if completed successfully what the "reward" will be. The product of these two factors, according to the theory, will determine the behavior chosen by the individual. He or she will be motivated to choose the action with the highest product of the E x V calculation (Steel & Konig, 2006).

This section outlined two of the landmark theories related to human motivation, Maslow's Hierarchy of Needs, and Expectancy Theory based upon the work of Vroom (1964). Maslow's theory was hierarchical in nature meaning that a lower level need must be met before a higher need can motivate behavior. Vroom's theory was based upon a person's belief he or she was capable of completing the task. Maslow's Esteem and Self-Actualization needs relate to Pink's concept of purpose while Vroom's concept of expectancy relates to Pink's concept of mastery. Pink's theory of motivation will be outlined in the subsequent section.

Daniel Pink's Theory of Motivation

Motivation, or the reason one behaves in a given way, is a psychological term that has been researched in a variety of fields including education. Educational literature is full of research dealing with student motivation and ways educators can facilitate students to be better motivated to achieve at high levels. A great deal of research has also focused on the motivational levels of teachers (Butler, 2012; Gokce, 2010). The primary interest of this study is the motivation of teachers to consistently learn and thus consistently improve their practice. The work of Daniel Pink in *Drive: The Surprising Truth About*

What Motivates Us will serve as the conceptual framework for this study, along with Guerin's conceptualization of Professional Learning Communities (PLCs).

Pink outlined two very different types of motivators that affect human behavior: extrinsic motivation and intrinsic motivation. His work served to illustrate the circumstances in which extrinsic motivators can be useful, but more he importantly illustrated the limits of this form of motivation. Pink presented intrinsic motivation as a much more sustainable means to increase performance over a period of time (2009).

Extrinsic Motivation

Extrinsic motivators are those things one hopes to receive for his or her performance in a given task. Examples of extrinsic motivators can range from the affirming smile of a parent to the performance bonus at one's job (Pink, 2009). Because human beings are infinitely diverse, their motivations are infinitely diverse. This leads to an infinite number of things that can serve as extrinsic motivators for individuals, and what serves as a motivator for one individual may not for another.

Pink dealt specifically with "if-then" rewards so common in all of American society. These types of rewards are given based upon the performance of the individual. Commonly, the recipient is aware there is a potential reward if his or her performance meets the stated criteria. This form of extrinsic motivator is most detrimental to performance because it creates reliance upon the reward (Pink, 2009). Pink further explained that the attention of the person who has been offered the "if-then" reward often focuses on the quickest and easiest way to complete the task and thus receive the reward. Kohn (1993) stated:

> To take what people want or need and offer it on a contingent basis in order to control how they act—this is where the trouble lies. Our attention is properly focused, in other words, not on the 'that' (the thing desired) but on the requirement that one must do this in order to get that. (p. 4)

This narrowing focus results in a loss of creativity and thinking outside of the box (Pink, 2009). Pink (2009) concluded that any task that required more than rudimentary thinking skills would not be benefited by "if-then" rewards, but would, instead, suffer. Not only do these rewards cause a decrease in performance, they create a reliance upon the reward in order to maintain performance. Further, the reward must often be increased in order to sustain motivational levels needed for achievement (Kohn, 1993). The very fact that one must continually offer, and even increase, the external motivator should be evidence that it is not creating the lasting change leaders and managers are hoping to achieve (Kohn, 1993).

Kohn (1993) explained how ingrained systems of external motivators are in American culture. So much one often does not consider certain things, such as praise, an external motivators. It seems this philosophy is prevalent in all arenas of life, from business to education. Current governmental philosophy aims to make use of extrinsic motivators to reform public education, and the philosophy seems to be present on both sides of the isle (Kohn, 1993). The carrot and stick mentality—promise pay raises for better performance and threaten job loss for poor performance—is well engrained in most reform efforts (Kohn, 1993). At its core, the use of external motivators is an attempt to control the recipients (Kohn, 1993; Pink, 2009).

The negative effects of external incentives are not a new concept in research literature. Why, then, do leaders and decision makers continue to rely upon them? The answer, according to Kohn (1993) and Pink (2009), is that rewards solicit compliance, and they are easy to dispense. Compliance does not equate long-term change, however. Kohn (1993) asked the question, "Why don't people keep acting the way they were initially reinforced for acting?" (p. 41), and he replied to his own question by stating:

> The answer is that reinforcements do not generally alter the attitudes and emotional commitments that underlie our behaviors. They do not make deep, lasting changes because they are aimed at affecting only what we *do.* If, like Skinner, you think there is nothing more to human beings other that we do—that we are only repertoires of behavior—then this criticism will not trouble you; it may even seem meaningless. If, on the other hand, you think that actions reflect and emerge from who a person is (what she thinks and feels, expects and wills), then interventions that just control actions would not be expected to help a child grow into a generous person or even help an adult decide to lose weight. (p. 41)

Pink (2009) also acknowledged the prevalence of rewards for motivators in the business sector (performance bonuses, for example), but provided an alternate way of dispensing them that would not hinder motivation and performance. This method was previously supported by Kohn (1993). Pink (2009) advocated for the use of "now that" rewards recipients do not know about in advance. An executive should provide a reward only after the task has been completed and should not dangle the reward in front of potential recipients. An example of a manager using this type of reward would be, "I appreciate the effort you put into completing the project on the short schedule and the

amazing quality you produced. I would like to buy lunch for our division tomorrow to show my thanks." In this case, the recipients did not anticipate the reward therefore it did not narrow their focus.

The discussion of external motivators cannot be complete without understanding the role of money in the motivation game. Pink (2009) stated the best way to deal with money in the workplace is to ensure you pay employees enough to make money a non-issue. Kohn (1993) stated that in the absence of other factors (such as engagement, autonomy, and the chance to learn, for example) workplace conversations will often turn to money. However, when employees are paid sufficiently to meet basic needs, and in an environment that supports intrinsic motivation, money quickly loses its motivational effect (Kohn, 1993; Pink, 2009). "So if it is a 'carrot' like money: less of it may hurt, but that doesn't mean more of it will help" (Kohn, 1993, p. 134).

The potential pitfalls of using extrinsic motivators are well explained by Pink and Kohn; however, the heart of change is found in the advantages of tapping into the intrinsic motivation of individuals. "If we want to strengthen our organizations, get beyond our decade of underachievement, and address the inchoate sense that something's wrong in our businesses, our lives, and our world, we need to move from Type X (external motivators) to Type I (internal motivators)" (Pink, 2009, p. 77).

Intrinsic Motivation

Pink (2009) defined intrinsic motivation as motivation that comes from within an individual; it is not dependent upon any external stimuli, but it is generated and maintained within the person. A list of people who exhibit intrinsic motivation could easily be generated and would likely consist of very successful individuals. Many

assume this internal drive is inherent in some while not in others. What research has shown, and what Pink (2009) synthesized, is there are critical factors that can be facilitated in order to increase the intrinsic motivation of individuals. Further, the research asserts that intrinsic motivation must be facilitated and maintained in order to ensure and sustain meaningful changes within organizations (Pink, 2009; Strong, 2011). Pink (2009) outlined three components of intrinsic motivation: autonomy, mastery and purpose.

Autonomy. Pink (2009) suggested that an autonomous person would have a sense he or she was in control of his or her life/work. The person would exercise choice; he or she would not simply follow without thought but would make a decision and follow that decision to its natural conclusion. Specifically, Pink (2009) stated for a person to have a perception of autonomy they should have choice in several arenas of their professional life: their task, their time, their technique, and their team (p. 94). These areas of autonomy apply equally to all areas of work from the business setting to the education setting, though the accountability measures presented above present unique challenges to autonomy in the education field which will be discussed later. Further, the nature of education makes it difficult to allow for autonomy in all areas Pink described. For example, a teacher cannot function autonomously in regard to the time of day they perform their work. Pink asserted that in order for an employee to maximize motivation they should have choice in when they complete their tasks. In education, this is simply not an option. Students arrive at a certain time and must dismiss at a certain time, effectively establishing the time of day a teacher must perform his or her tasks. As technological advances have infiltrated education and online classes are becoming more

and more popular, teachers could, in the future, have more autonomy over the time of day they work.

Strong (2011) presented areas in which teachers, specifically, can exhibit autonomous choice: curriculum, pedagogy, assessment, student behavior, classroom environment, and professional development. Regardless of the areas in which teachers exhibit their choice, the key is to ensure they have a choice. Teachers who perceive they are autonomous believe they have freedom to determine the way in which they accomplish their work (Blase & Kirby, 2009).

The current American educational culture presents great threats to teacher autonomy or freedom, "…the substantial changes in education have probably reduced the extent of this freedom. Teachers must now adhere to federal, state, and district procedures and accountability measures that did not exists to this obtrusive level earlier" (Strong, 2011, p. 4). Federal and state governments have dictated the content to be taught in each grade level and have put extreme measures in place to ensure the content is covered, thus limiting teacher autonomy related to curriculum (Grade, 2013). Further, many districts are adopting and ensuring the proper implementation of curriculum that is so specific it requires a teacher to simply read from a manual. These accountability measures have been put in place in an effort to increase student achievement but have failed to consider the detrimental effects they have on the teacher who Hattie (2009) stated is the most important factor in the classroom.

Teachers reported autonomy as a condition they see favorably in the work environment (LaCoe, 2006). Blase and Kirby (2009) demonstrated the role of autonomy in teacher classroom performance. Learning benefits in a classroom in which the teacher,

not external influences, have choice over instructional methods. These measures have reduced teacher autonomy related to pedagogy as well.

Common assessments and benchmark testing have also decreased teacher autonomy related to assessment strategies teachers use. Teachers are being asked to ensure they are covering the same content (curriculum) and assessing it in the same way in order to ensure students receive an equitable education and to allow for the comparative data in order to make decisions about best instructional practices (Dufour, et al., 2008). Research supporting common assessments and research supporting teacher motivation are conflicting in this regard.

According to Strong (2011), teachers can also express autonomous behavior in dealing with classroom behavior. Because teacher personalities vary, along with a number of other variables, approaches to classroom management also vary. Pink might suggest that in limiting a teacher's autonomy in dealing with classroom management issues motivation would decrease. Current educational trend however is to ensure consistency in classroom management strategies throughout a school building and potentially across an entire district (Bradshaw & Pas, 2011). An example of a classroom management strategy being used across districts is Positive Behavior Intervention Support (PBIS) (Bradshaw & Pas, 2011). This strategy outlines specific steps and actions one should take when dealing with classroom management issues (Bradshaw & Pas, 2011). This practice effectively decreases teacher autonomy in dealing with management issues. This practice could provide very valuable support to beginning teachers but could stifle the motivation of veteran teachers as well.

The final area of teacher autonomy as outlined by Strong (2011) was choice of professional development. Historically, teachers have had considerable autonomy to choose the professional development opportunities in which they participate. Because professional development was viewed as something teachers attended off site, small pockets of teachers would attend a training and bring back ideas and implement them in their classrooms. It seemed the only expectation from professional development in the past was to share what you learned with your colleagues. The approach to professional development is beginning to change in some districts. A more systemic and focused approach to professional development is beginning to take place as school districts are reconsidering how these opportunities can greatly affect school improvement if managed appropriately (Fullan, 2001). Schools are now approaching professional development as school wide learning as opposed to individual learning (Fullan, 2001). Some schools are making use of professional learning communities in order to tap into the experiences of all within their organizations. Districts are also attempting to ensure there is cohesion among the programs or initiatives they are implementing (Fullan, 2001). By ensuring a more systemic approach to professional development, the opportunity for an individual teacher to explore a specific topic has diminished. Though it is difficult for one to argue about the systemic approach to professional development it has limited teacher choice, or autonomy, regarding the professional development in which they participate.

The benefits of teacher autonomy are well supported in research literature. Practically facilitating teacher autonomy in the current, high-stakes, accountability laden educational environment seems to be an issue. Educational leaders are forced to grapple with the balance between facilitating teacher choice and adhering to state and federal

mandates. Leaders are able to provide more choice in some areas such as pedagogy while they are forced to restrict choice in other areas such as curriculum.

Mastery. Pink (2009) defined mastery as a person's sense of "getting better" at a task that is important to the person. In order for a person to experience improvement, and thus be motivated, the task he or she is attempting must be appropriately difficult (Pink, 2009). If the task is too easy, the person will not see a reason to invest significant energy; "When what they must do exceeds the capabilities, the result is anxiety. When what they must do falls short of the capabilities, the result is boredom" (Pink, 2009, p. 119). The match between a person's abilities and the task they are to complete often results in a mental state Csikszentmihalyi (2000) termed "flow."

> Most important, in flow, the relationship between what a person had to do and what he could do was perfect. It was a notch or two beyond his current abilities, which stretched the body and mind in a way that made the effort itself the most delicious reward. That balance produced a degree of focus and satisfaction that easily surpassed other, more quotidian, experiences. In flow, people lived so deeply in the moment, and felt so utterly in control, that their sense of time, place, and even self, melted away. (Pink, 2009, p. 115)

According to Abuhamdeh and Csikszentmihalyi (2012), a graph of the relationship between enjoyment and difficulty is expected to take on an inverted U-shape. That is, as difficulty increases, enjoyment also increases until the optimal level of difficulty is reached. Beyond the point of optimal difficulty, enjoyment would be expected to decrease. Considering the activities people participate in strictly for enjoyment, such as learning to play an instrument, or mastering a new language, it is

apparent that appropriate challenge is necessary to enjoyment and motivation (Csikszentmihalyi, 1975). Pink argued that the match between challenge and ability is applicable to the world of work as well: "One source of frustration in the workplace is the frequent mismatch between what people *must* do and what people *can* do" (2009, pp. 118-119). Mastery as a concept seems to have roots in expectancy described above; in order for one to expect to successfully complete the task, he or she must feel that the task is of reasonable difficulty.

Pink (2009) outlined three subcomponents of mastery. The first subcomponent is that mastery is a mindset. Mastery requires a person to believe they are capable of increasing their performance. In order to improve, one must believe he or she can improve. Dweck (2006) described one's beliefs about him or herself as 'self-theories." Those who ascribe to an entity theory believe their ability is a fixed quantity that cannot be increased (Dweck, 2006). Those who ascribe to incremental theory believe ability is something that can be expanded with adequate, sometimes tedious, work (Dweck, 2006 & Pink, 2009). In order to experience mastery, or a sense of improvement, one must ascribe to an incremental theory of their ability. One may go an extended period of time with little or no improvement, but based upon a belief he or she is capable of improving he or she presses forward. Therefore, in order to be motivated by mastery, you must believe you have the ability to improve.

The second subcomponent of mastery as outlined by Pink is that mastery is a pain. According to Pink (2009), the road to improving one's practice is often very difficult. Psychologist Anders Ericsson supported Pink's statement when he and his team stated, "Many characteristics once believed to reflect innate talent are actually the results

of intense practice for a minimum of ten years" (Ericsson, Krampe, & Romer, 1992, p. 363). To suggest effort is essential to a feeling of improvement seems intuitive but as Dweck (2006) explains, the effort is a result of something deeper: "Effort is one of the things that gives meaning to life. Effort means you care about something, that something is important to you and you are willing to work for it" (p. 41).

The final component of mastery as outlined by Pink is that it acts as an asymptote. In the field of mathematics, an asymptote is a line that infinitely approaches another line but never reaches it (Sullivan, 2012). Mastery involves continually improving and continually seeking to improve further. The pinnacle of that improvement can never be reached, as new challenges constantly evolve and new improvements are constantly needed (Pink, 2009). Pink stated, "The mastery asymptote is a source of frustration. Why reach for something you can never fully attain? But it's also a source of allure. Why *not* reach for it? The joy is in the pursuit more than in the realization. In the end, mastery attracts precisely because mastery eludes" (p. 127).

A significant finding related to the research on mastery is that the feeling of motivation derived from a sense of improvement is as possible to reach in the work environment as it in the arena of play (Csiksentmihalyi, 1975). "There is no reason to believe any longer that only irrelevant "play" can be enjoyed, while the serious business of life must be borne as a burdensome cross. Once we realize that the boundaries between work and play are artificial, we can take matter in hand and begin the difficult task of making life more livable" (p. 190).

Purpose. The final component of Pink's framework of motivation is purpose. Living a life of purpose involves having a sense that what you do is important. "The most

deeply motivated people—not to mention those who are most productive and satisfied—hitch their desires to a cause larger than themselves" (Pink, 2009, p. 133). As people mature they begin to ask questions such as, "When am I going to do something that matters?" or "When am I going to make a difference in this world?" Pink (2009) stated, "Autonomous people working toward mastery perform at high level. But those who do so in the service of some greater objective can achieve even more" (p. 133). Hamel (2009) stated, "The goals of management are usually described in words like 'efficiency,' 'advantage,' 'value,' 'superiority,' 'focus,' and 'differentiation.' Important as these objectives are, they lack the power to rouse human hearts" (p. 91). Hamel (2009) further stated,

> To create organizations that are almost human in their capacity to adapt, innovate, and engage, management pioneers must find ways to infuse mundane business activities with deeper, soul-stirring ideals, such as honor, truth, love, justice, and beauty. These timeless virtues have long inspired human beings to extraordinary accomplishment and can no longer be relegated to the fringes of management. (p. 97)

These statements point one to the conclusion that today's employees are as interested in the purposes their work serves as they are the extrinsic motivators their work provides.

The effects of pro-social behavior on participants' level of perceived happiness was studied by Dunn, Akin, and Norton (2008). More specifically they investigated how spending money on others, as opposed to oneself, affected happiness. Their key findings were that how a person spent his or her money was at least as important to their overall happiness as the amount of money he or she earned. Dunn et al. (2008) hypothesized,

"We suggest that using money in this fashion - investing income in others rather than oneself – may have measurable benefits for one's own happiness" (p. 1687). Their research confirmed their hypothesis. In one trial they found "higher pro-social spending was associates with significantly greater happiness" (p. 1687). Another piece of their research revealed "that pro-social spending was the only significant predicator of happiness…" (p. 1687). The findings of these researchers suggested there are motives beyond accumulation of money that affect happiness; other intrinsic factors affected the participants' perceptions of their own happiness. Perhaps a feeling of doing something of significance with one's money was a factor; the researchers did not explore why the increase in happiness occurred after pro-social giving, only that it did increase (Dunn et al., 2008).

The attainment of goals can also have influence on perceived happiness of individuals. Niemiec, Ryan and Deci (2009) studied the attainment of goals in young adults one year after they graduated from college. They chose this time frame because of the likelihood that participants would have possibly attained some goals established during their college years. This study differentiated between intrinsic aspirations and extrinsic aspirations. Neimiec et al. (2008) defined intrinsic aspirations as a desire by the individual to have experienced personal growth, close relationships, community involvement, and physical health. They defined extrinsic aspirations as a desire by the individual to experience money, fame, and a positive self-image. Surveys were given to participants at the beginning of the study and again one year later measuring the importance participants placed on the attainment of the goal (whether intrinsic or extrinsic), whether or not they attained the goal (whether intrinsic or extrinsic), and their

psychological well-being. The results revealed that the attainment of the extrinsic aspirations were not significantly, positively related to well-being. However the establishment and attainment of intrinsic aspirations were significantly and positively related to well-being (Neimiec et al., 2009).

Though the connections of Neimiec et al's. (2009) study to Pink's purpose motive are indirect, the significance of personal growth, close relationships, and community involvement all seem related to the idea of being connected to something larger than oneself. The results of this study seem to support the notion that individuals are more happy and motivated when they seek connections outside of their own person and when there is a greater reason for their behaviors.

Pink (2009) presented three components of intrinsic motivation: autonomy, mastery, and purpose. Autonomy was defined as a feeling of being in control the time, task, and team with which a person participates. Autonomy is well documented in literature as a motivational factor and has been explored in the educational context as well. Mastery was defined as a perception of improving in a task that is of significance to a person. Mastery is best aligned with the term efficacy in the related literature. Purpose was defined as a feeling of being a part of something larger than oneself or a part of something of importance. Researchers have studied various factors that influence the motivation of individuals and a number of those studies have suggested people are more motivated with they feel a connection to others and to something of importance. The three components of intrinsic motivation as presented by Pink (2009) will serve as the lens through which motivation will be studied in this research. The following section will

outline the key components of a Professional Learning Community and the literature supporting each of those components.

Professional Learning Communities

School reform efforts and models have been around for nearly as long as public schooling. President Thomas Jefferson stated that education was critical to the success of the infant nation (Dufour et al. 2008). He instituted a plan that entailed all children receive a public education for three years. At that point, only the elite students would be allowed to continue their education at public expense (Dufour, et al, 2008). This began the process of sorting and selecting in the public school system. Throughout history, this precedent has played out as the 'strong' students have been allowed to continue in the quest for knowledge and future success while others have been delegated to the farm.

In 1910, the National Education Association called on schools to understand the differences between students and to sort and select them based upon their aptitudes, interest, and prospective careers (Dufour, et al, 2008). Reform efforts of the mid and late 1910's called on schools to be more child centered; focused on ensuring the content delivered to students was of interest to them. John Dewey was a major name during this time of reform, and his thoughts and opinions greatly shaped the educational landscape for some time (Dufour, et al., 2008). By the end of the 20th century, the pendulum began to swing back toward the more traditional view of education.

The launching of the Russian satellite Sputnik in 1957 caused American policy makers and citizens to contemplate America's place in the rank of superior nations. Many began to blame America's public school system for the failure of the nation to keep pace with other countries (Dufour et al., 2008). In 1983, *A Nation at Risk* was published

further deploring the work of public education. The report extolled that America's national security was at risk due to the failure of its schools (National, 1983). The result of these circumstances and reports was a push to increase accountability in our nation's schools.

Near the end of the 20th century a new approach to reforming schools began to be considered. This approach was based largely on a flat leadership structure and high levels of collaboration among teachers and administrators alike. In 1990, Senge released his book titled, *The fifth discipline.* Within this work, Senge (1990) outlined the necessity of learning within competitive organizations, stating that the most successful organizations of the future would be learning organizations. Bruffee (2009) contended that all knowledge is socially constructed; only through the interactions with others can we become part of their knowledge community. The Professional Learning Community (PLC) model emerged from the threads of Senge and Bruffee's works.

In 1998, Dufour and Eaker published *Professional learning communities at work: Best practices for enhancing student achievement.* Within this work, Dufour and Eaker (1998) stated, "The most promising strategy for sustained, substantive school improvement is developing the ability of school personnel to function as professional learning communities" (p. xi). Over the course of the next ten years, these two authors, along with others, have continued to refine their beliefs and espoused best practices in school leadership and reform. The basic premise of their work has remained; however, schools must be transformed from traditional to learning organizations (Dufour et al., 2008).

Dufour and Eaker (1998) outlined the six characteristics of an effective PLC. These characteristics are: 1) Shared mission, vision, values, and goals; 2) A collaborative culture with a focus on learning; 3) Collective inquiry into best practice and current reality; 4) Action orientation: Learning by doing; 5) A commitment to continuous improvement; and 6) Results orientation. Each of these characteristics will be briefly discussed below along with relevant literature for each. Geurin's (2008) components, which were derived from the work of Oliver, Hipp, and Huffman (2003) and which closely resemble the components presented by Dufour and Eaker (1998), are also presented with related literature.

Shared Mission, Vision, Values, and Goals. "The very essence of a *learning* community is a focus on and commitment to the learning of each student. When a school or district functions as a PLC, educators embrace high levels of learning for all students as both the reason the organization exists and the fundamental responsibility of those who work within it" (Dufour et al., 2008, p. 15). The mission of the organization is simply a statement of why the organization exists: its purpose and the ends it will strive toward (Sidhu, 2003). Proponents of the PLC model argue that this mission should be collectively developed with the faculty as opposed to presented by administration (Dufour et al., 2008). A written mission statement is also relatively meaningless unless it truly permeates the culture of the organization. Trevino and Nelson (2003) suggested that the organizational mission must be 'baked into' the culture in order for it to have impact. Dufour et al. (2006) wrote, "The words of the mission statement are not worth the paper they are written on unless people begin to *do* differently" (p. 19). They further contended

there is no correlation between the presence of a mission statement and the organization's ability to function as a PLC (Dufour et al., 2008).

A mission statement will have impact only when it shapes the behaviors of the individuals within the organization (Davis, Ruhe, Lee, & Rajadhyaksha, 2007). In order for an organizational mission statement to deliver on its purpose, it must define the organizational purpose and unify staff behavior toward a common goal (Davis et al., 2007). Dufour et al. (2008) supported these assertions by stating, "Assuming your current mission pays homage to "learning for all," it is perfectly serviceable. Do not waste another minute writing a mission statement, but instead begin the hard work of aligning all the practices, policies, and procedures of your school with that mission" (p. 116). The mission statements of public schools today should be aligned to a focus on learning for all students; mandates from state and federal governments have essentially ensured this. The foundational nature of such a mission statement is what allows PLC's to function.

> This assertion—that the fundamental purpose of the school is to help all students learn the knowledge, skills, and dispositions most essential to their success—is the biggest of the big ideas that drives the work of PLCs. When educators embrace that idea and act upon it, all the other elements of PLCs begin to fall into place. (Dufour et al., 2008, p. 118)

Another element essential to proper functioning of a PLC is a shared vision. The vision statement refers to the long-term goals of the organization and defines what the organization hopes to become in the future (Ozdem, 2011). Dufour, et al. (2008) described the vision of an organization by describing the questions the vision statement will answer: "What must we become to fulfill our purpose, what future do we hope to

create for this organization" (p. 119). The vision of the organization should also be understood and shared by all in the organization (Ozdem, 2011). Nanus (1992) also clearly articulated the purpose of the mission statement when he stated, " There is no more powerful engine driving an organization toward excellence and long-range success than an attractive, worthwhile and achievable vision of the future, widely shared" (p. 3).

Dufour et al. (2008) suggested a school's vision statement should be specific, and over-general vision statements have been one barrier to effective school reform. "Until educators can describe the ideal school they are trying to create, it is impossible to develop policies, procedures or programs that will help make that ideal a reality" (Dufour et al, 2008, p. 120). Blanchard (2007) stated, "The process you use to develop a vision is as important as the vision itself" (p. 233). The vision of the organization should be shared by all (Dufour et al., 2008), as stated above. For this reason, Dufour and his colleagues always refer to the *shared vision* of the organization. The development of a shared vision is a time-intensive process and one that can be highly inefficient. "This co-creating strategy is certainly not the most efficient way to develop a written vision statement, but it is the strategy most likely to result in the shared vision critical to a learning community" (Dufour et al., 2008, p.121). Dufour et al. (2008) stated that a clear, shared vision of a learning community helps to motivate and energize people toward continued success.

Shared values and goals are also an essential foundational building block of an effective PLC (Dufour et al., 2008). Values and goals are also described as collective commitments. These commitments describe the behaviors the staff will adhere to in their efforts to achieve their mission and pursue their vision. These statements are not intended

to address the behavior of students, only the behaviors of the adults in the organization. Dufour, et al., (2008) stated, "…we contend that attention to and articulation of the commitments the adults in a school are willing to make to students and to one another can represent an important step on the journey to becoming a PLC…" (p. 151). Once again, the collaborative development of collective commitments is essential to their influence in the organization. Pfeffer and Sutton (2006) stated, "One of the most persistent and powerful social psychological processes is that of commitment—we are more likely to carry through on decisions we have made and therefore committed to" (p. 199).

Collaborative Culture with a Focus on Learning. Research has consistently reported that the culture of education is largely dominated by teacher isolation (Elmore, 2003; Saraso, 1996; Schmoker, 2006). Elmore (2003) asserted the existing structures of most schools allows for and fosters isolation of teachers from their peers. This isolation has led to a "culture of privacy and non-interference that is the best friend of the status quo" (Schmoker, 2006, p. 14). This culture of isolation has proven to be quite comfortable for some teachers with many saying, "Give me my books. Give me my students. Give me my room. And leave me alone" (Dufour et al., 2008, p. 171.) Dufour et al. (2008) further stated,

> It is this shift-from a culture of isolation to a culture of collaboration, from working independently to working interdependently, from the pursuit of individual goals and interests to mutual accountability for fulfilling collective purposes and achieving common goals- that generates the strongest appeal for some teachers and, to be candid, elicits the greatest opposition from others. (p. 170)

Elmore (2006) summarized years of consistent research when he wrote:

> The design of work in schools is fundamentally incompatible with the practice of improvement. Teachers spend most of their time working in isolation from each other in self-contained classrooms… The problems with this design is that it provides almost no opportunity for teachers to engage in continuous and sustained learning about their practice in the setting in which they actually work… This disconnect between the requirements of learning to teach well and the structure of teachers' work life is fatal to any sustained process of instructional improvement. (p. 127)

The advantages of teacher collaboration have been known for some time. Fullan (1993) reported that "without collaborative skills and relationships it is not possible to learn and continue to learn as much as you need in order to be an agent for social improvement" (pp. 17-18). Barth (2006) stated, "A precondition for doing anything to strengthen our practice and improve a school is the existence of a collegial culture in which professionals talk about practice, share their craft knowledge, and observe and root for the success of one another" (p. 13). And more recent research continues to support the concept of a collaborative culture. In 2007, Blanchard wrote about the collaborative culture saying, "The strategic vehicle for getting work accomplished…the vehicle for moving organizations into the future… They make better decisions, solve more complex problems, and do more to enhance creativity and build skills than individuals work alone" (2007, p. 172).

A culture of interdependence is the goal of teacher collaboration (Dufour et al., 2008). Pfeffer and Sutton (2000) wrote, "Interdependence is what organizations are

about. The willingness of individuals to cooperate with other members of an organization is one of the major determinants of organizational effectiveness and efficiency" (p. 172). The collaborative culture is essential to school success, but as Fullan (2001) suggested, it is essential that teachers collaborate about the "right things" (p. 67).

In order to help ensure teachers collaborate about essential topics, Dufour et al. (2008) developed the following questions:

1. What is it we want our students to learn? What knowledge, skills, and dispositions do we expect them to acquire as a result of this course, grade level, or unit of instruction?
2. How will we know if each student is learning each of the essential skills, concepts, and dispositions we have deemed most essential?
3. How will we respond when some of our students do not learn? What process will we put in place to ensure students receive additional time and support for learning in a timely, directive, and systematic way?
4. How will we enrich and extend the learning for students who are already proficient? (pp. 183-184)

By focusing collaborative efforts on these questions, it ensures time and energy are allocated to questions with direct impact on student learning (focused on the mission of the school). Without focus, collaboration time can become the antithesis of team work in which all individuals resort to focusing their time and energy of themselves and issues as they pertain to them individually (Dufour et al., 2008). By systematically answering these questions through a collaborative process, teachers develop a culture of trust in

which all are moving toward the same goals and in which all are collectively responsible for the success of all students (Dufour et al., 2008).

Collective Inquiry Into Best Practice and Current Reality. The third of the key tenets of a PLC is that teachers must work interdependently to determine the current level of student achievement as well as to determine the most effective strategies to teach new content (Dufour, et al., 2008). The traditional model of schools that has existed for some time, and which continues to exist in some schools, is one of isolation; teachers working completely independently with no need, nor desire, to interact with other teachers in regards to achievement and practice (Dufour, et al., 2008). Schmoker (2006) stated that this "culture of privacy and non-interference is the best friend of the status quo" (p. 14). Elmore (2003) argued the very organizational structures in place in many schools encourage a culture of isolation. Fulton, Yoon, & Lee (2005) concluded that the culture of isolated teachers is the greatest hindrance in progressing toward 21st century learning. Because these systems and "the way things are done around here" have been in place for a period of time, the changing of the teacher culture can be difficult.

A collaborative effort to determine the current reality of student achievement often includes the analysis of student data as well as an honest analysis of the curriculum that is in place (Dufour et al., 2008). The results of these investigations could reveal key holes in the curriculum that must be addressed before substantive results can be expected. Data analysis can also reveal teachers whose students are having success with certain learning goals while others are struggling. In this case, the group can collaboratively discuss the practice of the "successful" teacher in order to implement those practices

systemically in the future. The collaborative undertaking of these analysis can contribute to the collective learning of the group and, in turn, benefit students (Dufour et al., 2008).

Action Orientation: Learning by Doing. The most significant learning for an individual within a learning organization takes place by being actively involved in the process. A foundational element of the PLC philosophy is that teachers will learn what quality instruction is by taking action and evaluating that action relative to student success. Pfeffer and Sutton (2000) concluded that learning by doing creates more knowledge and more commitment than other means of learning such as listening or reading. Dufour et al. (2008) wrote, "…educators in PLCs recognize that until members of the organization "do" differently, there is no reason to anticipate different results" (p. 16). The actions of the organization should be focused on the mission, vision, and values of the organization. The actions must be coordinated on the learning goals of the organization in order for them to be effective (Dufour et al., 2004). Many schools are characterized by action, but only when those actions are coordinated around the goals of the organization can sustained change be expected (Dufour et al., 2004).

A Commitment to Continuous Improvement. The saying, "if you're not getting better, you're getting worse," aligns perfectly with the philosophy of a professional learning community. All teams, regardless of their performance, if they are honest in their reflection, have room to improve. A culture of continuous improvement is essential to the long-term success of any learning organization, including schools (Dufour, Dufour, Eaker, & Karhanek, 2004). "Although each (school) is attentive to celebrating the success of individuals, teams, and the school at large, the systems that are in place call upon

every team and every teacher to identify and attack areas for improvement" (Dufour et al., 2004, p. 139).

A culture of continuous improvement is one that values and encourages innovation and experimentation as teachers seek better ways to facilitate student learning (Dufour, et al., 2008). The culture of continuous improvement is often perpetuated by a process of planning, doing, checking, and acting (Dufour et al., 2008). Other organizations have called this process the plan, do, study, act (PDSA) process or an action research orientation. This never-ending process involves all teachers determining the current level of student performance, planning new strategies to address deficiencies, carrying out those plans, analyzing their effectiveness, and continuing the cycle again (Dufour et al., 2008; Glassman, Erdem, & Bartholemew, 2012). This process should become embedded within the culture of a PLC school such that it is not a task to complete but a way of striving toward the shared vision of the school.

Results Orientation. The final component of a PLC is a consistent focus on results. Dufour and his colleagues (2008) described this as attention to outcomes as opposed to inputs. As set forth above, the mission of a PLC school should relate to high levels of learning for all students. Therefore, if a school is to focus on the results, they should consistently measure and monitor the level of learning for all students (Dufour et al., 2004). Teaching has historically been the focus of teachers and schools whereas within a PLC the focus becomes learning; the act of teaching is irrelevant if learning did not occur (Dufour et al., 2008). The use of common formative assessments can provide evidence of student learning that can help teachers initiate the plan, do, study, act process with the goal of improving student learning.

"A fixation on results will ultimately, inevitably, lead educators to immerse themselves in the question, 'How will we respond when, despite our best efforts, our student experience difficulty in learning key concepts?'" (Dufour et al., 2004, p. 141). This question results in the establishment of systems to ensure struggling students receive additional time and support in their efforts to learn; learning becomes the constant while time and support become variables controlled by adults in the school (Dufour et al., 2008).

Senge and Kofman (1995) concluded, "The rationale for any strategy for building a learning organization revolves around the premise that such organizations will produce dramatically improved results" (p. 44). Only through the achievement of better results can a professional learning community deem itself successful. "… members of a PLC realize that all of their efforts in these areas—a focus on learning, collaborative teams, collective inquiry, action orientation, and continuous improvement—must be assessed on the basis or results rather than intentions" (Dufour et al., 2008, p. 17).

Summary

Chapter Two outlined the existing research relative to the key constructs used in the present study. Pink's (2009) constructs or autonomy, mastery, and purpose were explored independently and jointly as a framework for intrinsic motivation. The key tenets of a PLC as defined by Dufour et al. (2008) were explored and supported by other literature. Finally, the components of a PLC as presented by Hipp and Huffman (2003) and expanded by Guerin (2008) were presented. The overlap between the Dufour et al.'s constructs and Guerin's constructs were acknowledged while new concepts presented by Guerin were further explored.

In Chapter Three, Research Methods, the purpose of the study, is outlined and the research questions are presented. The specific methodologies of instrument creation, data gathering, and data analysis are also explained. Specifically, Chapter Three includes the following sections: Introduction, research purpose, research questions, research design, population, sampling procedures, data gathering, human subjects protection, data analysis, and limitations.

CHAPTER 3

RESEARCH METHODS

Introduction

State and federal mandates have increased accountability for public schools. The advancement of technology, and broadening access to it, has also increased public scrutiny by making the daily functioning of schools more transparent. Though the research on the effect of the teacher in the classroom is not new (Hattie, 2009; Wright, Horn & Sanders, 1997), the increased accountability and visibility of public education has led researchers and practitioners alike to reconsider what factors cause some teachers to be highly motivated to continually improve their practice while others seem unmotivated.

Many reform efforts have swept through the United States in an effort to improve the nation's schools and improve student achievement. One approach to school improvement introduced by Dufour and his colleagues is Professional Learning Communities (PLCs). PLC's rely upon building leaders who develop and facilitate a culture of continual learning among teachers and staff in an effort to continually improve practice and continually improve student achievement (Dufour, Dufour, & Eaker, 2008). The relationship between the PLC approach and teacher motivation will be explored in this study.

The following sections outline the methodological approach of the study and will include: the research purpose, research questions, research design, the population

surveyed, sampling procedures, data gathering procedures, human subjects protections, data analysis procedures, and the limitations of the study.

Research Purpose

The purpose of this study is to measure the perceived level of PLC implementation among secondary school teachers in Missouri who are associated with the Missouri Professional Learning Communities Project (PLCP) and to understand if a relationship exists between the components of a PLC and Pink's concepts of intrinsic motivation: autonomy, mastery, and purpose. One premise of the PLC philosophy is that teachers must continually learn in order to stay abreast of, and be able to implement, current best practice and therefore positively affect student learning (Dufour et al., 2008). This study sought to understand teachers' motivation as learners. Another goal of this research was to quantify Pink's concepts of autonomy, mastery, and purpose through the development, piloting, and implementation of a survey tool to measure teacher motivation. Finally, the researcher hoped to determine a model to predict high levels of teacher motivation from the components of a PLC as defined by Geurin (2008).

Research Questions

The following research questions guided the focus of this study:

1. What is the motivation of secondary teachers using Pink's framework (autonomy, mastery, and purpose)?
2. What is the level of PLC implementation in secondary schools?
3. Does a relationship exist between the perceived levels of PLC implementation and teacher motivation as defined by Pink (2009)?

4. What is the best predication model for teacher motivation as defined by Pink (2009) from PLC concepts?

Research Design

The research questions presented above were answered quantitatively, making use of Likert-scale survey data. The researcher chose to collect a limited amount of qualitative data to be used for further research; however, the present study did not make use of this qualitative data. This study was based upon a post-positive perspective (Creswell, 2003), with an understanding that, "we cannot be positive about our claims of knowledge when studying the behavior and actions of humans" (p. 7). Though the research sought relationships between the components of professional learning communities and the concepts of Pink's framework of intrinsic motivation, causation was not implied from the findings. According to Field (2009), confounding variables or extraneous factors can cause correlations to exist (p. 14). Therefore, though correlations were determined and were valuable in understanding the relationship between PLC implementation and teacher motivation, one should not assume causation.

Professional Learning Communities Assessment

A modification of a survey instrument known as the Professional Learning Communities Assessment (PLCA) (Oliver, Hipp & Huffman, 2003) was used to measure the degree to which teachers believe the PLC philosophy has been implemented in their building or district. The PLCA is a 45 question instrument that is divided into 5 key constructs of PLCs: shared and supportive leadership, shared values and vision, collective learning and application of learning, supportive conditions, and shared personal practice. Geurin (2008) modified the key constructs presented by Hipp and Huffman to include:

shared and supportive leadership, shared values and vision, collective learning and application of learning, supportive structures, supportive relationships, and shared personal practice. Geurin also modified the PLCA for use in his study to include only 30 of the original 45 questions. According to Geurin (2008), the PLCA resulted in Cronbach alpha values ranging from a low of .83 to a high of .93. Therefore it is considered a reliable instrument to measure the constructs of a PLC (Field, 2009).

This research made use of Geurin's survey instrument to measure teacher perceptions of the implementation of the PLC components within their school. An understanding of each of the constructs measured by Geurin's survey is essential to the understanding of the present research as well. The following sections will outline each of the constructs and will present literature to support their significance in this study.

Shared and supportive leadership. It is difficult to imagine a school functioning as a professional learning community without a highly effective leader. Sergiovanni (1994) wrote that leaders "plant the seed of community, nurture the fledgling community and protect the community once it emerges. They lead by serving. They lead by inviting others to share in the burdens of leadership" (p. 19). Hipp and Huffman (2003) asserted that in order for a PLC to function effectively, leadership must be distributed to teachers and other stakeholders within the school. Further, they asserted that along with shared leadership there should be a culture of shared responsibility for student outcomes. Senge (1990b) explained the role of the leader within the learning organization:

> Leadership in the learning organization centers on subtler and ultimately more important work. In a learning organization, leaders' roles differ dramatically from that of the charismatic decision maker. These roles require new skills: the ability

> to build shared vision, to bring to the surface and challenge prevailing mental models, and to foster more systemic patterns of thinking. (p. 11)

The leader within a learning organization is not a dictatorial leader but a participant in the democratic process of leadership (Hipp & Huffman, 2003). The power of leadership should be shared with others in the organization; therefore, within a PLC, teachers and administrators must be viewed as and must both participate in leadership at various times (Yukl, 2006). Dufour et. al (2002) stated, "In professional learning communities, administrators are viewed as leaders of leaders" (p. 22).

Shared vision and values. Hipp and Huffman (2003) stated that the vision and values of a Professional Learning Community must be focused on student learning with high expectations established for all. Senge (1990) stated, "You cannot have a learning organization without a shared vision" (p. 209). The vision and values must be stated and lived in order for them to be effective.

Collective learning and application of learning. Bruffee (1999/2009) outlined his beliefs and findings related to adult and organizational learning in his book entitled *Collaborative Learning.* One of the key premises of this work was that socialization aids in the learning process. This principle is played out in the PLC model in which teachers are encouraged to collaborate with their peers, share the individual learning with the group in order to aid the learning of all, and facilitate the implementation of best practices for the betterment of students.

Supportive relationships. Hipp and Huffman (2003) proposed that the relationships within a PLC should be built upon a foundation of trust and respect in which risk taking is encouraged. A strong sense of community is developed within well-

functioning PLC's. Louis and Kruse (1995) determined that schools with a strong sense of community had teachers and students who were more motivated and had higher levels of personal satisfaction.

Supportive structures. The proper supports should be in place in order for PLCs to function most effectively. Hipp and Huffman (2003) outlined the structures of time, money, materials, people, facilities and communication systems as necessary to ensure the most effective learning. Teachers often covet time as much as any other resource. Often within PLCs, time is set aside to allow teachers an opportunity to collaborate (Dufour et al., 2008). This can be accomplished through the use of late-start days in which students start their school day thirty minutes to an hour later than usual one day per week in order to allow for collaboration time. Early release days have also been used to ensure teachers have regularly scheduled time to collaborate.

Shared personal practice. Within high functioning PLCs, reflection and feedback are the norms (Hipp & Huffman, 2003). Teachers are encouraged to share strategies that are both effective and ineffective and are encouraged to spend time observing other teachers to reinforce the previous learning as well as question their long standing beliefs. Coaching and mentoring are often well established in professional learning communities.

Teacher Motivation Inventory (TMI)

A survey instrument to measure Pink's concepts collectively did not exist. Therefore, the researcher sought and was granted permission from Pink to develop an inventory that could be used to quantify his concepts. Pink stated multiple companies were working on such an instrument, but he gave his blessing to the researcher to develop

such a tool as well (personal communication, April 2, 2013). The inventory was developed to measure teachers' feelings of autonomy, mastery, and purpose. The researcher developed the inventory through a series of steps. First, the researcher developed a concept map outlining Pink's key concepts and included key quotes from *Drive*. This concept map and the included quotes were used to quickly familiarize teachers with Pink's concepts. The researcher invited teachers from a single high school to assist in the development of the inventory by participating in a focus group interview. The purpose of the focus group interview was to analyze teacher responses in an attempt to find key language teachers use to describe the concepts of autonomy, mastery, and purpose. The researcher approached the focus group interview with questions that led to conversational responses among the group as opposed to responses directed solely to the researcher (Krueger & Casey, 2009). The conversational nature of the focus group allowed participants to build off each other's comments as well as disagree with the comments of others (Krueger & Casey, 2009). The focus group consisted of seven teachers: two English language arts teachers, a Spanish teacher, a history teacher, a vocal music teacher, a family and consumer science teacher, and a special education teacher. The number of participants falls within the recommendation of Krueger and Casey (2009) of five to ten people. The variety of perspectives presented from the teacher group added to quality of the conversation in the group. The focus group interview was recorded and later transcribed.

The transcription was then analyzed to find themes and key language to be used in the construction of the inventory. Based upon the key concepts analytical framework, Krueger and Casey (2009) suggested looking for key terms or ideas that are repeated

multiple times and by multiple people. This process was completed in an attempt to better ensure the validity of the inventory, and aided the researcher in the development of a tool relevant to teachers and their current practice. As stated above, Pink noted a couple of companies were in the process of developing an inventory to measure participant's levels of autonomy, mastery, and purpose (personal communication, April 2, 2013). However, the researcher hoped to develop a very specific tool to be used solely in the field of education that was more specific to the field and the language used in the field.

The developed inventory, titled the Teacher Motivation Inventory (TMI), included 6-10 items to measure each of Pink's constructs resulting in 25 survey questions. The inventory was then piloted using a convenience sample (Fink, 2009) to determine the validity and reliability of the questions within the instrument. Field (2009) defined validity as a measure of whether an instrument measures what it intends to measure. Field defined reliability as the ability of an instrument to "produce the same results under the same conditions" (2009, p. 12). Both factors are necessary in order to ensure a quality instrument (Field, 2009).

Field (2009) suggested the easiest way to determine the reliability of an inventory is to survey the same group of participants twice to determine the test-retest reliability. However, due to the length of the inventory, the researcher chose not to retest the same individuals. Instead, the Cronbach alpha, α, was calculated (Field, 2009). Data were analyzed using the statistical package for the Social Sciences (SPSS) to calculate the value of α. In order to determine this value, the software essentially split the data in half in every possible way and calculated the correlation coefficient for each split (Field,

2009). The average of these correlation coefficients was the final α value. This is the most common statistical way to determine the reliability of an inventory (Field, 2009). Because the inventory contained subscales for each of Pink's concepts (autonomy, mastery, and purpose), as well as subscales of each of Geurin's components of a PLC (shared and supportive leadership, shared values and vision, collective learning and application of learning, supportive structures, supportive relationships, and shared personal practice), a Cronbach alpha score was determined for each subscale. Based upon the recommendation of Field (2009), an α value at or above 0.7 was deemed as an acceptable level of reliability.

After pilot testing the inventory and an analysis of item reliability, it was further refined to include 5-8 questions for each of Pink's concepts. The results from each construct were analyzed to determine their Cronbach alpha values. An alpha value less than 0.7 resulted in an analysis of the questions to determine if they should be rewritten or discarded in favor of more reliable questions. This allowed the researcher to reduce the number of questions in the inventory and ensure it consisted of high quality questions. The refined inventory was again sent to a group of secondary teachers in order to ensure the validity and reliability of the questions. The second pilot survey results were again analyzed using the SPSS to determine Cronbach alpha scores for each of the subscales. After final adjustments were made, the inventory was completed. The final survey distributed to teachers was a combination of Geurin's (2008) PLC instrument and the TMI developed to measure Pink's concepts. Each item within the final survey was also associated with the specific subscale it measured (see Appendix D).

Population

The population for this study consisted of secondary school teachers from across the state of Missouri. The researcher contacted the Missouri Professional Learning Communities Project (PLCP) which has ties to the Missouri Department of Elementary and Secondary Education (DESE). This branch of DESE exists to support schools and school districts in the implementation of PLCs. This organization conducts professional development and ongoing support for leaders and teachers as they seek to embed learning community philosophies into their culture. The PLCP provided the researcher with a list of schools they have provided assistance to outlining the leader within the school and the number of years each school has been involved with the organization. The schools working with the PLCP range from extremely small districts to extremely large districts such as the school district of St. Louis. The researcher made contact with each school listed as participating with the PLCP in hope of reaching a wide demographic of teachers and districts.

Sampling Procedures

The surveyed population was based upon a convenience sample (Fink, 2009) of teachers who were willing to complete the survey in the window of time allotted by the researcher. Respondents also participated randomly based upon an invitation to participate from their school principal. This random sampling did not ensure equal participation from various demographic groups; however, this was of little concern because the demographic nature of the participants was not under investigation in this study (Fink, 2009). The researcher chose to send the survey to a large pool of potential respondents in an effort to increase precision (Fink, 2009). The difficulty of stratifying a

random, convenience sample limited the ability of the researcher to improve precision in other ways, that is, to ensure equal participation from the different strata within the sample (Fink, 2009).

Data Collection

The survey instrument used in this study, which consisted of a modified version of the PLCA as well as the TMI, created and piloted by the researcher, was transformed to a digital survey using surveymonkey.com. After completing the development of the online survey, the system generated a link that was emailed, along with an introductory letter, to potential participants. When the participants clicked on the provided link it took them to the survey where they were able to acknowledge understanding of their rights as required by the Internal Review Board (IRB) process. After acknowledgement of their rights, participants were directed to the completion of the survey. This online survey was used to collect quantitative data (as well as minimal qualitative data to be used at a later date) from the responses of teachers. The quantitative data generated from the surveying of teachers were exported to SPSS in raw form in order to ensure cross tabulation of the data could be performed (Field, 2009). This allowed the researcher to seek a relationship between the perceived level of PLC implementation and the perceived level of autonomy, mastery, and purpose of each teacher.

Human Subjects Protection

Care was taken to ensure participants remained anonymous. The researcher felt it necessary to collect minimal demographic information, but the survey did not ask for personally identifiable information. Further, no person from the researcher's place of

work completed the survey. Because only teachers from schools other than the researcher's school participated, anonymity was better assured in the survey process.

The survey was conducted in an online format that did not require participants to enter an email address. The link to the survey was disseminated through the building level administrator to teachers in his or her building. Therefore, the researcher had no individual contact with participants either personally or through electronic means. The building principals did not have access to the data at any point prior to the publication of the findings of the research. These steps helped to further ensure the anonymity of participants. The letter sent to building administrators can be seen in appendix B.

Participants were informed of the purpose of the study upon clicking the link provided in the email sent by the building administrator. Participants were also made aware of the steps that would be taken to ensure their anonymity. These steps included: (a) only collecting non-identifiable demographic information (b) sharing survey results only on a need-to-know basis (Fink, 2009), and (c) ensuring completed survey results were kept in a secure location for the duration of the study and would be kept secure for the required seven years. Participants were also informed of potential risks and benefits from their participation and were offered an opportunity to ask questions of the researcher via email if they felt it necessary (Appendix A) (Fink, 2009).

Data Analysis

The survey was conducted online making use of the tools offered at surveymonkey.com. The data generated were exported from surveymonkey.com and imported into the SPSS software which was used to analyze the data. The data were

organized based upon the components of a PLC as cited by Guerin (2008), as well as Pink's (2009) factors that affect intrinsic motivation.

Research Question One

Subscales were determined for autonomy, mastery, and purpose-the three components of Pink's (2009) definition of motivation (Appendix D). For each of the subscales, the mean and standard deviations were calculated, and a histogram was generated using the SPSS software. This data allowed the researcher to determine the overall level of perceived autonomy, mastery, and purpose among the research participants.

Research Question Two

Subscales were also created for each of the six components of PLC's as defined by Geurin (2008) (Appendix D). For each subscale the mean, and standard deviations were calculated, and a histogram was generated using the SPSS software. This data allowed the researcher to determine the perceived level of implementation of each of the PLC components.

Research Question Three

The Pearson Correlation Coefficients were calculated to determine the relationship between the PLC components as established by Geurin (2008) and Pink's concepts of intrinsic motivation. The calculation of this coefficient determined if a relationship, or correlation, exists between the concepts, but it did not determine causality (Field, 2009) as discussed previously. Field (2009) stated that a correlation coefficient of ±0.1 represents a small effect, ±0.3 represents a medium effect, and ±0.5 represents a large effect. These numbers were used to interpret the results of the Pearson Correlation

Coefficient calculation between the components of PLCs and Pink's concepts of motivation. An alpha value of .05 was used to determine significance.

Research Question Four

The SPSS software was also used to perform forward regression analysis (Field, 2009) in an attempt to create a predictive model. The researcher sought to determine the best predictors for teacher motivation based on the components of a PLC as defined by Geurin (2008). Because Geurin's (2008) framework for PLCs involves multiple components, multiple regression was performed allowing the creation of a model to predict teacher motivation based upon multiple predictor variables (Field, 2009). This analysis was performed three times to determine the best predictor for each of the three subscales of Pink's framework (autonomy, mastery, and purpose).

Qualitative Data

The researcher chose to collect qualitative data through the use of open response questions embedded throughout the survey. These data were not analyzed for the present research but were collected to facilitate future research. Demographic data were also gathered to allow for future comparisons based upon varying levels of experience in education as well as various levels of PLC implementation.

Limitations

The limitations of this study involved the sampled population, sampling methods, and questioning route. The study was conducted using only secondary school teachers in Missouri. Though the population was randomly selected and was characteristic of the overall teacher population in Missouri, the generalizability of the results is limited to secondary school teachers. Further, the study was conducted only in Missouri, thus

limiting the generalizability of the findings beyond that region. The sampling methods used (a random, convenience sample) also limited the application of the results to a broader audience. Finally, the results are limited due to the nature of the survey questions. The survey requested teacher perceptions of PLC implementation and perceptions of autonomy, mastery, and purpose. Individual differences in perceptions also limited the generalizability of the findings.

Summary

The effects of a quality teacher in the classroom have been known for some time (Wright, Horn & Sanders, 1997) and have been proven consistent over time by more recent research (Hattie, 2009; Robinson, 2011). Much research has also been conducted on teacher motivation issues and the resulting burn-out that can accompany a lack of motivation (Gokce, 2010). However, Pink's framework of motivation has not been quantitatively explored related to teachers and has not been correlated to the implementation of PLCs. The data collected in this study were analyzed using SPSS software to determine the perceived level of implementation of PLCs according to participating teachers, as well as their perceptions of their levels of autonomy, mastery, and purpose (Pink, 2009). SPSS was used to examine if a relationship exists between the perceived level of PLC implementation and motivation when viewed through Pink's framework. Finally, SPSS software was used to perform forward regression analysis to determine the best predictive model for motivation based upon the components of a PLC as set forth by Guerin (2008).

CHAPTER FOUR

RESULTS

Introduction

The purpose of this study was to determine teachers' perceived level of implementation of Professional Learning Community (PLC) principles as defined by Geurin (2008) as well as their self-perceived level of motivation when viewed through Pink's (2009) framework. The data from the study were also analyzed to determine if a relationship exists between a teacher's perception of PLC implementation and his or her motivation. Finally, the researcher performed linear regression analysis to determine which component of a PLC is the best predictor of autonomy, mastery, and purpose.

The study was approached quantitatively making use of Geurin's (2008) version of the Professional Learning Communities Assessment (PLCA) and the Teacher Motivation Inventory (TMI) developed and piloted by the researcher. These two instruments were combined into one instrument used in this research. The final instrument, the School Culture and Motivation Inventory (SCMI), was presented electronically through surveymonkey.com and generated quantitative data based upon participant responses to questions they were asked to rate on a Likert scale. The data derived from this inventory were used to answer the following research questions:

1. What is the motivation of secondary teachers using Pink's framework (autonomy, mastery, and purpose)?
2. What is the level of PLC implementation in secondary schools?

3. Does a relationship exist between the perceived levels of PLC implementation and teacher motivation as defined by Pink (2009)?
4. What is the best predictive model for teacher motivation as defined by Pink (2009) from PLC concepts?

The following sections will explore the development and revision of the TMI portion of the final instrument as well as the population used in the piloting of that inventory. The Full Survey section will explain how the researcher sought and received permission to disseminate the survey to teachers. The Results section will present the research questions, data, and analyses used to answer the research questions, and the Summary section reviews the results and introduces the following chapter.

Pilot

As stated, the researcher developed the portion of the inventory used to measure teachers' perceptions of their level of autonomy, mastery and purpose as it relates to their level of motivation. Though care was taken to ensure questions were applicable to current educators, the reliability of the instrument was unsubstantiated. Therefore, before the full study could be completed, the researcher piloted the TMI to determine its reliability for use in the broader study. The reliability analysis and other steps taken in the development of the TMI are presented in the following section.

Teacher motivation played a central role in the study. More specifically, Pink's (2009) components of intrinsic motivation including autonomy, mastery, and purpose served as the conceptual framework for this study. At the time of the study, there was no existing survey instrument to measure Pink's ideas as one conceptual framework. The researcher was able to contact Pink and received permission to develop an inventory to

quantitatively measure autonomy, mastery, and purpose as it specifically relates to secondary teachers. The researcher conducted a focus group interview with secondary teachers to discuss the ideas of autonomy, mastery, and purpose. This interview was recorded, transcribed, and used to determine key language teachers use to describe these concepts. From that interview, the TMI was created. To ensure a quality, reliable instrument, it was piloted with a small subset of the overall study population.

Pilot Population

The teachers who participated in the pilot study were employed in secondary schools which actively participate in the Missouri Professional Learning Communities Project (PLCP). A total number of 22 completed the TMI pilot. Though demographic information was not required for participation in the pilot study, it was voluntarily collected. The demographics of the pilot group are presented in Table 1.

Pilot Results

The TMI pilot consisted of 25 questions. Each of the 25 questions was associated with one of the Pink's (2009) constructs of teacher motivation. Ten questions related to the Pink's concept of purpose (P1-P10). Nine questions related to Pink's concept of mastery (M1-M9). Six questions related to Pink's concept of autonomy (A1-A6). The inventory was then piloted using a convenience sample (Fink, 2009) to determine the validity and reliability of the questions within the instrument. Field (2009) defined validity as a measure of whether an instrument measures what it intends to measure and reliability as the ability of an instrument to "produce the same results under the same conditions" (p. 12). Both factors are necessary in order to ensure a quality instrument (Field, 2009).

Table 1

Pilot Survey Participant Demographics

		N	Percentage
Gender			
	Male	1	4.55%
	Female	21	95.45%
Age Group			
	18-24	2	9.09%
	25-34	2	9.09%
	35-44	9	40.91%
	45-54	5	22.73%
	55-64	3	13.64%
	65-74	1	4.55%
Years Teaching			
	0-5	4	18.18%
	6-10	2	9.09%
	11-20	7	31.82%
	20+	9	40.91%
Subject Taught			
	ELA	8	36.36%
	Science	3	13.64%
	Social Studies	3	13.64%
	Math	3	13.64%
	Art	1	4.55%
	Special Education	1	4.55%
	Other	3	13.64%
Setting			
	Urban	0	0.00%
	Suburban	5	22.73%
	Rural	17	77.27%

Note. N=22.

The Cronbach alpha, α, was calculated (Field, 2009) on each subscale to determine the reliability of the instrument. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) software to calculate the value of α. In order to determine this value, the software essentially split the data in half in every possible way and calculated the correlation coefficient for each split (Field, 2009). The average of these correlation coefficients was the final α value. This is the most common statistical way to determine the reliability of an inventory (Field, 2009). Because the inventory contained subscales for each of Pink's concepts (autonomy, mastery, and purpose), a Cronbach alpha score was determined for each subscale. Based upon the recommendation of Field (2009), an α value at or above 0.7 was deemed as an acceptable level of reliability. The researcher sought to eliminate the least reliable questions from each subscale in an attempt to reduce the overall number of items in the inventory and to better ensure the reliability of the instrument.

Autonomy Subscale. The original survey developed to quantify teacher's motivation contained six questions associated with teacher autonomy (A1-A6, see Appendix C). The researcher sought to eliminate one question from the autonomy subscale in order to shorten the final instrument and ensure the questions of highest reliability were used. The results of the Cronbach Alpha analysis for the questions associated with Pink's (2009) construct of autonomy are presented in Table 2. Based upon this data, the question coded as A5 was eliminated. Because this construct had only six questions originally, only one question was eliminated. The resulting subscale consisting of 5 questions had an alpha value of .900. Based upon Field's (2009) recommendation of a .7 alpha value, the purpose subscale was deemed reliable.

Table 2

Reliability Analysis of Autonomy Construct Survey Questions

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
A1	24.43	15.657	.733	.791	.866
A2	24.19	17.462	.661	.622	.876
A3	24.43	15.357	.815	.931	.850
A4	24.38	16.348	.836	.917	.849
A5	23.95	19.148	.485	.571	.900
A6	24.81	17.362	.722	.700	.867

Note. N=21. **Eliminated Items.**

Mastery Subscale. The original survey developed to quantify teacher's motivation contained nine questions associated with teacher mastery (M1-M9, see Appendix C). The researcher sought to eliminate three questions from the mastery subscale in order to shorten the final instrument and ensure the questions of highest reliability were used. As noted earlier, the autonomy scale started with 6 questions and one was eliminated. Because this subscale contained more questions originally it was deemed appropriate to eliminate more questions in an attempt to shorten the overall survey while increasing the reliability of the instrument. The Cronbach alpha analysis for

the questions associated with Pink's (2009) construct of mastery is presented in Table 3. Based upon this data, the question coded as M8 was eliminated. After elimination of question M8, further analysis was performed on the subscale to determine one other question to eliminate from the subscale. Based upon that analysis, the question coded as M7 was also eliminated. Once again, the Cronbach alpha analysis was run, and it was determined that question M9 should also be deleted. The resulting alpha value of the scale was .885. Based upon Field's (2009) recommendation of a .7 alpha value, the mastery subscale was deemed reliable.

Table 3

Reliability Analysis of Mastery Construct Survey Questions

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
M1	41.05	9.474	.438	.507	.713
M2	41.27	8.113	.553	.479	.687
M3	41.09	9.229	.423	.704	.713
M4	41.18	9.584	.423	.725	.716
M5	41.55	9.403	.436	.601	.713
M6	41.27	9.255	.596	.545	.697
M7	41.36	9.576	.328	.551	.728
M8	41.82	8.156	.354	.680	.743
M9	41.77	8.851	.380	.696	.722

Note. N=22. **Eliminated Items.**

Purpose Subscale. The original survey developed to quantify teacher's motivation contained ten questions associated with teacher purpose (P1-P10, see Appendix C). The researcher sought to eliminate two questions from the purpose subscale in order to shorten the final instrument and ensure the questions of highest reliability were used. Because this subscale had ten questions originally it was deemed appropriate to reduce it by two questions. This would result in eight questions for this subscale and a total of 19 questions for the entire inventory. The results of the Cronbach Alpha analysis for the questions associated with Pink's (2009) construct of purpose are presented in Table 4. Based upon this analysis, the question coded P5 was eliminated. After elimination of question P5, further analysis was performed on the subscale to determine one other question to eliminate from the subscale. Based upon that analysis, the question coded as P7 was also eliminated. The resulting subscale consisting of 8 questions had an alpha value of .855. Based upon Field's (2009) recommendation of a .7 alpha value, the purpose subscale was deemed reliable.

The final version of the TMI used in this research consisted of 19 questions. Eight questions measured Pink's construct of purpose with an alpha value of .855. Six questions measured Pink's construct of mastery with an alpha value of .885, and five questions measured Pink's construct of autonomy with an alpha value of .900. The subscales do not contain equal numbers of questions due to method used in the creation of the instrument. As noted above, the researcher solicited the input of a select group of of secondary teachers to determine the language they used to describe autonomy, mastery, and purpose. Upon analysis of that data, more key pieces of language emerged

for some subscales more than others. This resulted in an unequal number of questions written for each.

Table 4

Reliability Analysis of Purpose Construct Survey Questions

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
P1	46.41	20.729	.872	.903	.783
P2	45.95	23.093	.628	.905	.815
P3	46.14	22.123	.736	.914	.801
P4	46.73	23.160	.622	.703	.816
P5	46.32	30.132	.089	.546	.853
P6	46.36	26.719	.485	.453	.829
P7	46.32	28.418	.396	.407	.836
P8	46.27	27.351	.481	.595	.830
P9	46.95	27.188	.474	.612	.830
P10	46.45	26.069	.463	.578	.831

Note. N=22. **Eliminated Items.**

Further refinement of the instrument by eliminating more questions from each subscale could result in a more reliable, as well as more concise, instrument. The researcher felt the questions presented for each subscale provided valuable insights into teacher's perception of their autonomy, mastery, and purpose, and therefore chose not to eliminate further questions. The initial instrument before modifications is presented in Appendix C. The final instrument, after analysis and removal of questions, used to measure teacher motivation based upon Pink's (2009) framework of intrinsic motivation is presented within the overall survey instrument found in Appendix D.

Full Survey

After refinement of the TMI and combination with Geurin's (2008) PLCA, the School Culture and Motivation Inventory (SCMI) was finalized (Appendix D). Before distributing the SCMI, permission was sought from school superintendents. An email requesting permission to contact building principals was sent to 63 superintendents whose secondary schools are associated with the Missouri Professional Learning Communities Project (PLCP). Thirty superintendents responded to the email (some were emailed multiple times) and granted the researcher permission to contact their building administration. Twelve superintendents responded to the email and denied permission to contact building administration. Twenty-two superintendents never responded via email after multiple attempts. A total of 54 secondary school principals were emailed to request they forward the link to the survey to their staffs. A total number of 182 teachers responded to the demographic portion of the survey. The general demographic information of the respondents can be seen in Table 5.

Table 5

School Culture and Motivation Inventory (SCMI) Participant Demographics

		N	Percentage
Gender			
	Male	49	27%
	Female	133	73%
Age Group			
	18-24	9	4.9%
	25-34	64	35.4%
	35-44	49	27.1%
	45-54	32	17.7%
	55-64	25	13.8%
	65-74	2	1.1%
Years Teaching			
	0-5	52	28.6%
	6-10	40	22.0%
	11-20	51	28.0%
	20+	39	21.4%
Subject Taught			
	ELA	35	19.3%
	Science	31	17.1%
	Social Studies	30	16.6%
	Math	29	16.0%
	Art	1	0.55%
	Music	1	0.55%
	FACS	1	0.55%
	Business	12	6.6%
	Special Education	30	16.6%
Setting			
	Urban	18	9.9%
	Suburban	82	45.1%
	Rural	82	45.1%

Note. N= 182.

Results

Research Question 1: What is the motivation of secondary teachers using Pink's framework (autonomy, mastery, and purpose)?

To answer the research question about teacher motivation the responses to the portion of the survey dealing with teacher motivation, the Teacher Motivation Inventory (TMI), were analyzed using the Statistical Package for the Social Sciences (SPSS) software. The analysis resulted in the mean and standard deviation of each subscale (autonomy, mastery, and purpose). These results can be seen in Table 6. Histograms were also generated to show the overall distribution of teacher responses.

Table 6

Motivation of Secondary School Teachers

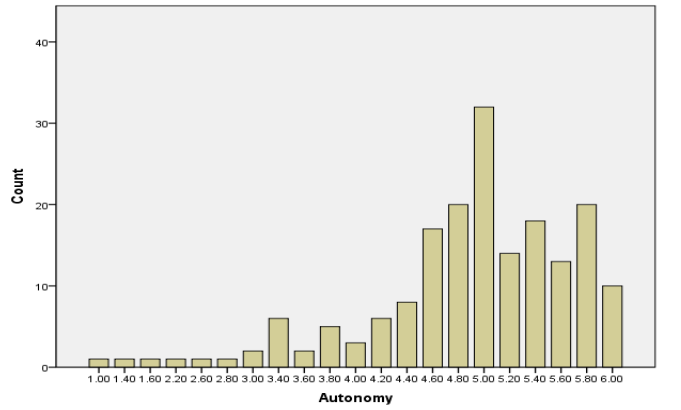
	N	Minimum	Maximum	Mean	Std. Deviation
Autonomy Subscale	182	1.00	6.00	4.888	.865
Mastery Subscale	187	1.00	6.00	5.393	.566
Purpose Subscale	184	1.00	6.00	5.349	.580
Valid *N* (listwise)	174				

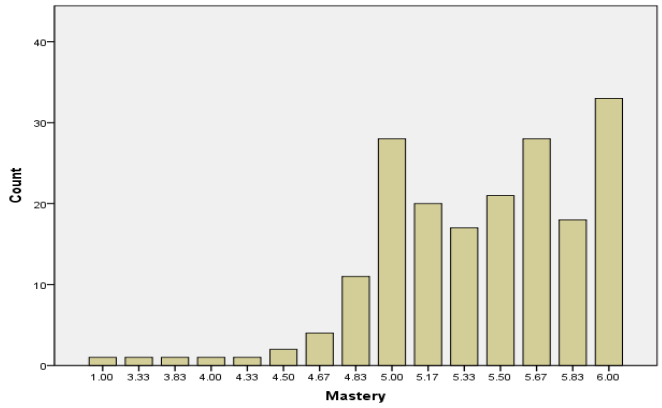
Note. 1= Strongly Disagree, 2= Disagree, 3= Slightly Disagree, 4= Slightly Agree, 5= Agree, 6= Strongly Agree.

Table 6 shows the general response data of teachers regarding each of Pink's (2009) subscales of motivation. The mastery and purpose subscales showed nearly identical mean responses with the mean autonomy response being lower. Of interest are the relatively high values of the standard deviations. The autonomy subscale showed the

greatest variance in Likert scale responses as evidenced by the .865 standard deviation and the negatively skewed histogram (Field, 2009) of responses show in Figure 3. The mean score of 5.36 (Table 6) on the mastery subscale was the highest of the Pink's (2009) components of motivation. This mean falls between agree and strongly agree on the Likert scale. This indicates that teachers feel most positively in this area of their motivation.

Figure 3 displays histograms for each of the response sets for the three components of teacher motivation described by Pink (2009) and measured by this study. Though there is variance between the low score of 1 and the high score of 6 the distribution of responses favors the high end of the Likert scale for each distribution. Each of the histograms displays a negative skew (Field, 2009) indicating that more of the sample perceived themselves at the high end of the Likert scale for the questions associated with each subscale. The mean score of teacher responses dealing with the purpose subscale was 5.349, the second highest mean of the three. The standard deviation for this subscale was .580 indicating there was less variance in responses in this subscale than the autonomy subscale but slightly more variance than the mastery subscale. This data, collectively, indicate that the teachers in this population, in general, agree there are high levels of autonomy, mastery, and purpose in their work environments and experiences.





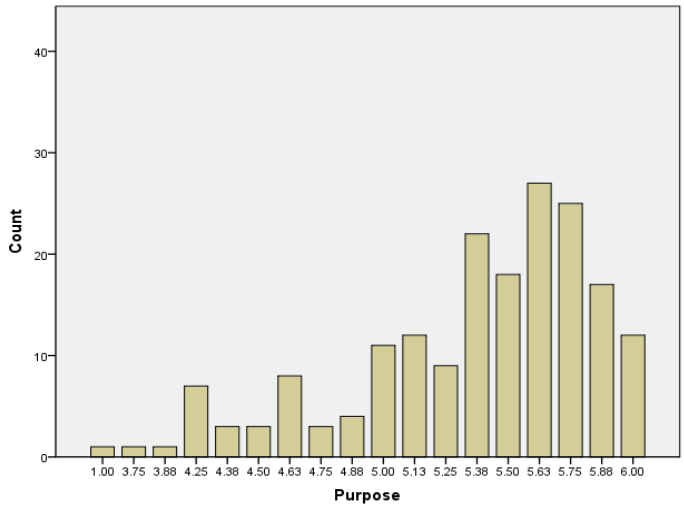


Figure 3. Histogram of Responses Related to the Teacher Motivation Subscale (1= Strongly Disagree ; 6= Strongly Agree)

Field (2009) stated that the mean and standard deviation of a response set does give the researcher some information but it is the simplest model one can use to describe that data. As a result, if one tried to make predictions based upon that data their predictions would be very limited. Better models to describe the data can be calculated and will be considered in later research questions.

The data related to teacher motivation showed that teachers rated themselves and their environments relatively high in relation to autonomy, mastery, and purpose. The teachers surveyed in the present study rated their level of mastery and purpose significantly higher than autonomy based upon ANOVA analysis (F= 42.782 (df=2) ; $p <$ .001). There was variance in the responses with few teachers rating themselves and their environments on the low end of the Likert scale. The majority of teachers, however, rated themselves and their environments toward the high end of the Likert scale.

Research Question 2: What is the level of PLC implementation in secondary schools?

Geurin's (2008) version of the PLCP was used to determine teacher's perceived level of Professional Learning Community implementation in secondary schools. The responses to this portion of the survey were analyzed using the SPSS software to determine the mean and standard deviation of each subscale and to display the distribution of responses for each subscale (see Table 7).

Table 7

Teachers Perceived Level of PLC Implementation in Secondary Schools

	N	Min.	Max.	Mean	Std. Dev.
Shared and Supportive Leadership	162	1.00	6.00	4.509	1.087
Shared Vision and Values	156	1.50	6.00	4.564	1.008
Collective Learning and Application of Learning	160	1.00	6.00	4.591	0.917
Shared Personal Practice	157	1.40	6.00	4.296	0.975
Supportive Conditions--Relationships	158	1.80	6.00	4.549	0.891
Supportive Conditions--Structures	161	1.40	6.00	4.622	0.899
Valid (*N*) Listwise	138				

Note. 1= Strongly Disagree, 2= Disagree, 3= Slightly Disagree, 4= Slightly Agree, 5= Agree, 6= Strongly Agree.

Table 7 shows the mean score for each of the subscales associated with Geurin's (2008) version of the PLCP. All mean scores fell between the descriptors "slightly agree," and "agree." This would indicate that the majority of teachers surveyed believe Geurin's (2008) components of a PLC are functioning within their buildings. Though there were those individuals who scored their environments very low in each area, the overall distribution does favor the positive end of the Likert scale.

Figure 4 shows the distribution of responses for each of the subscales associated with Geurin's (2008) version of the PLCP. Each of the histograms had a similar general

shape with negative skew (Field, 2009), and the majority of responses were at the positive end of the Likert scales.

In general, teachers responded on the agree end of the Likert scale for each of the subscales related to Professional Learning Communities. Supportive Conditions—Structures had the highest mean score while Shared Personal Practice had the lowest mean score. The standard deviations are relatively high indicating the variance of responses that can also be seen in Figure 4.

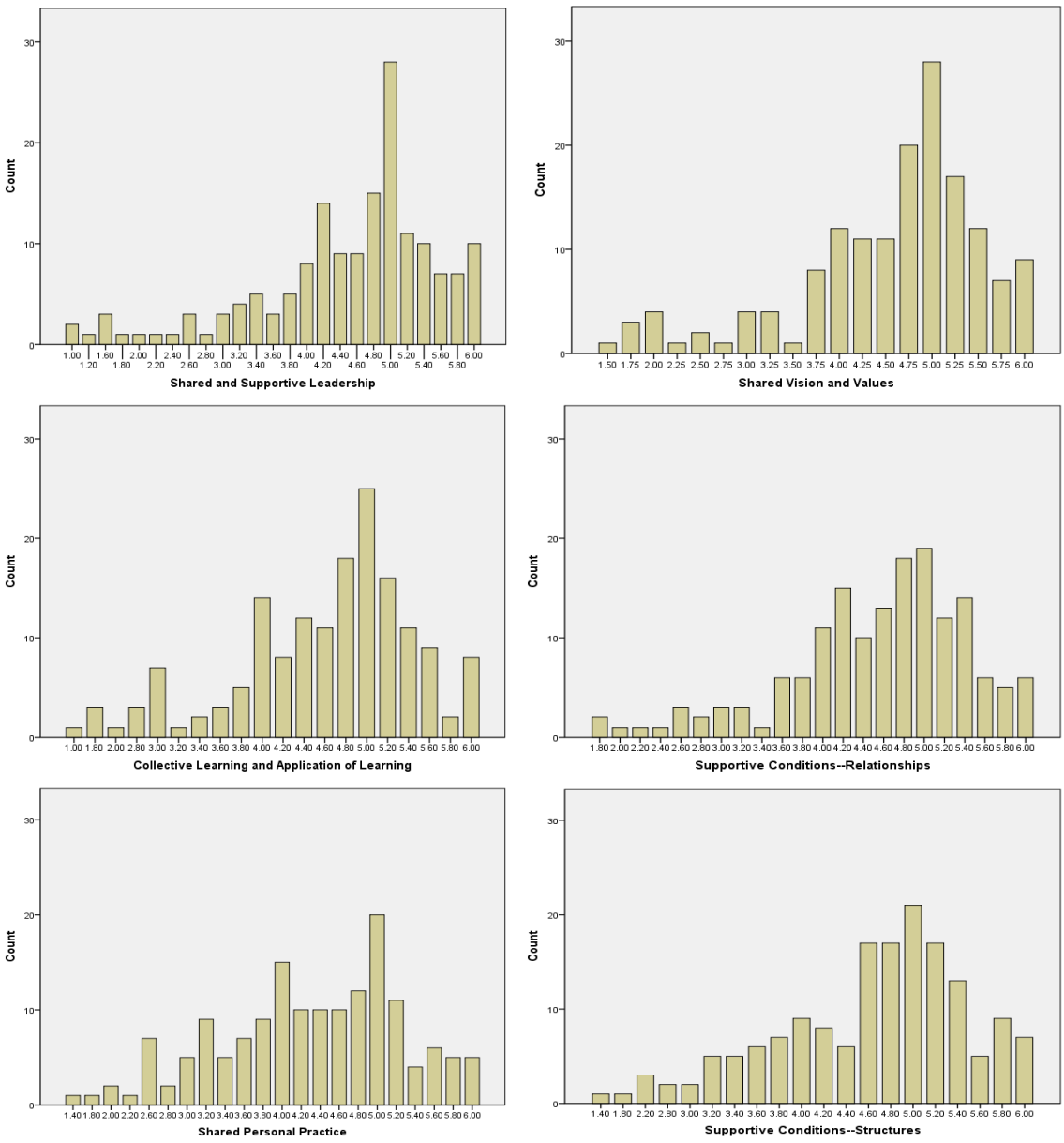


Figure 4. Histograms of Responses Related to PLC Subscales (1= Strongly Disagree ; 6= Strongly Agree)

Research Question 3: Does a relationship exist between the perceived levels of PLC implementation and teacher motivation as defined by Pink (2009)?

To examine a relationship between motivation and PLC characteristics Pearson Correlation Coefficients (*r)* were calculated for the PLC subscales, as defined by Geurin (2008), and the motivation subscales, as defined by Pink (2009). Field (2009) stated that a correlation coefficient of ±0.1 represents a small effect, ±0.3 represents a medium effect, and ±0.5 represents a large effect. These numbers were used to interpret the results of the Pearson Correlation Coefficient calculation between the components of PLCs and Pink's concepts of motivation. An alpha value of .05 was used to determine significance.

Autonomy. Table 8 shows that all the correlations between the PLC subscales and teacher autonomy are significant ($p < .001$). All correlations were positive, indicating that PLC subscales and teacher autonomy are moving in the same direction, i.e., low scores on one are associated with low scores on the other and high scores on one are associated with high scores on another. According to Field (2009), a correlation of .3 is a moderate correlation and .5 is a large correlation. Based upon these numbers, Supportive Conditions—Relationships (.620), Shared Vision and Values (.613), and Shared and Supportive Leadership (.556) were largely and positively correlated to teacher autonomy. Collective Learning and Application of Learning (.496), Shared Personal Practice (.402), and Supportive Conditions—Structures (.398) were moderately and positively correlated with teacher autonomy.

Table 8

Correlations Between PLC Subscales and Autonomy for Secondary Teachers

	r	*N*	*p*
Supportive Conditions—Relationships*	0.620	152	< .001
Shared Vision and Values*	0.613	150	< .001
Shared and Supportive Leadership*	0.556	155	< .001
Collective Learning and Application of Learning*	0.496	154	< .001
Shared Personal Practice*	0.402	151	< .001
Supportive Conditions—Structures*	0.398	154	< .001

Note. * Statistically significant correlation at .05.

Mastery. Table 9 presents the correlation coefficients between the PLC subscales and teacher mastery. Of interest, in this case, is that only four of the six subscales are significantly ($p < .001$) correlated. Also, of interest is that Supportive Conditions-Relationships was, again, the most highly correlated subscale (.300); it had a moderate, positive correlation (Field, 2009). Shared Personal Practice was the second highest correlation to teacher mastery in this sample (.247) and would be deemed a small relationship.

Table 9

Correlations Between PLC Subscales and Mastery for Secondary Teacher

	r	*N*	*p*
Supportive Conditions—Relationships*	0.284	152	< .001
Shared Personal Practice*	0.243	152	0.003
Shared Vision and Values*	0.231	150	0.005
Collective Learning and Application of Learning*	0.208	155	0.009
Shared and Supportive Leadership	0.146	156	0.069
Supportive Conditions—Structures	0.127	156	0.115

Note. * Significant at .05.

Purpose. Table 10 shows that all of the PLC subscales are significantly correlated to teacher purpose. All subscales were also positively correlated to teacher purpose. Further, all subscales with the exception of Supportive Conditions—Structures were moderately or strongly correlated to teacher purpose based upon Field's (2009) recommendation.

Table 10

Correlations Between PLC Subscales and Purpose for Secondary Teachers

	r	*N*	*p*
Supportive Conditions—Relationships*	0.417	153	< .001
Collective Learning and Application of Learning*	0.416	154	< .001
Shared Vision and Values*	0.406	151	< .001
Shared and Supportive Leadership*	0.373	156	< .001
Shared Personal Practice*	0.336	154	< .001
Supportive Conditions—Structures*	0.285	155	< .001

Note. * Significant at .05.

The analysis of the relationships between the PLC subscales and the motivation subscales revealed that all correlations were positive but not all were significant. The positive correlations show that as one value goes up the other increases as well. This should not be interpreted as causal, but, rather, that one is associated with the other. The PLC subscales were found to be significantly correlated with teacher autonomy and teacher purpose, but all were not found to be significantly correlated with teacher mastery. This will be discussed further in Chapter Five.

Research Question 4: What is the best predictive model for teacher motivation as defined by Pink (2009) from PLC concepts?

To create a predictive model of motivation from PLC components the researcher performed linear regression analysis using SPSS software. Because there are three components in Pink's (2009) motivation framework, three analyses were performed. These analyses helped the researcher understand which components of a PLC when facilitated will tend to lead to increases in motivation. Further, these analyses helped the researcher predict how much motivation could be expected to increase based upon increases in teacher perceptions of PLC practices.

Autonomy. Table 11 shows the results of the linear regression analysis related to teacher autonomy. The data reveal that Shared Vision and Values accounts for 39.1% (*R* Square = .391) of the variance in teacher autonomy (Field, 2009). To further bolster the predictive model, the analysis shows that Shared Vision and Values and Supportive Conditions-Relationships accounts for 43.1% of the variance in teacher autonomy when combined (Field, 2009). As was noted from Table 8, these two subscales were also most closely correlated with teacher autonomy.

Table 11

Forward Regression Model Summary Predicting Autonomy from PLC Subscales

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate
1	.625	.391	.386	.743
2	.656	.431	.422	.721

Note. Model 1 Predictors: (Constant), Shared Vision and Values (SVV)
Model 2 Predictors: (Constant), SVV, Supportive Conditions--Relationships (SCR)

Table 12 presents the coefficients of the linear regression analysis of teacher autonomy. Model 1 outlines the data for the regression line when only Shared Vision and Values is included in the prediction. Based upon this model, a teacher who scored all zeros on the questions related to Shared Vision and Values would be expected to rate their level of autonomy as a 2.293 on a six point Likert scale. Further a unit increase in the Shared Vision and Values score predicts an increase in .571 units increase in the teacher autonomy score. Model 2 outlines the data for the regression line when Shared

Vision and Values as well as Supportive Conditions—Relationships are included in the analysis. Based upon this data, a teacher who rated both subscales as zero would be expected to rate their level of autonomy as a 1.808 on a six point Likert or between strongly disagree and disagree. This model also predicts that a unit increase in Shared Vision and Values accounts for a .339 unit increase in teacher autonomy while a unit increase in Supportive Conditions—Relationships accounts for a .340 unit increase in teacher autonomy.

Table 12

Coefficients for Predictive Model of Autonomy from PLC Subscales

		Unstandardized Coefficients		Standardized Coefficients		
	Model	*B*	Std. Error	Beta	T	*p*
1	(Constant)	2.293	.290		7.899	< .001
	SVV	.571	.062	.625	9.162	< .001
2	(Constant)	1.808	.324		5.581	< .001
	SVV	.339	.098	.371	3.469	< .001
	SCR	.340	.113	.323	3.022	.003

Note. Dependent Variable: Autonomy; SVV= Shared Vision and Values; SCR= Supportive Conditions—Relationships.

Mastery. Table 13 presents the summary data for the linear regression analysis related to teacher mastery. Supportive Conditions-Relationships was found to account for 9.3% (*R* square= .093) of the variance in teacher perception of mastery. No other PLC subscale significantly contributed to the predictive value of the regression.

Table 13

Forward Regression Model Summary Predicting Mastery from PLC Subscales

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate
1	.305	.093	.086	.579

Note. Model 1 Predictors: (Constant), Supportive Conditions—Relationships (SCR).

Table 14 provides data regarding the regression line used to predict teacher mastery from Supportive Conditions—Relationships. The data indicate that if a teacher were to rate the quality of Supportive Conditions—Relationships in their work environment as a zero on a six point Likert scale they would tend to rate their level of mastery at 4.427, or between somewhat agree and agree on the Likert scale. Further, the regression analysis predicts that a unit increase in Supportive Conditions—Relationships would yield a .206 increase in teacher mastery.

Table 14

Coefficients for Predictive Model of Mastery from PLC Subscales

		Unstandardized Coefficients		Standardized Coefficients		
	Model	*B*	Std. Error	Beta	T	*p*
1	(Constant)	4.427	.257		17.229	< .001
	SCR	.206	.056	.305	3.692	< .001

Note. Dependent Variable: Mastery; SCR= Supportive Conditions—Relationships.

Purpose. Table 15 outlines the summary of the linear regression analysis related to teacher purpose. The data show that Collective Learning and Application of Learning accounts for 19.8% (*R* Square = .198) of the variance in teacher purpose (Field, 2009). To further bolster the predictive model, the analysis shows that Collective Learning and Application of Learning and Supportive Conditions-Relationships accounts for 22.3% of the variance in teacher purpose when combined (Field, 2009). As noted from Table 12, these two subscales were also most closely correlated with teacher purpose.

Table 15

Forward Regression Model Summary Predicting Purpose from PLC Subscales

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate
1	.445	.198	.192	.561
2	.472	.223	.211	.554

Note. Model 1 Predictors: (Constant), Collective Learning and Application of Learning (CLA)
Model 2 Predictors: (Constant), CLA, Supportive Conditions—Relationships (SCR)

Table 16 provides data regarding the regression line used to predict teacher purpose from Collective Learning and Application of Learning (Model 1) and Collective Learning and Application of Learning as well as Supportive Conditions—Relationships (Model 2). Model 1 outlines that a teacher who rated the perceived level of Collective Learning and Application of Learning as a zero would tend to rate their perceived level of purpose as a 3.913, or very close to slightly agree on the Likert scale. Further, a unit increase in Collective Learning and Application of Learning would lead to a .310

increase in teacher purpose based upon the predictive linear regression line. Model 2 presents the results when Collective Learning and Application of Learning as well as Supportive Conditions—Relationships are looked at together in order to predict teacher purpose. This data predict that a teacher who rated these two factors as zeros on a Likert scale would rate their perceived level of purpose as a 3.722 on a six-point Likert scale. This model also predicts that a unit increase in Collective Learning and Application of Learning would yield a .195 increase in teacher purpose and a unit increase in Supportive Conditions—Relationships would yield another .159 increase in teacher purpose.

Table 16

Coefficients for Predictive Model of Purpose from PLC Subscales

		Unstandardized Coefficients		Standardized Coefficients		
	Model	*B*	Std. Error	Beta	*t*	*p*
1	(Constant)	3.913	.253		15.470	< .001
	CLA	.310	.054	.445	5.736	< .001
2	(Constant)	3.722	.267		13.947	< .001
	CLA	.195	.077	.280	2.515	.013
	SCR	.159	.078	.228	2.045	.043

Note. Model 1 Dependent Variable: Purpose; CLA =Collective Learning and Application of Learning
Model 2 Dependent Variable: Purpose; SCR= Supportive Conditions--Relationships

The regression analysis, based upon the data gathered in this study, predicts that teachers will rate their level of motivation above the midpoint of the six point Likert scale regardless of the level of implementation of PLC concepts. It also shows, however, that

increases in PLC implementation can be expected to be associated with increases in teacher motivation. The PLC subscale, Supportive Conditions—Relationships was found in each of the predictive models with each showing different levels of predicted variance in motivation based upon increases in that subscale. The implications of this data will be discussed in Chapter Five.

Summary

Chapter Four presented the results of the survey related to each of the research questions for the present study. Quantitative data were collected making use of an online survey tool and analyzed using the SPSS software. These teachers are all employed by schools formally connected to the Missouri Professional Learning Communities Project. The results of the survey indicated relatively high levels of self-perceived teacher motivation with mean values of falling near "agree" on the Likert scale. The survey also indicated relatively high levels of PLC implementation with mean values falling within the slightly agree category of the Likert scale. The correlation analysis showed that Supportive Conditions—Relationships was most highly correlated to each of motivation subscales. Finally, the regression analysis to determine a predictive model for each of the motivation subscales from the PLC subscales showed that the teachers surveyed tended to rate their levels of autonomy, mastery, and purpose relatively high regardless of their perception of the implementation of the PLC subscales. This analysis also showed that increases in teacher perceptions of implementation of key PLC concepts are associated with an increase in their perceptions of autonomy, mastery, and purpose.

In Chapter Five, the researcher will present an overview of the study including the purpose, design and procedures, research questions, and research findings. Chapter Five

will also include a discussion of the findings, implications of the findings, limitations of the study, and recommendations for further research.

CHAPTER FIVE

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

Introduction

The purpose of this study was to determine the perceived level of Professional Learning Community (PLC) implementation among secondary teachers in schools that are associated with the Missouri Professional Learning Communities Project (PLCP). Further, this study sought to measure the perceived level of motivation among the same group of teachers when motivation was viewed through Pink's (2009) framework of autonomy, mastery, and purpose. The researcher also sought to determine if there were relationships between the components of a PLC as presented by Geurin (2008) and Pink's (2009) components of motivation. Finally, the researcher sought to determine which of Geurin's components of a PLC is the best predictor for each of Pink's components; autonomy, mastery, and purpose.

Geurin's (2008) version of the Professional Learning Communities Assessment (PLCA) consisting of thirty questions was used to determine the perceived level of implementation of PLC concepts. The PLCA consisted of six subscales with five questions associated with each subscale. The researcher developed and revised the Teacher Motivation Inventory (TMI) in order to determine the perceived level of teacher motivation when viewed through Pink's (2009) framework. These two instruments were combined to produce the School Culture and Motivation Inventory (SCMI). A six-point Likert scale was used to determine teacher's perceptions of the implementation of PLC concepts as well as their perceptions of their own autonomy, mastery, and purpose as

defined by Pink (2009). The inventory was digitized through the online resource surveymonkey.com. Schools formally associated with the Missouri Professional Learning Communities Project were targeted for participation in the study. The researcher sought and received permission from school superintendents to email the SCMI to building principals who then forwarded the link to their building staff. A total of 54 secondary school principals were emailed and a total of 182 secondary teachers responded to the survey.

The research questions answered in this study were:

1. What is the motivation of secondary teachers using Pink's framework (autonomy, mastery, and purpose)?

For each of the subscales associated with Pink's construct of motivation (autonomy, mastery, and purpose), the mean and standard deviations were calculated, and a histogram showing the frequency of teacher responses was generated using the SPSS software. This data allowed the researcher to determine the overall level of perceived autonomy, mastery, and purpose among the research participants.

2. What is the level of PLC implementation in secondary schools?

For each of the subscales of the PLCA, the mean and standard deviations were calculated, and a histogram showing the frequency of teacher responses was generated using the SPSS software. This data allowed the researcher to determine the overall perceived level of PLC implementation of each of the PLC subscales. The subscales were as follows: Shared and Supportive Leadership, Shared Vision and Values, Collective

Learning and Application of Learning, Shared Personal Practice, Supportive Conditions—Relationships, and Supportive Conditions—Structures.

3. Does a relationship exist between the perceived levels of PLC implementation and teacher motivation as defined by Pink (2009)?

Pearson correlation coefficients were calculated to determine the strength and direction of any existing relationships between Geurin's (2008) components of a PLC and Pink's (2009) components of motivation. The significance of these relationships was also determined using Field's suggested alpha value (p <.001) as the determiner of statistical significance.

4. What is the best predictive model for teacher motivation as defined by Pink (2009) from PLC concepts?

Simple linear regression analysis was performed using SPSS to determine which component of a PLC was the best predictor of each of Pink's components of intrinsic motivation. The data also allowed the researcher to roughly predict the value of each motivation subscale based upon a known value of a PLC component.

Findings of the Study

The research questions were all answered quantitatively making use of the data gathered through the use of the SCMI administered online. A total of 182 secondary teachers responded to the survey. The responses to the portion of the survey dealing with teacher motivation revealed that teachers perceived their level of mastery and purpose to be higher than autonomy. Based upon the mean score (5.387), teachers rated their overall level of agreement with the questions related to mastery between agree and strongly

agree on the Likert scale. The mean score for the purpose subscale (5.353) revealed that teachers rated their level of agreement with the questions related to purpose between agree and strongly agree on the Likert scale. Teacher autonomy was rated lower than the other two subscales. The researcher conducted post hoc analyses to determine if the means of the motivation subscales were significantly different. Using SPSS, a repeated measures ANOVA (Field, 2009) was performed (F= 42.782 (df=2) ; $p < .001$). The results of this analysis confirmed that the mean autonomy score was significantly lower than the means of the other two subscales. The standard deviations for mastery and purpose were very similar and higher for teacher autonomy. The histograms of responses revealed negative skew (Field, 2009) for each of the subscales. Some teachers rated their perceived level of autonomy, mastery, and purpose low but the majority of responses were at the high end of the Likert scale (see Figure 1).

Research question two was approached in the same fashion as research question one. The responses to the portion of the survey dealing with the implementation of key Professional Learning Community (PLC) constructs revealed mean scores between 4.296 and 4.622 on a six point Likert Scale. The mean scores for all PLC constructs fell between slightly agree and agree on the Likert Scale. The standard deviations for all sub scores were relatively high indicating great variance in responses. The histograms for each subscale also showed negative skew (Field, 2009) with few teachers responding at the low end of the Likert scale and the majority responding toward the high end of the scale.

Research question three revealed positive correlations between all PLC subscales and all motivation subscales. Those correlations ranged from an insignificant, small

correlation between Supportive Conditions—Structures and teacher mastery (Pearson= .127; *p*= .115) to a significant, large correlation between Supportive Conditions—Relationships and teacher autonomy (Pearson= .620; $p < .001$). All correlations were found to be statistically significant between the PLC subscales and teacher autonomy and purpose, while only one subscale was found to be significantly correlated with teacher mastery.

The data related to research question four revealed that Shared Vision and Values, as well as Supportive Conditions—Relationships were most predictive of the of the motivation subscale autonomy. As noted in Chapter Four, these two subscales were also most closely correlated with teacher autonomy. Regression analysis revealed that Supportive Conditions—Relationships was most predictive of the motivation subscale mastery and no other subscale significantly contributed to the model. Supportive Conditions—Relationships was also the only subscale significantly correlated with teacher mastery. Collective Learning and Application of Learning as well as Supportive Conditions—Relationships were most predictive of the motivation subscale purpose. Supportive Conditions—Relationships was most highly correlated with purpose followed closely by Collective Learning and Application of Learning.

Conclusions

The data related to research question one revealed that teachers rated their perceived level of mastery and purpose higher than their perceived level of autonomy. One can think of mastery as a feeling of improving at a task, or, perhaps, a feeling of being successful at a task. This would indicate that the group of teachers surveyed for this study are confident in their teaching ability and feel they are continuing to improve their

practice. Conversely, the reported level of teacher autonomy was low when compared to mastery and purpose. The questions associated with the autonomy subscale dealt with the teacher having choice, or control, over certain aspects of the job. The findings of this study confirm what was addressed previously; teaching as a whole is becoming less and less autonomous as teachers are asked to comply with more mandates thus decreasing their level of control.

Also of interest was the relatively high mean value of the purpose subscale. Pink (2009) defined purpose as a feeling of being connected to something of significance. Reeves (2006) stated, "Employees are not motivated by the promise of less work and reduced challenges. Rather, employees are most motivated by work that is meaningful and by a sense that their personal efforts make a difference" (p. 95). Based upon the survey results, the teachers in this study do feel connected to a greater purpose in their work; they feel their roles are significant in the grand scheme of life.

Teachers responded to survey questions related to the implementation of PLC concepts in their school in order to provide data to answer research question two. Scores for these subscales ranged from 4.296 for Shared Personal Practice to 4.622 for Supportive Conditions—Structures. The mean scores all fell between slightly agree and agree on the Likert scale. The relatively low score for Shared Personal Practice leads one to speculate that teacher collaboration is not happening on an effective level.

Research question three dealt with the correlations between the PLC subscales and Pink's (2009) motivation subscales. Calculations revealed that all six subscales were significantly correlated with teacher autonomy. However, Supportive Conditions—Relationships and Shared Vision and Values were most highly correlated with teacher

autonomy of the six subscales. These two correlations lead one to begin to understand the importance of relationships and a common, shared goal in the school community.

Only Supportive Conditions--Relationships was significantly correlated to teacher mastery. This correlation reemphasizes the value in working to develop and continually facilitating positive relationships among staff. Also of interest is the fact that five of the six subscales were not significantly correlated to teacher mastery. Mastery is defined as a feeling of improvement, or a feeling of being successful at a given task. The data indicates that only relationships are correlated to teachers feeling like they are getting better at their craft. Neither Collective Learning and Application of Learning nor Shared Personal Practice, both subscales that superficially seem more related to improvement in classroom instruction, were significantly correlated to teacher mastery.

All six of the PLC subscales were significantly correlated to teacher purpose. Once again, Supportive Conditions—Relationships had the highest correlation coefficient followed very closely by Collective Learning and Application of Learning. One could predict from these results that increasing teachers' perception of Collective Learning and Application of Learning and their feelings of positive relationships in the building would also increase their feelings of purpose and thus their overall level of motivation (Pink 2009).

Research question four made use of simple linear regression analysis to determine which PLC subscales were most predictive of autonomy, mastery, and purpose. Shared Vision and Values accounted for 39.1% of the variance in teacher autonomy. When combined with Supportive Conditions—Relationships, the two subscales accounted for 43.1% of the variance in teacher autonomy. This conclusion seems logical in that

someone who feels he or she has had opportunity to share in the creation and functioning of vision and values would feel they have some control over the professional world around him or her. Supportive Conditions—Relationships is more perplexing. It is seems interesting that a feeling of support from those one works with would be predictive of feeling in control. Perhaps a feeling of support from colleagues aids in a feeling of security that allows one to feel more autonomy. One could predict from these results that increasing teachers' perception of a Shared Vision and Values and their feelings of positive relationships in the building would also increase their feelings of autonomy and according to Pink (2009) their feelings of motivation.

Regression analysis determined that Supportive Conditions—Relationships was most predictive of teacher mastery. This subscale accounted for 9.31% of the variance in the mastery subscale. The importance of supportive relationships in an educational culture continues to come to the surface. This finding suggests that when teachers feel supported by those around them they will also feel like they are improving at their task or that they are having success as a teacher. Of interest, however, is that the model predicts that those who scored the level of supportive relationships low in their setting would also score their level of mastery on the positive end of the Likert scale. This indicates that though positive relationships are predictive of higher levels of self-perceived mastery, low satisfaction with relationships does not mean teachers will view themselves as unsuccessful teachers.

Regression analysis revealed that Collective Learning and Application of Learning as well as Supportive Conditions-Relationships were most predictive of teacher purpose. This finding indicates that teachers gain feelings of significance (or purpose)

from their own learning and the application of that learning. The PLC philosophy places great emphasis on teachers as learners. This finding seems to support this philosophy. Collective Learning and Application of Learning accounted for 19.8% of the variance in the teacher purpose subscale. When Collective Learning and Application of Learning is combined with Supportive Conditions—Relationships, the two account for 22.3% of the variance in teacher purpose. Once again, the value of professional, supportive relationships in a building is supported by these findings.

The purpose of this study was to determine teacher perceived level of PLC implementation and their perceived level of their own motivation. Further, the study sought to determine if relationships existed between the components of a PLC and the motivation subscales defined by Pink (2009). This study contributed to the research base on Professional Learning Community implementation and created an instrument to quantify Pink's (2009) concepts of autonomy, mastery, and purpose. Statistically significant correlations were found between all PLC subscales and teacher autonomy and purpose. However, only Supportive Conditions—Relationships was found to be significantly correlated to teacher mastery. Further, Supportive Conditions—Relationships was found in each of the predictive models for autonomy, mastery, and purpose. These findings support and further the findings of previous research and lead practitioners toward ways to increase the overall effectiveness of their buildings.

Discussion of the Findings

Motivation is an integral part of improvement regardless of the area in which one seeks to improve (Pink, 2009). The teaching profession is no different than others in this regard. The present research is founded upon the assumption that one must be motivated to continually learn in order to continually improve at his or her task; teaching children. Motivation was viewed through Pink's framework of autonomy, mastery, and purpose in this study. The PLC philosophy and structures under investigation in this study have been present in America's schools for multiple decades and has received a great deal of research interest. The findings of this study are related to previous studies and research works. This section will seek to explore the connection between previous literature and the present study.

Teacher autonomy has been on a steady decline in the teaching profession since state and federal governments became largely involved in creating mandates and setting expectations for students and teachers. The state of Missouri began the process of exerting more and more control over its schools in the 1950's (Missouri, n.d.). Since that time, the State has gone through several iterations of the Missouri School Improvement Process (MSIP) each with means to create standards and hold Missouri's educators accountable for the learning of our youth. With these accountability measures have come standards teachers are expected to teach and students are expected to learn. As a result, teachers have had less choice in the content they cover in each grade level. Though this has resulted in a more equitable education for the general populace, teacher autonomy has suffered.

The findings of the present research are consistent with the existing research on teacher autonomy. Teachers rated their level of autonomy lower than their levels of mastery and purpose. Based upon the analysis, there was a statistically significant difference between the rated levels of autonomy and the other two motivation subscales. Teachers, according to the data, do not feel as positive about their level of control over the happenings in their schools and classrooms as they do about their feelings of purpose and competence in the classroom. Pink (2009) asserted that in order to fully facilitate the motivation of others they must have some control of their time, task, and team. Based upon this recommendation, and after reviewing the data from the present study, school leaders do have their work cut out for them to facilitate teacher's perceived level of autonomy.

Previous research has affirmed that teacher autonomy has been on the decrease in the recent past. Bradshaw and Pas (2011) addressed the decrease in choice in regards to classroom management practices. State and Federal means of accountability have also decreased the level of autonomy teachers are afforded (Strong, 2011). Though teachers have reported they would like more choice in their professional lives (Lacoe, 2006), this study reveals they are not as content with their level of autonomy as they are with their level of autonomy and purpose.

Pink (2009) defined mastery as a feeling of being successful at a given task and a feeling of being capable of improvement at that task. One can think of mastery as a feeling of competence and a feeling of improvement at a task of significance. Dweck's (2006) incremental theory is essential to the understanding of mastery. Incremental theory is founded upon a belief that one's ability in a given area can be expanded with

enough effort and work. Only those who hold an incremental theory based belief are capable of being motivated by mastery. The teachers in the present study reported relatively high levels of mastery which would lead one to believe they feel they are competent and capable of continual improvement. Dweck (2006) explained how competence and improvement can be motivating when she wrote, "Effort is one of the things that gives meaning to life. Effort means you care about something, that something is important to you and you are willing to work for it" (p. 41).

A feeling of being connected to something of significance is the essence of purpose (Pink, 2009). Purpose is motivating largely because one feels his or her contributions matter in the grand scheme of things. Neimiec, et. al.'s (2009) study revealed that those who value personal growth, close relationships, and community involvement self-reported higher levels of happiness than those who valued extrinsic motivators such as money and personal recognition. The present study revealed that teachers rated their connection to a greater purpose relatively high. Teachers do feel their work is significant and important which, according to Pink (2009), would indicate their level of motivation would be affected by that sense of purpose.

The results of the present study related to Professional Learning Communities draw attention to the importance of relationships in the world of work. Professional Learning Communities have always placed significance on the collaboration that occurs between colleagues (Dufour, et. al., 2008). In PLCs, collaboration focuses on teachers working together to find better instructional and assessment strategies. Oliver, Hipp, and Huffman (2003) discussed the importance of supportive conditions inside of PLC's. Guerin (2008) further refined Oliver, et. al.'s work to specifically address the presence of

supportive relationships in the work environment. The results of the present study further support Geurin's (2008) conclusion on the significance of professional relationships. Vern Minor, former school superintendent and current Director of Educational Leadership for Kagan Professional Development, shared his opinion on the importance of relationships by stating:

> Without a doubt, strong relationships are critical to the formation of relational trust. Without trust, we cannot successfully tackle the difficult issues which impact student achievement. School improvement is hard work. Brainstorming, prioritizing, decision making, troubleshooting—the work of improving schools requires collaboration at a high level. You cannot simply put people together in a group and tell them to get to work. It is not that simple. Strong relationships among staff members are part of school improvement infrastructure, and it is a leader's responsibility to ensure that this foundation exists. (Personal Communication, May 13, 2014)

Professional relationships were the most highly correlated PLC concept for all three of Pink's (2009) motivational subscales. While the strength of the correlations varied, the reoccurrence of this factor across the motivation subscales supports its importance to teacher motivation. Professional relationships were also found to be a part of the models created to predict the level of autonomy, mastery, and purpose. This finding has clear implications for educational leaders and affirms the importance of developing and maintaining supportive relationships within any educational setting.

Implications for Practice

This study sought to determine the self-perceived level of motivation of secondary teachers who work in schools associated with the Missouri Professional Learning Communities Project (PLCP). Motivation was viewed through the lens of Daniel Pink's book *Drive: The surprising truth about what motivates us* (2009). Intrinsic motivation to continually learn and grow as a teacher is essential to ongoing quality instruction and student success. Building leaders continually seek ways to facilitate the motivation of their staffs in order to ensure continual improvement. Continual improvement and ongoing professional growth are also key components of the Professional Learning Communities model.

The Professional Learning Communities approach to school improvement is not new to school reform efforts. The ideas of collaboration and data analysis (among other key components of PLCs) seek to help teachers improve their practice. By better understanding which components of a PLC are most closely associated with teacher motivation, school leaders can focus their most precious commodity, time, in areas of greatest relationship. Common sense would seem to imply that those who are motivated will put forth greater effort to improve their practice than those who are less motivated. The research has been clear (Hattie, 2009) that the teacher is one of the most important factors related to student achievement. Therefore, leaders who can facilitate the motivation of teachers to continually improve can have an indirect impact on student achievement in their schools.

As a school leader, the arena of autonomy reveals potential areas of improvement. A school leader could seek to determine those areas where teachers should have control

and work to ensure that control is not only protected for them but encouraged. One of the primary arenas in which this could be facilitated is in the delivery of content. Teaching is a creative process and one that is constantly evolving based upon the needs of students. School leaders should be careful in instituting changes or purchasing curriculum that negates this creative ability and eliminates teachers' choice in instruction strategies. Federal and state mandates have already decreased the level of autonomy teachers experience in a variety of areas and ensuring autonomy related to pedagogy may help facilitate this critical component of motivation.

Facilitating meaning within the work of education should help to facilitate the purpose motive. A leader should keep students at the forefront of decisions and discussions and present them as the purpose for the work. As a leader one should never lose sight of the fact that educators work in a people business; leaders implement programs and evaluate data, but ultimately influence people. The positive relationships that can be developed between teachers and students have been linked to increases in student performance (Hattie, 2009) but this study reveals that relationships between colleagues are also important to their feelings of importance and significance and thus their level of motivation.

This study has revealed that the PLC subscale Supportive Conditions—Relationships was present in each of the predictive models generated through linear regression analysis. Though the degree to which this subscale had influence on the components of motivation varied, its influence is widespread. As a leader in a building, one could interpret and apply this information by investing in the quality of professional

relationships present in their work environment. Positive relationships are essential between leader and teachers. Northouse (2010) stated:

> leaders have the capacity to open themselves up and establish a *connection* with others. They are willing to share their own story with others and listen to others' stories. Through mutual discloser, leaders and subordinates develop a sense of trust and closeness. (p. 213)

Positive relationships are also essential between teachers. The National Council of Teachers of English (2006) stated:

> Effective professional development fosters collegial relationships, creating professional communities where teachers share knowledge and treat each other with respect. Within such communities teacher inquiry and reflection can flourish, and research shows that teachers who engage in collaborative professional development feel confident and well prepared to meet the demands of teaching. (p. 10)

Bryk and Schneider (2002) further bolstered the importance of investing in relationships in their book *Trust in Schools: A Core Resource for Improvement.* Within this work the authors stated, "…we argue that social relationships at work in school communities comprise a fundamental feature of their operations. The nature of these social exchanges, and the local cultural features that shape them, condition a school's capacity to improve" (Bryk & Schneider, 2002, p. 5). The findings of the current research support the implication that effective leaders should invest time in developing positive relationships. It is a factor in the improvement of teacher motivation and, according to various researchers, a factor in overall school improvement.

Recommendation for Future Research

The present research was carried out within a very specific context. The research surveyed secondary teachers in schools that are formally associated with a support system for Professional Learning Communities. Further research could involve other schools who consider themselves PLC schools but who do not have a formal relationship with the PLCP. Research in other PLC schools not receiving services from the Missouri Professional Learning Communities Project could be used to determine if significant differences in teacher's perceptions of PLC components are present.

In order to better understand the influence of PLC concepts on teacher motivation one could perform pre and post-implementation studies. Using the tools from the present research, one could survey a school before implementation of the PLC philosophy to determine teacher's perceived level of autonomy, mastery, and purpose. After a period of implementation, the researcher could again survey the teacher population to determine how implementation has affected their perceptions of motivation. Further, this study could reveal teachers' perceptions of the PLC implementation and could allow the researcher to determine if there are significant differences in perception pre and post implementation.

In order to broaden the applicability of this research, similar research should be conducted in the elementary setting as well. This would allow the researcher to determine if these findings are universal to all teachers or if other subscales exhibit greater influence in the elementary setting. The differing nature of the elementary and secondary settings could result in some PLC components having greater influence on teacher motivation than others.

The current research developed and made use of the Teacher Motivation Inventory (TMI) to quantify teacher's perceptions of Pink's (2009) constructs of autonomy, mastery, and purpose. Though the instrument was piloted, analyzed, and revised, further use of the instrument in future research would serve to continue the refinement of the instrument. Use of the instrument in the elementary setting, along with reliability analysis, would serve to broaden its applicability across the educational landscape. Further analysis of the TMI could also result in a shorter instrument which still generates reliable data making it easier to use in the future.

Summary

The data gathered in the present study seem to support the existing literature on the importance of relationships in secondary schools. The data also support previous conclusions that teacher motivation is on the decline in American schools. School leaders should note these findings and invest in professional relationships within their buildings in order to facilitate teacher motivation levels. Further research is needed to refine the instrument used in this research, to broaden its applicability in other educational settings, and to support or refute the overall findings found in this study. Though there are questions left to answer, as there always will be, the present study served to further understanding of teacher motivation within PLC schools. This understanding, if used by school leaders could help teachers lead our nation's schools toward continued success.

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Appendix A

Letter to Participants
(distributed through email)

Dear Educator,

You are invited to participate in a questionnaire asking your perceptions of your school's culture and your level of motivation. The purpose of this study is to better understand the implementation of Professional Learning Communities, teacher motivation and to determine if a relationship between these two constructs exists. This research is being conducted through the University of Missouri-Columbia under the supervision of Dr. Cynthia MacGregor. Your help would be appreciated.

Your participation will take no more than fifteen minutes to complete. Please access the survey by clicking on the following URL:

http://www.surveymonkey.com/

You will be asked a series of questions. Your responses are protected by SSL, a secure internet communications protocol. This survey will only be available online for 10 days.

The risks to you as a participant are minimal. All information will only be reported in aggregate. Your name and email address will not be reported in any form and will be destroyed after all data has been collected. Your email address is used only for invitation purposes. The results of this study may be published in scientific research journals or presented at professional conferences. **Again, your name, IP address, email or identity will not be revealed.**

Participation in this study will not benefit you directly. However, it may help to provide information to those who implement school reform initiatives. It may also benefit your school. The data in the study will be available for your school if your administration requests it. Of course, it will be aggregate data only and will not reveal your responses in any way. Additionally, this study will also add to the research available on school leadership and organizational behavior.

Participation in this study is voluntary, and you can choose not to participate. If you decide not to participate, there will be no penalty to you. You may withdraw from this study at any time by not submitting your responses.

If you have any questions about participation or have difficulty accessing the survey, please contact Garrett Prevo at garrett.prevo@republicschools.org.

Thank you for your consideration.

Garrett Prevo

Appendix B

Permission Letter

(distributed through email)

Dear (*Name)*,

(Enter Name) School District has been selected to participate in a study of teacher motivation in professional learning communities. If, after reading this email, you would like your school to be included in this study, please send a reply indicating your desire to participate. Should you choose for your school to be included, teachers in your school would be asked to complete a questionnaire about perceptions of your school's culture.

The survey will be sent through email and is completed online. The survey will take no more than 15 minutes to complete.

The risks for participation are minimal. All information will only be reported in aggregate. Each participant's name and email address will not be revealed and all information will be destroyed after data has been collected. Your email address is used only for invitation purposes. The results of this study may be published in scientific research journals or presented at professional conferences.

Participation in this study could be of benefit to your school. If you wish, a report can be delivered to you describing the aggregate data for your school. You may find this data helpful. Although you may choose to receive a report specific to your school, your school will not be named in this study and your individual school results will only be reported in aggregate with other schools for the purposes of the study.

As a further benefit, the study may also prove helpful in providing information to those who implement school reform initiatives. It will also add to the research available on school leadership and organizational behavior.

Participation in this study is voluntary, and you can choose for your school not to participate. If you decide not to participate, there will be no penalty to you. You may withdraw from this study at any time.

This research is being conducted as a dissertation project in partial fulfillment of a Doctorate in Educational Leadership at the University of Missouri-Columbia. Your help would be appreciated.

If you have any questions about participation, please contact Garrett Prevo at garrett.prevo@republicschools.org. **Please send a reply to this email indicating if your school will participate.**

Sincerely,
Garrett Prevo

Appendix C

Developed Inventory to Measure Teacher Motivation

Code	Statements	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
P1	I make a difference in the lives of students.						
P2	I feel my job is important.						
P3	I feel my job is a part of something bigger than myself or this school.						
P4	I feel personally connected to my co-workers.						
M1	I feel confident in my classroom.						
A1	I have personal choice in the materials I use in my classroom.						
A2	I have personal choice in the methods I used to deliver content.						
A3	My administration allows me freedom to deliver instruction as I see fit.						
A4	I have great flexibility in determining the events that occur in my classroom.						
A5	I feel my administration trusts me to do my job well.						
M2	My connection with students makes me feel good about my skills as a teacher.						
M3	I feel confident in my understanding of course content.						
M4	I feel confident in my ability to transmit my content knowledge to students.						

M5	I can tell when my students are confident in the material I have presented.						
M6	I get into a good flow in my teaching.						
M7	Most days I feel there is a good energy in my classroom.						
P5	I feel connect to my students.						
P6	I feel character development in students is an unwritten part of my job.						
P7	I enjoy pushing students to expand their abilities.						
P8	I teach for reasons beyond academics.						
P9	I help students discover their purpose in life.						
A6	I feel my job gives me freedom and power.						
M8	The institution where I work aids continuous learning.						
M9	I have opportunities to broaden my professional knowledge.						
P10	I feel teaching makes my life more meaningful.						

Appendix D

School Culture and Motivation Survey

Directions: This questionnaire asks for your perceptions of the implementation of the essential professional learning community components within your school. Read each question carefully and record your answer by placing a check in one of the six boxes. You are asked to select the scale point that best reflects your personal level of agreement or disagreement with the statement. Please be certain to only select one response for each statement.

Definitions:

Staff—teachers and or other employees in your school
Leaders—persons employed by your school who lead in any capacity
Stakeholders—all persons who affect or can be affected by your school's actions

	Statements	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
1	I make a difference in the lives of students.						
2	I feel my job is important.						
3	I feel my job is a part of something bigger than myself or this school.						
4	I feel personally connected to my co-workers.						
5	I feel confident in my classroom.						
6	I have personal choice in the materials I use in my classroom.						
7	I have personal choice in the methods I used to deliver content.						
8	My administration allows me freedom to deliver instruction as I see fit.						
9	I have great flexibility in determining the events that occur in my classroom.						

10	My connection with students makes me feel good about my skills as a teacher.						
11	I feel confident in my understanding of course content.						
12	I feel confident in my ability to transmit my content knowledge to students.						
13	I can tell when my students are confident in the material I have presented.						
14	I get into a good flow in my teaching.						
15	I feel character development in students is an unwritten part of my job.						
16	I teach for reasons beyond academics.						
17	I help students discover their purpose in life.						
18	I feel my job gives me freedom and power.						
19	I feel teaching makes my life more meaningful.						

	Statement	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
20	The staff is consistently involved in discussing and making decisions about most school issues.						
21	The principal participates democratically with staff, sharing power/authority.						
22	Leadership is promoted and nurtured among staff.						
23	Decision-making takes place through committees and through communication across grade and subject areas.						
24	Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.						
25	Collaborative processes exist and develop shared values among staff.						
26	The staff shares visions for school improvement that have an undeviating focus on student learning.						
27	A collaborative process exists for developing a shared vision among staff.						
28	Stakeholders are actively involved in creating high expectations that serve to increase student achievement.						
29	The staff work together to seek knowledge, skills, and strategies and apply this new learning to their work.						
30	Collegial relationships exist among staff that reflect commitment to school improvement efforts.						

31	The staff plan and work together to search for solutions that address diverse student needs.						
32	The staff engages in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.						
33	School staff and stakeholders learn together and apply new knowledge to solve problems.						
34	Opportunities exist for staff to observe peers and offer encouragement.						
35	The staff provides feedback to peers related to instructional practices.						
36	The staff collaboratively reviews student work to improve instructional practices.						
37	Individuals and teams have the opportunity to share results from their practices.						
38	Caring relationships exist among staff and students that are built on trust and respect.						
39	A culture of trust and respect exists for taking risks.						
40	Outstanding achievement is recognized and celebrated regularly in our school						
41	School staff and stakeholders exhibit sustained and unified effort to embed change in the culture of the school.						
42	Time is provided to facilitate collaborative work.						
43	The school schedule promotes collective learning and shared practice.						
44	The school facility is clean, attractive, and inviting.						

45	The proximity of grade level/departmental personnel allows for collaboration.						
46	Communication systems promote the flow of information among staff.						
47	The staff informally shared ideas for improving student learning.						
48	School staff members have fun while getting the job done.						
49	School goals focus on student learning beyond test scores and grades.						

Appendix E

Item Association to Subscales

	Statements	Subscale
1	I make a difference in the lives of students. (P)	Pink—Purpose
2	My job is important. (P)	Pink—Purpose
3	My job is a part of something bigger than myself or this school. (P)	Pink—Purpose
4	I feel personally connected to my co-workers. (P)	Pink—Purpose
5	I feel confident in my classroom. (M)	Pink—Mastery
6	I have personal choice in the materials I use in my classroom. (A)	Pink—Autonomy
7	I have personal choice in the methods I use to deliver content. (A)	Pink—Autonomy
8	My administration allows me freedom to deliver instruction as I see fit. (A)	Pink—Autonomy
9	I have great flexibility in determining the events that occur in my classroom. (A)	Pink—Autonomy
10	My administration trusts me to do my job well. (A)	Pink—Autonomy
11	My connection with students makes me feel good about my skills as a teacher. (M)	Pink—Mastery
12	I feel confident in my understanding of the course content. (M)	Pink—Mastery
13	I feel confident in my ability to transmit my content knowledge to my students. (M)	Pink—Mastery
14	I can tell when my students are confident with the material I have presented. (M)	Pink—Mastery
15	I get into a good flow in my teaching. (M)	Pink—Mastery
16	Most days there is good energy in my classroom. (M)	Pink—Mastery
17	I feel connected to my students. (P)	Pink—Purpose
18	Character development in students is an unwritten part of my job. (P)	Pink—Purpose
19	I enjoy pushing students to expand their abilities. (P)	Pink—Purpose
20	I teach for reasons beyond academics. (P)	Pink—Purpose
21	I help students discover their purpose in life. (P)	Pink—Purpose
22	My job gives me freedom and power. (A)	Pink—Autonomy
23	The institution where I work aids continuous learning. (M)	Pink—Mastery
24	I have opportunities to broaden my professional knowledge. (M)	Pink—Mastery
25	Teaching makes my life more meaningful. (P)	Pink--Purpose
26	The staff is consistently involved in discussing and making decisions about most school issues.	PLCA—Shared and Supportive Leadership
27	The principal participates democratically with staff, sharing power/authority.	PLCA—Shared and Supportive Leadership
28	Leadership is promoted and nurtured among staff.	PLCA—Shared and Supportive Leadership
29	Decision-making takes place through committees and through communication across grade and subject areas	PLCA—Shared and Supportive Leadership
30	Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.	PLCA—Shared and Supportive Leadership

31	Collaborative processes exist and develop shared values among staff.	PLCA—Shared Values and Vision
32	The staff shares visions for school improvement that have an undeviating focus on student learning.	PLCA—Shared Values and Vision
33	A collaborative process exists for developing a shared vision among staff	PLCA—Shared Values and Vision
34	Stakeholders are actively involved in creating high expectations that serve to increase student achievement.	PLCA—Shared Values and Vision
35	The staff work together to seek knowledge, skills, and strategies and apply this new learning to their work.	PLCA—Collective Learning and Application
36	Collegial relationships exist among staff that reflect commitment to school improvement efforts.	PLCA—Collective Learning and Application
37	The staff plan and work together to search for solutions to address diverse student needs.	PLCA—Collective Learning and Application
38	The staff engages in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.	PLCA—Collective Learning and Application
39	School staff and stakeholders learn together and apply new knowledge to solve problems.	PLCA—Collective Learning and Application
40	Opportunities exist for staff to observe peers and offer encouragement.	PLCA—Shared Personal Practice
41	The staff provides feedback to peers related to instructional practices.	PLCA—Shared Personal Practice
42	The staff collaboratively reviews student work to improve instructional practices.	PLCA—Shared Personal Practice
43	Individuals and teams have the opportunity to share results from their practices.	PLCA—Shared Personal Practice
44	Caring relationships exist among staff and students that are built on trust and respect.	PLCA—Supportive Conditions-Relationships
45	A culture of trust and respect exists for taking risks.	PLCA—Supportive Conditions--Relationships
46	Outstanding achievement is recognized and celebrated regularly in our school.	PLCA—Supportive Conditions--Relationships
47	School staff and stakeholders exhibit sustained and unified effort to embed change into the culture of the school.	PLCA—Supportive Conditions--Relationships
48	Time is provided to facilitate collaborative work.	PLCA—Supportive Conditions--Structures
49	The school schedule promotes collective learning and shared practice.	PLCA—Supportive Conditions--Structures
50	The school facility is clean, attractive, and inviting.	PLCA—Supportive Conditions--Structures
51	The proximity of grade level/department personnel allows for collaboration.	PLCA—Supportive Conditions—Structures
52	Communication systems promote the flow of information among staff.	PLCA—Supportive Conditions—Structures
53	The staff informally shares ideas for improving student learning.	PLCA—Shared Personal Practice
54	School staff members have fun while getting the job done	PLCA—Supportive Conditions—Relationships
55	School goals focus on student learning beyond test scores and grades.	PLCA—Shared Vision and Values

VITA

Garrett Prevo was born on August 18, 1980 in Springfield, Missouri. He lived his entire childhood in Aurora, Missouri and graduated from Aurora High School in 1999. After high school he attended Southwest Missouri State University and received a bachelor's degree in Secondary Science Education with an emphasis in chemistry. Mr. Prevo began his career in education as a science teacher and coach. Soon after beginning his career, Mr. Prevo returned to Missouri State University (formerly Southwest Missouri State) and earned a master's degree in Secondary Educational Leadership. After teaching for five years, Mr. Prevo was blessed with the opportunity to move into administration. After working as an administrator, he returned to the classroom and earned a doctoral degree in Educational Leadership and Policy Analysis from the University of Missouri—Columbia. Mr. Prevo currently serves as an assistant principal at Republic High School in Republic, Missouri.