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The Relationship Between Principals' Leadership Behaviors and the Development of Professional Learning Communities in Schools with Teacher Study Groups

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THE RELATIONSHIP BETWEEN SCHOOL PRINCIPALS' LEADERSHIP
BEHAVIORS AND THE DEVELOPMENT OF PROFESSIONAL LEARNING
COMMUNITIES IN SCHOOLS WITH TEACHER STUDY GROUPS

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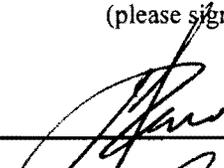
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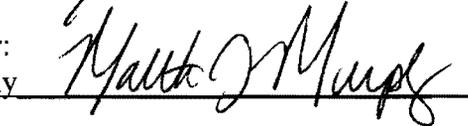
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Abstract

This study examined the strength and the direction of the relationship between principals' leadership behaviors and the development of professional learning communities, specifically teacher study groups. In effect, I sought to uncover principal leadership behaviors that positively affect the development of professional learning communities (PLC) in schools that received a Montclair State University Teacher Study Group Grant. Two surveys were distributed to teachers in participating schools and the completed surveys were analyzed through the use of descriptive statistics, correlation matrices, and multiple and simple regression models. The results from the study revealed that overall there is a strong relationship between principals' leadership practices and the development of professional learning communities. Additionally, the results from this study suggest that the combination of all the leadership practices measured by the Leadership Practices Inventory can help predict the development of professional learning communities. The results from this study will inform school principals of the leadership practices associated with successful professional learning communities, specifically teacher study groups. Further, the results from this study can be used to help guide professional development programs for educational leaders relative to the specific leadership practices that may help support a collaborative culture of professional learning communities in schools.

To Dr. Matthew Murphy, I have always relied on your leadership and professional insight to help guide me in my career and in my education. Your sense of humor and willingness to do whatever it took to help me over the last two years was greatly appreciated. It was my pleasure to work with you as a colleague and it is an absolute honor to call you my friend. You are always willing to listen, and you never allow me to make excuses. As you always said, it comes down to one thing--"Leadership."

DEDICATION

This dissertation is dedicated to my family, for without their love and support I could not have accomplished what I set out to do.

To my wonderful parents, I could not have done this without your help and encouragement. Mom, you instilled in me the value of education at a very young age, and you inspired me to believe that I can achieve anything if I put my mind to it. For that I am forever grateful. Dad, you instilled in me a work ethic that not only helped me achieve my doctorate, but helps me tackle whatever challenges come my way in life. The perseverance that you demonstrate in everything that you do has served as a model for me; you are one of the strongest people I know. Mom and Dad, you have been perfect role models for me, and I love you both very much.

To my children, Derek and Emma, I am truly blessed to have the two of you in my life. I know that the last two years have not been easy on you, as I wasn't around as much as you were used to. I always remember you constantly stating, "Dad, are you doing Seton Hall again!" I thank you both for sacrificing spending time with your dad as he pursued one of his lifelong goals. You are my inspiration, and both of you have made my life so fulfilling that I couldn't have done this without your understanding and support. I did this for you and I hope it helps instill in you the value and importance of getting an education.

And finally to my wife Denise, you are the love of my life, my best friend, and the most amazing mother to our beautiful children. I cannot thank you enough for supporting me and sacrificing as I worked on my doctorate. You are the rock of our family, and I am the luckiest man in the world to call you my wife. Your constant encouragement,

honesty, and love helped me get through the most challenging parts of the last two years.

You are strong, smart, and constantly willing to put the needs of others ahead of your

own. You inspire me every day and I am so proud of you! I love you!

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Chapter I

Introduction

Education in the latter half of the twentieth century was riddled with calls for

school improvement and school reform. The Effective Schools Movement emerged in

the late 1960s and was spawned by the Coleman Report (Coleman, Campbell, Hobson,

McPartland, Mood, Weinfield, & York, 1966). The report concluded that family

background, not the school, was the major determinant of school achievement. By

lending official credence to the notion that "schools didn't make a difference" in

predicting student achievement, the report stimulated a vigorous reaction, which led to

the development of many studies that served as the research base for the Effective

Schools Movement (Lezotte, 2003). In light of the Coleman report's findings, the

question surfaced, "Do effective schools exist?" A search began to identify such schools

and the first effective schools studies were launched shortly thereafter (Mace-Matluck,

1987).

Many Effective Schools researchers disagreed with the assumption that family

background and socioeconomic class determined a child's capacity to learn, and therefore

they believed that if school resources were used effectively, every child could be

successful in school. The researchers set out to identify the most successful schools.

Mace-Matluck (1987) synthesized much of the research and identified characteristics, or

Correlates as identified by Edmonds (1979), of most, but not all, "effective schools"

including the following:

- Strong instructional leadership by the principal

- A climate of high expectations by staff for student achievement

- A clear and focused mission

- Safe and orderly environment

- Opportunity to learn and student time on task

- A system for monitoring student progress

- Positive home-school relations (p. 37)

While the impact of the Effective Schools Movement continues to be felt in schools today, its impact has lessened because its primary focus was in the elementary grade levels, where basic skills instruction was emphasized to help address socio-economic issues. Because of that generally narrow focus, interest in the Effective Schools Movement declined beginning in the early 1980s as political pressure began to mount due to concerns regarding increased international competition (Mace-Matluck, 1987). This pressure made way for new school reform initiatives that placed a greater emphasis on the secondary grade level. This new reform initiative was entitled the Excellence Movement.

The Excellence Movement made its way into school reform between 1980 and 1983, emboldened by political changes and spurred by threats of international business competition (Mace-Matlock, 1987). The evolution of the Excellence Movement and school reform continued with a 1983 landmark report from the National Commission on Excellence in Education entitled *A Nation at Risk: The Imperative for Educational Reform*. The opening paragraphs of the report frame the perceived imperative of the writers for school reform,

Our nation is at risk....We report to the American people that while we can take

justifiable pride in what our schools and colleges have historically accomplished

and contributed to the United States and the well-being of its people, the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people...Our society and its educational institutions seem to have lost sight of the basic purposes of schooling, and of the high expectations and disciplined effort needed to attain them (1983, p. 5).

In light of this report, education reform shifted away from its primary focus on the elementary grades and directed its focus more toward secondary education. The development of high-order skills and mastery of the curricula beyond basic skills and minimal competencies were central to the Excellence Movement. Where the Effective Schools movement focused on success for all, the Excellence Movement challenged schools to nurture the best and brightest, while encouraging schools to tighten standards, make curriculum more demanding, increase achievement scores, and have students score higher on aptitude tests (Mace-Matlock, 1987).

While much of the political rhetoric and broad accusations contained in *A Nation at Risk* have proven to be false, the perception of school crisis remained and, in effect, accelerated school reform initiatives (Senge, 2000). Both state education agencies and local districts trotted out programs that had been under way before the Excellence Movement. Many tried to show how far ahead of the reform proposal they had been. "Truly effective programs that had been under fire and poorly supported by higher authority were brought into the spotlight and given somewhat longer and occasionally fuller lives" (Wayson, 1988). These reforms following the *Nation at Risk* report simply called for an intensification of existing ideas rather than new innovative ideas (DuFour &

Eaker, 1998). Wayson (1988) further articulated that close examination of the Excellence Movement indicated that it was a piecemeal, top-down system, that was oblivious to the "seamless garment" that is the American school system, and it is likely that the educational system will produce more of the shallow reforms produced in the 1960s. The search for solutions for truly difficult issues that plagued the educational system continued to be ignored. Consequently, this continual recycling of old ideas yielded minimal results and ultimately led to further school reform initiatives.

While many of the criticisms directed towards the American education system were politically motivated and not research based, the push towards school reform and school improvement continued, and out of the many failures of the Excellence Movement came a new reform initiative known as the Restructuring Movement. Two major legislative initiatives emerged from this new reform movement, the Goals 2000: Educate America Act and the No Child Left Behind Act (2001).

The Goals 2000 legislation and the No Child Left Behind Act (NCLB) represented a movement toward standards-based education, accountability, and school choice. The Goals 2000: Educate America Act set out "to improve learning and teaching by providing a national framework for education reform; to promote the research, consensus building, and systemic changes needed to ensure equitable educational opportunities and high levels of educational achievement for all students; to provide a framework for reauthorization of all federal education programs; to promote the development and adoption of a voluntary national system of skill standards and certifications; and for other purposes" (U.S. Congress, 1994). Contained in Goals 2000 were eight objectives to be achieved by the year 2000. The goals focused on school

readiness, school completion, student achievement and citizenship, teacher education and professional development, mathematics and science, adult literacy and lifelong learning, safe, disciplined and alcohol- and drug-free schools, and parental participation. Many thought the Restructuring Movement would be the key to school reform, combining the development of national goals and state standards with the idea of local autonomy to see through the goals. This autonomy seemed to be a clear break from past, top-down reform initiatives. The push for autonomous, site-based management appeared to be the key to improving education, with local school leaders given greater authority to select and initiate school improvement policies and practices. However, the power shift to local school officials didn't have much effect on school reform issues, as educators at the local level often ignored the changes necessary to improve education; most notably, classroom instruction that directly affects student achievement. Instead, teachers focused on such things as unsatisfactory student discipline and a lack of parent involvement as the reasons for underachieving schools.

Although on the surface the goals set forth in Goals 2000 were unobjectionable, and the foundation was set for site-based management to see through the school reform initiatives, there were many critics who believed that the Act shifted control of education from parents and local school officials to a national level. Many political conservatives criticized Goals 2000 for establishing public schools as the coordinators and monitors of various social and welfare services for children. Due to political pressure, Goals 2000 funding ended in 2002, but NCLB remains and continues to be one of the centerpieces of America's school reform initiatives. NCLB brings a continued federal involvement in public education and because of the perceived ineffectiveness of a bottom-up approach in

transforming public schools, reform initiatives are once again moving towards a top-down accountability laden education system.

With increased levels of accountability relative to student achievement and teacher quality, schools are continually searching for ways to meet these increased expectations and reform initiatives. One of the outcomes of this push for reform has been the formation of professional learning communities which have grown as a way to address school improvement; most notably, staff development and student achievement. There is evidence that suggests that the professional community among teachers is associated with both authentic pedagogy and social support for achievement among students. Measures of student learning through conventional tests provided evidence of a positive relationship between professional learning communities and increased student performance (Newmann and Wehlage, 1995; Louis and Kruse, 1995).

For school improvement to occur, the leadership of the school principal is crucial. According to Edmonds (1979), one of the main commonalities among effective schools is strong leadership, especially the principal who is instrumental in setting the academic tone for the school, in helping to select appropriate instructional strategies, and in organizing and distributing school resources. The development and nurturing of teacher study groups offers one solution to satisfy the high levels of accountability relative to teacher professional development and to the tremendous pressure school leaders are under to take action under the auspices of school reform. The teacher study group model can serve as a core strategy for teacher development within the context of a professional learning community.

Statement of the Problem

In order for school improvement to occur, the leadership of the school principal is critical (Edmonds, 1979, Leithwood, 2005, Hord, 1997, DuFour & Eaker, 1998). With increased demands being placed on schools as a result of school reform initiatives, much is expected of the school principal. The behavior and leadership style of the principal have an influence on school culture and can help steer a school towards a collaborative environment wherein teachers work together in a professional learning community (PLC). In contrast, certain leadership behaviors can derail any efforts of collegiality and the development of a positive school culture. The school principal is the key to establishing trust, or ensuring trust within a school, which is essential for the development and sustainability of a professional learning community (Hord, 2004; Wahlstrom & Louis, 2008). Schools that have PLC structures in place, such as teacher study groups, are likely to have principals who practice transformative or distributive leadership behaviors that are supportive of the construct that brings teachers together to work collaboratively towards school improvement (Hord, 2004; Wahlstrom & Louis, 2008; DuFour & Eaker, 1998). Teacher study groups provide for a learner-driven approach to professional development. They are structured to build a community in which professionals continuously attempt to increase student learning. This is accomplished as practitioners extend their own knowledge and understanding of what is taught, reflect on their practice, hone their skills, and take joint responsibility for the students whom they teach. In essence, a study group is a small number of individuals uniting to increase their capacities to enable students to reach higher levels of performance (Murphy & Lick, 2001).

As leaders search for ways to improve school, student, and teacher performance, PLC's are becoming a popular and viable option. This study explored leadership behaviors and the development of PLCs, with teacher study groups serving as one of the models of a professional learning community. Specifically, this study examined the question: What is the nature of the relationship between principals' leadership behaviors and the development of professional learning communities in schools that were recipients of a Montclair State University Teacher Study Group Grant? The teacher study group served as one type of professional learning community.

Purpose of the Study

The purpose of this study was to explain the strength and direction of the relationship between principals' leadership behaviors and the development of professional learning communities, specifically teacher study groups. In effect, I sought to uncover principal leadership behaviors that positively affected the development of professional learning communities (PLC) in schools that are members of the National Network of Educational Renewal and were recipients of a Montclair State University Teacher Study Group Grant. Schools that were recipients of a teacher study group grant were chosen because a review of the research found that similar studies (Meyers, 2008; Hord, 1997; Huffman, 2003; Huffman & Jacobson, 2003) focused on professional learning communities in general and not on specific types of PLCs. There was a clear gap in the research relative to leadership behaviors and the development of specific forms of professional learning communities such as teacher study groups.

Theoretical Framework

The dynamic between a principal's leadership style and professional learning communities occurs within a social context as the organization (school) develops and learns. This study is anchored in the theoretical foundations of Social Capital Theory in terms of distributed forms of leadership, group dynamics, and professional learning communities.

Broadly speaking, social capital theory encompasses many aspects of a social context, such as social ties, trusting relations, and value systems that facilitate actions of individuals located in context (Tsia & Ghoshal, 1998). Inside an organization (especially a large, complex organization), a shared vision and/or a set of common values help develop this dimension of social capital, which in turn facilitates individual and group actions that can benefit the whole organization. The World Bank defines social capital as "the norms and social relations embedded in social structures that enable people to coordinate action to achieve desired goals" (Cohen & Prusak, 2001, p. 3). Cohen & Prusak (2001) go on to cite Robert Putnam's definition of social capital. The Harvard political scientist describes it similarly, "Social capital refers to features of social organizations such as networks, norms, and social trust that facilitate the coordination and cooperation for mutual benefit" (p. 3). Trust and social relations are critical elements of successful professional learning communities (Tsia & Ghoshal, 1998; Cohen & Prusak, 2001).

In their study of a multinational electronics company, Tsia's & Ghoshal's (1998) research provided strong support for the argument that social capital facilitates value creation, and the three dimensions of social capital assessed in the study--social

interaction, trustworthiness, and shared vision--had significant effect, directly or indirectly, on resource exchange and combination. In other words, their study suggests that investing in the creation of social capital inside a firm eventually creates value. As a result, an argument can be made that informal social relations and tacit social arrangements may encourage productive resource exchange and thereby promote product innovations.

While Tsia's & Ghoshal's (1998) study centered on the business sector, the results are relatable to, and applicable to, schools and professional learning communities (PLCs) with teacher study groups operating at the center of those learning communities. Shirley Hord (2004) organized the characteristics of PLCs into five themes or dimensions that are consistent with certain elements of social capital theory and distributive styles of leadership:

- *Supportive and shared leadership,* requiring collegial and facilitative participation of the principal who shares leadership by inviting staff input and action

- *Shared values and vision,* including an unwavering commitment to student learning.

- *Collective learning and application of learning,* requiring that school staff at all levels engage in processes that collectively seek new knowledge.

- *Supportive conditions,* including physical conditions and human capacities that encourage and sustain a collegial atmosphere and collective learning.

- *Shared practice,* involving the review of a teacher's behavior by colleagues and includes feedback and assistance to support individual and community involvement.

As Hord (2004) clarifies, "These dimensions are not isolated, but intertwined. Each dimension affects the others in a variety of ways" (p. 7).
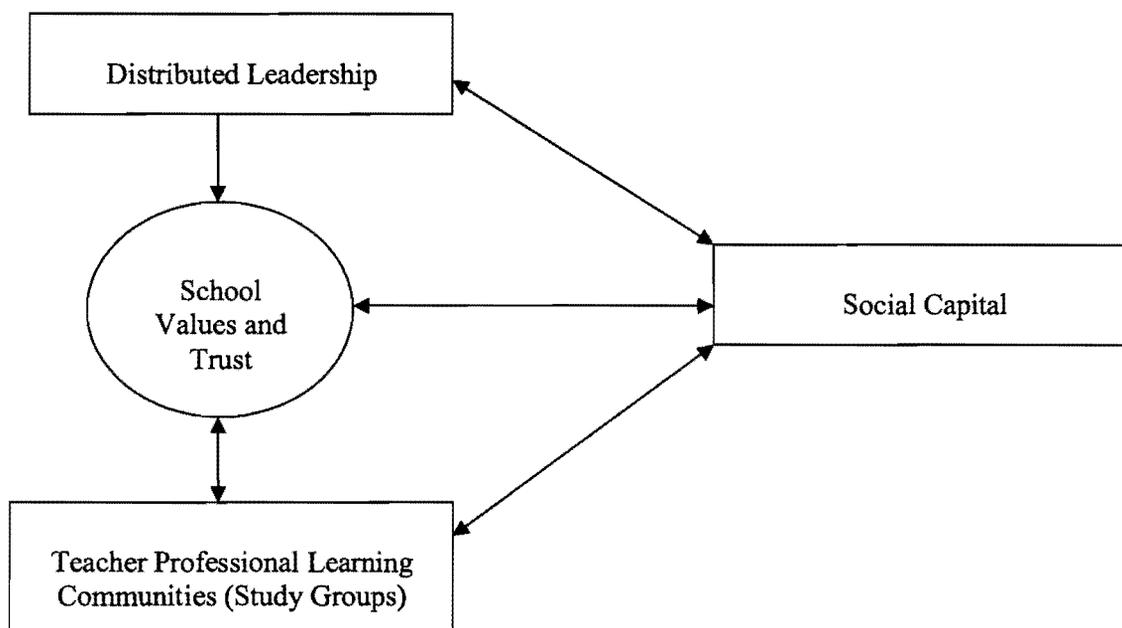
Figure 1. Theoretical Framework

A leader's role in developing and harnessing trust and a value system within a social organization, such as a school, is essential in growing "stocks" of social capital to benefit the organization and to move it forward towards reaching its potential. Figure 1 illustrates the connection between distributed leadership, organizational trust and values, and the development of professional learning communities. Learning communities associated with school values and trust lead to social capital and thus a mutual benefit to the organization. Without some foundation of trust, social capital cannot develop, and the essential components will not form. This need for trust within a social organization,

or school, lends credence to a more distributive style of school leadership. Distributive leadership involves interactions between people and their situation. This plays a critical role in school structures such as teacher study groups. Spillane, Halverson, & Diamond (1999) conceptually frame distributed leadership as a practice "stretched over" the social and situational contexts of the school. They see leadership as being more than just what a leader knows or does, but as being more about the activities engaged in by the leader in interaction with others in particular contexts around specific tasks. Simply stated, Spillane et al. (1999) define school leadership as "the identification, acquisition, allocation, coordination, and use of social, material, and cultural resources necessary to establish the conditions of teaching and learning" (p. 14). Therefore, distributive leadership is reliant on others to share the dynamics of leadership for the benefit of the organization. This interdependability between school staff and school leadership is critical to development of social capital within the school that will provide a "mutual benefit." It is clear that strong leadership and trust are a precondition for healthy social capital and necessary for a healthy functioning professional learning community.

Research Questions

The overall research question under investigation in this study is: What is the nature of the relationship between specific leadership behaviors of the school principal and the development of professional learning communities, specifically teacher study groups? The sub-questions revolving around leadership behaviors and PLC's are

1. Using the Leadership Practices Inventory (LPI), to what extent did teachers who participated in a Montclair State University (MSU) sponsored teacher

study group perceive their principals engaging in distributive or shared leadership practices?

2. Using the School Professional Staff as Learning Community Questionnaire (SPSLC), to what extent did teachers who participated in an MSU sponsored teacher study group perceive the school staff as a professional learning community?

3. For teachers involved in an MSU sponsored teacher study group, to what extent did gender, teaching experience, current level taught, and educational level influence their perceptions of the principal engaging in specific leadership practices?

4. For teachers involved in an MSU sponsored teacher study group, to what extent did gender, teaching experience, current level taught, and educational level influence their perceptions of the school staff as a learning community?

Hypothesis

This study examined the question: What is the nature of the relationship between principals' leadership behaviors and the development of professional learning communities (PLCs) in schools that are members of the National Network of Educational Renewal and were recipients a Montclair State University Teacher Study Group Grant? The study examined the faculties' perceptions of their principals' leadership behaviors and their perceptions of the school staff as a professional learning community. The hypothesis addresses the perception of the faculties involved in a teacher study group, which is one form, or structure, of a professional learning community.

Null Hypothesis 1: There is no significant relationship between principals' leadership

behaviors and the development of professional learning communities in schools that were recipients of a teacher study group grant.

Alternative Hypothesis 1: There is a significant relationship between principals' leadership behaviors and the development of professional learning communities in schools that were recipients of a teacher study group grant.

Design of the Study

This was a quantitative, non-experimental, explanatory, cross-sectional study that used descriptive, correlational, and relational statistics in order to determine the relationship between principals' leadership behaviors and the development of schools as professional learning communities. Two survey instruments were used and collected via mail—the Leadership Practices Inventory (LPI), and the School Professional Staff as Learning Community Questionnaire (SPSLC).

The population for this study included teachers from schools in New Jersey who were recent recipients of a Montclair State University (MSU) Teacher Study Group Grant. Teacher study group participants from the selected schools completed the surveys and their responses from the surveys were correlated using the Pearson Product Moment Correlations and examined using simple and multiple regression models.

Significance of the Study

Broadly, this study contributes to the body of educational leadership research on the relationship between principals' leadership behaviors and the level of development of professional learning communities in schools. Specifically, the results of this study may inform school principals of the specific leadership practices associated with the successful establishment of professional learning communities, specifically teacher study

groups. Further, the results may help guide professional development programs for educational leaders relative to the specific leadership practices that may help support a collaborative culture of professional learning communities in schools.

In an age of standards and accountability and a focus on highly qualified teachers, the results of this study can potentially help state and local school officials as they develop pertinent professional development programs designed to foster and support job-embedded, on-going professional development for school leaders and teachers.

Limitations of the Study

One limitation of this study was that the completion of the surveys was strictly voluntary. Therefore, teachers may have chosen not to participate in the study. Additionally, the anticipated total time to complete the two research instruments was about 15 minutes, which may have caused some of the participants to answer questions inaccurately due to fatigue. Another limitation of this study was that the principals who elected to allow their school to participate may have a high level of confidence that they will receive more positive responses from their faculties. Some principals may have chosen not to participate in the study due to a lack of confidence in their own leadership abilities and concern that their faculty might generate negative responses. Therefore, this study may reveal more positive leadership behaviors that support professional learning communities due to the fact that the principals who have a lower confidence level in their leadership behaviors may have elected not to participate.

Delimitations

A delimitation of this study was that it included schools (K-12) belonging to the National Network of Educational Renewal and included schools that were recipients of a

Montclair State University (MSU) Teacher Study Group Grant (TSG). Therefore, the results of this study may not be generalized to schools outside of the schools studied. Only schools that were recipients of the MSU Teacher Study Group Grant were selected because they are of particular interest to me as I am school principal and a recipient of a MSU Teacher Study Group Grant. Also, a teacher study group is considered a professional learning community, and therefore schools that were awarded a teacher study group already have an assemblance of a professional learning community established within the school.

Definition of Terms

Professional Learning Community: A professional staff of teachers and administrators who continually seek and share learning, and act on their learning; conceptualized as five related dimensions that reflect the essences of a professional learning community: *Shared and Supported Leadership, Shared Vision and Values, Collective Learning and Application, Supportive Conditions* and *Shared Personal Practice* (Hord, 1996).

Teacher Study Group: A learner-driven approach to professional development. Study groups are structured to build a community in which professionals continually attempt to increase student learning. This is accomplished as practitioners extend their own knowledge and understanding of what is taught, reflect on their practice, hone their skills, and take joint responsibility for the students they teach. In essence, a study group is a small number of individuals uniting to increase their capacities to enable students to reach higher levels of performance (Murphy & Lick, 2001).

Transformational Leadership: An approach to leadership defined in terms of leaders' influence over their colleagues and the nature of leader-follower relations.

Transformational leaders share power and facilitate a school development process that engages the human potential and commitment of teachers (Leithwood, 2005).

Instructional Leadership: A model of leadership that proposes three dimensions of instructional leadership construct: defining the school's mission, managing the instructional program, and promoting a positive school learning climate (Hallinger, 2003)

Distributed Leadership: A leadership perspective that frames leadership practice in a particular way; leadership practice is viewed as a product of the interactions of school leaders, followers, and their situation, rather than as a function of one or more leaders' actions (Spillane, Halverson, & Diamond, 1999).

Level of Development: A measure found in the School Professional Staff as Learning Community Instrument (SPSLC) indicating the degree in which a school staff achieves professional learning community (Hord, 1996).

Chapter II

Review of the Literature

Introduction

A focus on teacher quality and teacher efficacy surfaced in the 1980s through the

research of Rosenholtz (1986, 1989b) who maintained that teachers who felt supported in

their own ongoing learning and classroom practice were more committed and effective

than those who did not receive such confirmation. In addition, Rosenholz (1986) found

that providing opportunities to establish new teaching strategies and skills through

teachers' decision making, collaborative interaction, and instructional coordination are

heavily implicated in teacher improvement. These findings emphasized the importance

of teacher collaboration and collective inquiry as a way to improve teaching and learning

and were in stark contrast to the typical structure whereby teachers experienced high

levels of professional isolation and seldom discussed instructional matters with

colleagues.

In 1990, Peter Senge's book, *The Fifth Discipline,* surfaced in the business

community and emphasized the art and practice of building learning organizations.

Despite its focus on the business sector, educators took notice and explored Senge's ideas

of learning communities, "where people continually expand their capacity 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). Educators gravitated toward his ideas as a way of meeting the

reform initiatives present at the time. Senge's influence combined with criticisms of the

"training model" of teacher professional development that focused primarily on

expanding an individual's repertoire of well-defined classroom skills was not adequate to the ambitious visions of teaching and schooling embedded in the reform initiatives (Little, 1993, Darling-Hammond, 1994). Little (1993) further posited that teacher professional development must be constructed in ways that deepen discussion, open debates, and enrich the array of possibilities for action. The term "drive-by staff development" coined by Senge (2000) provided a way to help educators understand the need for schools to be reflective places where teachers can select the training they need to improve teaching and learning. Such training should not be one-shot events like single-day workshops that are disconnected from the core work of schooling. As Senge's paradigm shift of learning organizations was explored by educators and shared in educational journals, the label became "learning communities" (Hord, 1997).

This emerging professional learning community paradigm was further supported through the findings of McLaughlin and Talbert (1993), who summarized research conducted by the Center for Research on the Context of Secondary School Teaching (CRC) in California and Michigan during the years 1987-1992. The research was synthesized to assess the implications for policy strategies in achieving the national education goals. The CRC research program combined qualitative and quantitative field data on classroom, department, school, district, and state teaching contexts developed through interviews, site records, school and classroom observations; survey data for all teachers in each school at three time points: spring 1989, 1990 and 1991; and quantitative and qualitative data for forty eight students. The research found that teacher responses to students and notions of good teaching practice are heavily mediated by the character of the professional communities in which they work (McLaughlin & Talbert, 1993). In

other words, it was determined that teachers' groups (professional communities) offer the most effective unit of intervention and powerful opportunity for reform. McLaughlin and Talbert (1993) further posit that, "The path to change in the classroom core lies within and through teachers' professional communities, learning communities which generate knowledge, craft new norms of practice, and sustain participants in their efforts to reflect, examine, experiment, and change" (p. 18).

Supportive leadership is necessary for a professional learning community to emerge. Leadership exercised by principals needs to focus on issues related to school improvement, collegiality, shared purpose, continuous improvement, accountability, and responsibility for performance and structural change (Fullan, 1991). The school principal is the key to establishing trust or ensuring trust within the school, which is essential for the development and sustainability of a professional learning community (Hord, 2004, Wahlstrom, & Louis, 2008). A review of Hord's (1997) landmark study revealed that principals who maintained a posture of continual learning combined with developing collegial relationships with staff, focusing staff on student success, making opportunities for teachers to learn, and inviting teachers into decision making and implementation were more successful in establishing learning communities, as teachers tended to follow the example set by their principals.

Literature Search Procedures

Literature reviewed for this study was accessed through several online databases including: Google Scholar, ProQuest, ERIC, EBSCOhost, JSTOR, Academic Search Premier, SAGE Journals Online, Google Books, and Dissertation Abstracts. The main keywords used for the search of digital resources included: teacher professional

development, adult learning, professional learning communities, leadership, school leadership, instructional leadership, transformational leadership, distributed leadership, study groups, teacher study groups, and student achievement. In addition, research was conducted through a review of print editions of peer reviewed journals and books related to the topics by educational researchers and theorists. A combination of experimental, non-experimental, and quasi-experimental studies was used for this review. Elements of the framework for organizing and presenting scholarly literature reviews outlined by Boote's & Beile's (2005) were followed.

Inclusion and Exclusion Criteria for the Literature Review

Studies that met the following criteria were used in this study: (a) peer reviewed journals, dissertations, and government reports, (b) relevant works in the field that reported statistically significant findings, (c) experimental, non-experimental, and quasi-experimental studies, (d) books related to pertinent theories and seminal works, and (e) works that were published since 1960. Works published before 1960 were excluded unless the work is considered a seminal piece of literature.

The following literature review begins with a description and a discussion about adult learning theory and then leads into teacher professional development. Following that, professional learning communities are examined and framed in the context of school culture, collaboration and trust, student learning, and then finally student achievement. The next section discusses a specific form of professional learning communities, the teacher study group. In this section teacher study groups are described, and guidelines for successful study groups are outlined and examined relative to strengthening school culture and positively effecting student achievement. Section 7 examines the role of

instructional and transformational leadership in school improvement and its evolution over the last 25 years. Section 8 describes the emergence of distributive leadership and its role in shaping schools and community. Section 9 focuses on more recent leadership literature by Waters, McNulty, and Waters (2003)--balanced leadership. Section 10 discusses the principal's role in the development of professional learning communities, and issues are discussed that encourage and promote the development and maturity of PLC's. In Section 11, possible influences on teachers' perceptions are examined, including teacher experience, teacher education degree level, grade level taught, and gender. These variables were used as independent variables for this study. In the summary section of the literature review, connections are drawn between the importance of principals' leadership behaviors and the development of professional learning communities and teacher study groups.

<center>**Adult Learning Theory**</center>

Adult education and adult learning theory contribute to the knowledge of how teachers learn and develop within a school environment. Professional learning communities and teacher study groups are forms of professional development in which teachers learn by engaging in shared inquiry within a social context. Aspects and characteristics of these forms of teacher professional development are associated with theories of adult education and adult learning going as far back as the early to mid 1920s.

The central question of how adults learn has been debated and analyzed by scholars since the origin of adult education beginning with Eduard Lindeman in the 1920s. Lindeman (1926) first explicated the process of how adults learn and where adult education fits in with human development. Interestingly, one of the resources he posited

as having the highest value in adult learning is a learner's experience. He believed that experience is the "adult learner's textbook" (p. 10). His vision for adult learning extended beyond formal education and curricula. It rested on the ideals of everyday life including: non-vocational ideals, situations--not subjects, and peoples' experiences. His writings about peoples' experiences relative to adult learning align closely with some of the characteristics of the modern day professional learning community, as he writes, "Small groups of aspiring adults who desire to keep their minds fresh and vigorous, who begin to learn by confronting pertinent situations, who dig down in the reservoirs of their experience before resorting to texts and secondary facts, who are led in discussion by teachers who are also searchers after wisdom and not oracles; this constitutes the setting for adult education, the modern quest for life's meaning" (p. 11). Hansman (2001) further reinforces the idea of learning through experience in her writings about context-based adult learning. She posits that learning in context is "paying attention to interaction and intersection among people, tools, and context within a learning situation" (p. 46).

One theory, or model, alone cannot explain all there is to know about adult learning. However, one important aspect of adult learning surfaced from the collection of adult learning theories contained in the literature. This was the concept of andragogy (Merriam, 2001).

Andragogy is defined by Knowles (1980) as, "the art of and science of helping adults learn" (p.43). This concept is often contrasted with pedagogy which can be defined as the "art and science of helping children learn" (p. 43). Andragogy became the catalyst for those trying to define the field of adult education as separate from other areas

of education (Merriam, 2001). Knowles (1980) based the idea of andragogy on at least four critical assumptions about the characteristics of learners that are different from traditional pedagogy. He later added a fifth and sixth assumption as the theory developed. The assumptions are that, as individuals mature:

1. Their self-concept moves from one of being a dependent personality toward being a self-directed human being

2. They accumulate a growing reservoir of experiences that become increasingly rich resources for learning

3. Their readiness to learn becomes oriented increasingly to the developmental t asks of their social roles

4. Their perspective changes from one of knowledge to immediacy of application and, accordingly, their orientation toward learning shifts from one of subject-centeredness to one of performance-centeredness.

5. Their motivation to learn is internal

6. They need to know why they need to learn something before they learn it.

Based on these assumptions, Knowles proceeded to develop and examine implications connected to these assumptions as it related to educational experiences with adults. There are clear connections that can be drawn between what Knowles (1980) discusses about adult learning and the recent literature about community learning.

For example, Knowles (1980) emphasizes the importance of the psychological climate as it relates to adult learning. Specifically, the psychological climate should be one, "which causes adults to feel accepted, respected, and supported...people tend to feel more "adult" in an atmosphere that is friendly and informal" (p. 47). This idea is not so

distant from Hord's (1996) definition of professional learning communities in which she described a professional community of learners as one in which the teacher in a school and its administration continually seek and share learning, and act on their learning. These communities of continuous inquiry and improvement all happen within a social context.

Wenger (1998) further describes dimensions of the relationships within communities of practice as several concepts. He describes it as a "mutual engagement of the participants that allows them to do what they need to do and binds members into a social entity, a joint enterprise resulting from a collective process of negotiations that reflects the full complexity of mutual engagement, and a shared repertoire of communal resources that belongs to the community of practice and includes "routines, words, tools, ways of doing things, stories, gestures, symbols, genres, actions, or concepts that the community has produced or adopted in the course of its existence, and which have become part of its practice" (p. 83).

It is clear from the literature that the early ideas about adult learning such as social context, interactions, and experiences help shape adult learning. The underpinnings of adult learning theory with its emphasis on self-directing, experiential learning consisting of shared inquiry and context-based learning are significantly present in the job-embedded professional development activities of teachers. These characteristics of adult learning are inherent in professional learning communities.

Professional Development

Improving professional learning for educators is critical to improving student performance (Darling-Hammond, Wei, Andee, Richardson, & Orphanos, 2009).

Teacher quality continues to be a focus of current reform efforts, and it is incumbent upon education professionals to develop ways to improve teacher learning and provide opportunities for teachers to reflect and develop as educators. It is generally accepted that high quality professional development accomplishes the following: deepens teachers' content and pedagogical skills; is job-embedded; provides for opportunities for practice, research and reflections; is sustained over time; and is collegial and collaborative (Darling-Hammond et al., 2009; Garet, Porter, Desimone, Birman, & Yoon, 2001; Sparks, 2002, and Gutsky, 2003). The all too common teacher "trainer model" consisting of the traditional one day workshop of professional development has fallen out of favor as state and federal policies continue to encourage regular teacher collaboration and professional learning that are closely tied with school improvement priorities. Despite this push for reform in teacher professional development, the kind of high intensity, job-embedded collaborative learning that is most effective is not a common feature of teacher professional development across most states, districts, and schools in the United States. (Darling Hammond et al., 2009).

With increased student learning and achievement serving as the preferred outcome of successfully implemented professional development strategies and methods, linking teacher professional development directly to student achievement is challenging. Only nine studies out of more than 1300 meet the "What Works Clearinghouse" evidence standards (Yoon, Duncan, Wen-Yu Lee, Scarloss, & Shapley, 2007). Yoon, et. al. (2009) posit that to substantiate an empirical link between professional development and student achievement, studies should ideally establish two points. The first is to substantiate links

among professional development, teacher learning and practice, and student learning. The other requires the empirical data to be of high quality.

Some studies find that professional development that focuses on enhancing teachers' knowledge of how to engage in specific pedagogical skills, and how to teach specific kinds of content to learners relative to their conceptual understanding and academic skills improves student achievement (Darling-Hammond et al., 2009; Saxe, Gearhart, & Nasir, 2001). Two studies that meet the "What Works Clearinghouse" evidence standards and focus on increasing teachers' knowledge about students' mathematical thinking are discussed below.

Saxe Gearhart and Nasir (2001) conducted a study designed to provide "bottom line" evidence of the influence of professional development programs on student learning. The comparative study set out to compare three groups of teachers and their students. During the teaching of the concepts associated with fractions in math class, two groups emphasized problem solving and conceptual understanding. One group used the Integrated Mathematics Assessment (IMA) while participating in a program designed to enhance teachers' understanding of fractions, students' thinking, and students' motivation. The other Collegial Support Group (SUPP) met regularly as a community of learners to discuss curriculum implementation strategies. The third group (TRAD) focused on the use of mathematics textbooks in their instruction and received no professional development support. The purpose of the study was to, "understand the ways that professional and curricular supports for reform implementation may strengthen students' developing knowledge of fractions" (pg. 57).

Volunteers were solicited through mailings to upper elementary teachers within a

40 mile radius of UCLA. From the respondent pool, the teachers who used, and planned to continue to use, traditional texts were assigned to the TRAD group. The researchers used a stratified random assignment procedure to assign the IMA and SUPP teachers. In total there were 9 participants in the IMA groups, 8 in the SUPP groups, and 6 in the TRAD group.

The researchers developed a paper-and-pencil test to measure students' understanding of fractions. To document student learning on computational and conceptual skills, two types of analyses were used—post- and pre-tests, and post-test scores associated with teachers' professional development. In the analysis, IMA, SUPP, and TRAD classrooms were compared and contrasted. Next, student scores were aggregated by classrooms using mean scores on the pre-test and post-test conceptual and computational scales (dependent variable). An ANCOVA procedure was then used with classroom mean posttest scores as dependent variables and IMA, SUPP, and TRAD groups as the independent variable, and classroom mean pre-test scores as covariates.

Results from the analyses revealed that while most participating classrooms showed increases in conceptual and computational understanding, the patterns of gained student learning differed among the three groups. Greater gains were discovered for the IMA classrooms on the conceptual scale, which the researchers attributed to the Program's ability to enhance teachers' understanding of mathematics and pedagogy. Support teachers touched upon some of the same issues discussed in the IMA group; however, their efforts never became the focus and were not sustained throughout the study as in the IMA group. When contrasting classrooms using traditional texts to implement reform curriculum with those in the Support classrooms, the researchers found

that student achievement did not differ between the two groups. However, both groups achieved less on student achievement measures than the IMA group. This suggested that the use of reform curriculum when implemented with focused professional development may lead to gains in achievement. While this study contributes significantly to the literature on teacher professional development and its influence on student achievement, a small sample size in one geographic location is a limiting factor and therefore may not be generalizable to other areas and populations.

In an earlier experimental study, Carpenter, Feneman, Peterson, Chiang, & Loef, (1988) used knowledge derived from classroom-based research on teaching and students to improve teachers' classroom instruction and student achievement. The purpose of the study was to investigate whether educating selected teachers regarding children's thinking about addition, subtraction, and problem solving skills would influence the teachers' instruction and their students' achievement. Essentially, the researchers sought to determine whether or not teachers who participated in professional development about Cognitively Guided Instruction (CGI) influenced student achievement.

The 40 first grade teachers who voluntarily participated in the study were divided into two equal groups. One group of twenty teachers was randomly assigned to the treatment group (teachers receiving professional development in CGI), and the other twenty teachers were assigned to the control group who participated in two workshops lasting two hours each that focused on non-routine problem solving. Throughout the school year, all 40 teachers and their students were observed by trained observers using two coding systems developed for the study. At the end of the year, teachers' knowledge of their students' thinking and performance was measured through interviews and a

questionnaire. Students completed a standardized mathematics pre-test in September and a series of post-tests in April and May.

The data from the study were analyzed by computing the means, standard deviations, and *t* tests between groups for each of the categories on the teacher and student observation system. Additionally, analyses of variance (ANOVA) were computed for teacher belief scales, and analyses of covariance (ANCOVA) were computed for each of the student achievement scales. The results from the analyses suggested that "knowledge from research on children's thinking and problem solving can make a difference in teachers' knowledge and beliefs which are reflected in teachers' classroom instruction and in students' achievement" (p. 44). In addition, teachers in the study who were provided specific content related to knowledge of students' problem solving increased their emphasis on problem solving in their classes, more so than the control group. Relative to student achievement, students in the CGI teachers' classes outperformed students in the control classes on tests of complex addition, subtraction, and word problems, while performing comparably to the control group on basic skills tests. This demonstrated a clear link between teacher professional development and increased student achievement.

A myriad of challenges in measuring the success of teacher professional development and its impact on student performance and achievement remain. As the idea of teacher professional development gravitates away from a workshop-based model and moves to a more of an interactive. social activity-based on discourse and community practice, such as professional learning communities, ways of measuring the outcomes of

these learning communities is in need of more intensive empirical research. Borko

(2004) says it best when she describes the different levels of teacher learning:

> For teachers, learning occurs in many different aspects of practice, including their
>
> classrooms, their school communities, and professional development courses or
>
> workshops. It can occur in a brief hallway conversation with a colleague, or after
>
> school when counseling a troubled child. To understand teacher learning we must
>
> study it within these multiple contexts taking into account both the individual
>
> teacher-learners and the social systems in which they are participants (p. 4).

Characteristics of Professional Learning Communities

An extensive review of the literature revealed no universal definition of a

Professional Learning Community (PLC), but there appears to be broad international

consensus that it suggests a group of people sharing and critically interrogating their

practice in an ongoing, reflective, collaborative, inclusive, learning-oriented, growth

promoting way, operating as a collective enterprise (Bolam, McMahon, Stoll, Wallace, &

Hawkey, 2005). Hord (1997) defined a professional community of learners as one in

which the teacher in a school and its administration continually seek and share learning,

and act on their learning. The goal of their actions is to enhance their effectiveness as

professionals for the benefit of the students; thus, this arrangement may also be termed

communities of continuous inquiry and improvement.

The emphasis on reflective practice as one of the cornerstones of PLCs can be

traced back to the work and contributions of Donald Schön (1983) and his book, *The*

Reflective Practitioner. In his writings, he makes the distinction between "Technical

Rationality," which emphasizes professional practice as a problem solving mechanism

reliant on available means to resolve conflict versus "Reflection in Action," which is an improvisation of existing schema that was learned which gives meaning to our actions. Simply put, the reflective practitioner

> "...allows himself to experience surprise, puzzlement, or confusion in a situation which he finds uncertain or unique. He reflects on the phenomena before him, and on the prior understandings which have been implicit in his behavior. He carries out an experiment which serves to generate both a new understanding of the phenomena and the change in the situation. When someone reflects in action, he becomes a researcher in the practice context. He is not dependent on the categories of established theory and technique, but constructs a new theory of the unique case" (p. 68).

In the fall of 1997, Shirley Hord, through the Southwest Educational Development Laboratory, launched a 3 year qualitative study to better understand how schools develop as professional learning communities. Her landmark study included an exhaustive review of the literature which uncovered the following five characteristics of academically successful professional learning communities:

1. *Supportive and shared leadership*: School administrators participate democratically with teachers sharing power, authority, and decision making

2. *Shared values and vision*: Staff share visions for school improvement that have an undeviating focus on student learning and are consistently referenced for the staff's work.

3. *Collective learning and application of learning*: Staff's collective learning and application of the learnings (taking action) create high intellectual learning tasks and solutions to address student needs.

4. *Supportive conditions*: School conditions and capacities support the staff's arrangement as a professional learning organization.

5. *Shared practice*: Peers review and give feedback on teacher instruction practice in order to increase individual and organized capacity (Hord, 2004 & Huffman, 2001).

The PLC characteristics outlined above are supported by others who have studied professional learning communities; however, some have gone a bit further when examining the characteristics of PLCs. For example, Bolman, et al. (2005) goes further and include: mutual trust, inclusive membership, respect and support, openness, and networks and partnerships. DuFour (1998) goes even further and places more of an emphasis on a collaborative process that is results-driven, focusing on achieving the goals set forth by the learning community. In all, PLCs should identify and pursue measurable, results oriented goals and evaluate their success in meeting these goals through evidence of student achievement (Ferger & Arruda, 2008).

Professional Learning Communities and School Culture

Many years ago educators were warned that there was little chance that schools would improve without significant changes in their school culture (Sarason, 1982 as cited in Louis, 2006). In his book, *Schoolteacher: A Sociological Study*, Lortie (1975) described the cultural norms in which teachers work in isolation, classrooms become "individual cells" in an "egg crate" formation, and teachers have very little interaction

with one another. Lortie's views of the school teacher were based on observations and findings from over 40 years ago. Rosenholtz (1986) further indicated that, "Most schools are characterized by isolated working conditions, where norms of autonomy give rise to the belief that teaching is an individual enterprise" (p. 93). Lortie (1975) goes on to articulate that teachers' capacity for growth is limited by their own ability to diagnose problems. The development of professional learning communities is one major effort to address this fundamental issue (Louis, 2006).

The question of whether or not Lortie's (1975) findings hold true today arises when current school reform efforts for instructional improvement and higher levels of accountability interact with promising school cultures consisting of collegiality, trust and collaboration. If the development of professional learning communities can positively impact school culture by increasing teacher authority to change instructional practices while nurturing levels of trust and collaboration, then teachers' continued focus on student learning will help serve the school reform efforts well.

Collaboration and Trust

A number of studies revealed inherent characteristics of professional learning communities that worked to promote changes in teacher culture. Specifically, studies pointed to the existence, development, and importance of collaboration and trust within the school culture (Wood, 2007; Yendol-Silva, 2003; Tschannen-Moran, 2000; Bryk & Schneider, 2002; Berry, Johnson, & Montgomery, 2005; Phillips, 2003; Strahan, 2003). Collaboration is increasingly revered as an important feature in the management of excellent schools (Tschannen-Moran, 2001).

In her study, Tschannen-Moran (2001) sought to build upon the empirical

evidence linking collaboration and trust and apply it to the context of schools. She contended that collaboration and trust are reciprocal processes that depend upon and foster one another. Her study was based on the premise that a significant factor in reconstructing a collaborative climate is building an atmosphere of trust. The school was the unit of analysis, and therefore teachers were asked for their perceptions of the level of collaboration and trust in the school, not their own involvement with collaboration or personal feelings of trust. A pilot study was undertaken to test and refine the collaboration and trust questionnaires that were used in the study.

The population for the study involved elementary schools within one large urban school district which resulted in a final sample of 45 schools. Close analysis of the data gained from the survey instruments examined the interrelationships between participation and collaboration, as well as the interrelationships between three levels of collaboration to see if patterns emerged in the level of collaboration within the schools. Each of the analyses of the data provided new insight into the relationship between the constructs of trust and collaboration. Schools in which there was a high level of trust could be predicted to be schools in which there would be a high level of collaboration. Essentially, the study made clear the importance of trust in building collaboration. When trust was absent, people were reluctant to work closely together, and collaboration was more difficult. As Tschannen-Moran (2000) concluded in her study, "Collaboration in an atmosphere of trust holds promise for the transforming of schools into vibrant learning communities" (p. 328).

To further expand the effects of learning communities on trust, collaboration, and school culture, Supovitz (2002) used multiple sources of data from a 4-year (1997-2000)

evaluation of a team-based schooling initiative in a medium-sized Cincinnati urban school district. His study sought to further understand the small schools movement of the time, which was based on the theory that organizing schools in smaller team-based educational environments would help to build more collaborative and collegial communities of teachers. Based on the Cincinnati school leaders' understanding of team-based schooling, their hope was to develop more collaborative cultures and more targeted instructional practices and, in turn, produce higher levels of student performance.

Supovitz (2002) analyzed survey data from both participants and non-participants of team based schools. The three surveys consisted of scales that measured school culture, instructional practice, and team instructional practice. Using a variety of statistical analysis including t-tests to compare means of team based and non-team-based teachers, Chi-square analyses to examine differences in the proportion of teams in low, moderate, and high-use instructional practice categories over time, and ordinary least squares (OLS) to compare the performance of students in the team-based and non-team based schools, Supovitz (2002) found "strong and persistent evidence" that there were differences between team-based and non-team-based schools and that teachers "felt more involved in a variety of school-related decisions, had higher levels of collaboration with their peers, and reported significantly more interaction with their peers" (p. 1604). The survey data clearly showed that teachers in the team-based schools collaborated more with their peers and felt more involved in their schools (Supovitz, 2002).

A study by Christman (2001) of Philadelphia's ambitious systematic reform effort entitled, *Children Achieving,* showed results that were consistent with Supovitz's (2002) study of reform movements in Cincinnati. As in the Cincinnati study, a major part of

Philadelphia education reforms consisted of creating small learning communities within the district schools. In both studies, the reforms had a "significant and positive influence on the environments within which schooling took place and teachers' efficacy within those environments (Supovitz & Christman, 2003). Specifically, Philadelphia teachers, in the end, indicated that small learning communities had a strong impact on improving student discipline and the overall school environment (Christman, 2001). However, as in Supovitz's (2002) study, while the small learning communities contributed to overall teacher collaboration and trust, staff members were unable to capitalize on the potential of small learning communities to be catalysts for the instructional improvement they were intended to be (Christman, 2001).

Collaboration and a Focus on Student Learning

Like Supovitz & Christman (2003), Strahan's (2003) 3-year study examined the dynamics of school culture in three elementary schools and reinforced the importance and value of persistently pursuing an instructional focus while working collaboratively in professional learning communities. In 2000, a team of researchers constructed case studies over a three-year period of the ways in which three high performing elementary schools promoted academic achievement. Strahan (2003) reanalyzed data from those case studies and conducted new interviews to examine the role that increasingly collaborative professional cultures played in promoting instructional improvement. While Strahan's (2003) reconstruction of the case reports were based on a limited sample of classroom observations and thus could not confirm the nature of the changes the participants reported, the reports summarized participants' descriptions of the reforms that they believe fostered increased achievement at their schools. In his interviews,

participants highlighted a number of ways that teacher collaboration had improved teaching. One teacher commented, "I really enjoyed the last meeting where we were given the articles, and I'm looking forward to having the opportunity to discuss that, you know, with colleagues….And I love the idea of having the opportunity to look at the research that's come out and things that are being tried in the classrooms, and being able to talk about that with my colleagues" (p. 139). Teachers in the study also reported that they developed supportive relationships with students that likely encouraged gains in student achievement (Strahan, 2003). In sum, Strahan's 2003 study emphasized the value and importance of teachers and administrators engaging in professional discourse about learning and teaching. These conversations routinely featured an analysis of formal and informal assessments that provided teachers with knowledge concerning what their students needed to succeed and, when unsure how to meet those needs, could count on their colleagues for suggestions and support. Despite the lack of reliable quantitative data, teachers reported that these collaborative, culture building conversations set the stage for continuous improvement for teachers and students (Strahan, 2003).

The studies discussed above (Supovitz, 2002; Christman, 2003; Strahan, 2003) focused on the importance of trust and collaboration within a professional learning community. Supovitz (2002) and Christman (2003) reported that through the collaborative efforts of the teachers that participated in teams and small learning communities, changes in instructional cultures with an increased emphasis on student learning were reported. Teachers who reported that they did not use designated meeting times to focus on teaching practice did not report changes in instructional culture (Vescio, Ross, & Adams, 2008). This emphasis on student learning is consistent with DeFour's

(1998) belief about the importance of results-driven instructional approaches within PLCs. It is clear that forming PLCs will generally produce higher levels of collaboration and interaction among peers; however, doing so will not necessarily impact student learning unless teachers are able to capitalize on the time together to positively impact teacher instruction.

Professional Learning Communities and Student Achievement

A number of studies related to professional learning communities provide evidence, albeit more indirect evidence, about the impact PLCs have on student learning (Supovitz, 2002; Christman, 2003; Strahan, 2003). More importantly, if PLCs are to be considered a major player in education reform, it is critical to demonstrate that professional learning communities enhance student achievement. A number of studies examined the relationship between teachers' participation in professional learning communities and student achievement and found that student learning improved (Berry et. al, 2005; Phillips, 2003; Strahan, 2003; Supovitz, 2002; Louis & Marks, 1996; and Supovitz & Christman, 2003).

Examining the relationship between teams and small learning communities and increases in student performance, Supovitz & Christman (2003) found that, "In both Philadelphia and Cincinnati, there was evidence to suggest that those communities that did engage in structured, sustained, and supported instructional discussions and investigated the relationships between instructional practices and student work produced significant gains in student learning (p. 5). It is important to note, however, that in the Cincinnati study, the overall test gains of students in the team-based schools were indistinguishable from those of student in the non-team-based schools. Conversely,

multiple investigations found a relationship between group instructional practice and gains in student learning (Supovitz & Christman, 2003). What this indicates is that increases in student performance are more likely to occur when well-implemented communities provide important and necessary conditions for teachers to engage in instructional practices that improve student learning. As Supovitz and Christman (2003) pointed out, "they [learning communities] were not commonly a catalyst for teachers to engage in instructional improvement on their own" (p.6).

In Joy Phillip's (2003) study, qualitative data were used (principal and teacher interviews, classroom observations, teacher focus groups, reporting documentation, and student work products) to describe how administrators and teachers in one urban middle school shared leadership tasks to develop an authentic learning community. The findings of this study were illustrated by three innovative programs that teachers developed as a result of participating in high quality professional development initiatives. These programs included two long-term teacher study groups and a student leadership development program. The teachers involved in these programs decided to focus their reform effort on improving teacher learning for the express purpose of improving student learning. As a result, achievement scores increased dramatically over a 3-year period, especially in reading and mathematics. Specifically, ratings on a statewide standardized test went from "acceptable" in 1999-2000 with 50% of students passing subject area tests in reading, writing, math, science, social studies, to "exemplary" in 2001-2002, with over 90% of the students passing each subject-area test. It is important to note that the sample for this study was limited to one middle school (6-8) and consisted of low and underachieving students. Therefore, the results of this study may not be generalizable to

other populations, and additional research is necessary to draw definitive conclusions as to whether the reform efforts implemented in this study can be applied to other populations.

Although more research is needed to expand upon the results of this study, there were five notable themes that emerged from Phillips' (2003) study that when woven together represent the processes and commitment of practitioners present in authentic learning communities. These themes are: high quality professional development, research-based literature, shared leadership, collaborative processes, and context.

The extant literature associated with professional learning communities and student achievement suggests that under the right conditions, PLCs can have a positive impact on student learning. Supovitz & Christman (2003) found a relationship between group instructional practices and gains in student learning. Learning communities may not serve to support improvements in student achievement on their own as Supovitz & Christman (2003) point out. Therefore, for gains in student learning to occur, there needs to be clear, deliberate focus on teaching practices that support classroom instruction that will positively impact student achievement.

Teacher Study Group

Teacher study groups are considered an efficient method for supporting school professional development and can function as the cornerstone of PLCs (Hutinger & Mullen 2008; Murphy & Lick, 2001). While not new, meeting in small study groups, or whole faculty study groups, serves to eliminate the isolation that teachers have traditionally experienced in the classroom and through professional development activities (Rosenholz, 1986, Lortie, 1975). As Little (1990) points out, "Schoolteaching

has endured largely as an assemblage of entrepreneurial individuals whose autonomy is grounded in norms of privacy and noninterference, and is sustained by the very organization of teaching work" (p. 530). In contrast to Little's (1990) example, working within professional teacher study groups helps to break down these barriers and allows for a collegial process of sharing and inquiry.

Murphy & Lick (2001) define a teacher study group as a learner-driven approach to professional development. A teacher study group consists of structured job-embedded professional communities in which professionals continually attempt to increase student learning. This is accomplished as practitioners extend their own knowledge and understanding of what is taught, reflect on their practice, hone their skills, and take joint responsibility for the students that they teach. In essence, a study group is a small number of individuals uniting to increase their capacities to enable students to reach higher levels of performance. Lick (2000) suggests that, ideally, professional study groups should provide a mechanism to integrate individual and institutional development through personal and group relationships, creating conditions in which members can gain understanding and learn together.

Murphy & Lick (2001) have developed a practical, guiding structure for teacher study groups that when working in concert, allows them to operate effectively. These guidelines should not function independently, but should be interwoven to offer study groups a foundation to achieve the desired results. Schools with evidence that teacher study groups have had a positive effect on student achievement and on the culture of the school have followed the following study group guidelines:

1. Keep the size of the study group between 3 and 6 members.

2. Determine study group membership by those who want to address identified student needs.

3. Establish and keep a regular schedule, meeting weekly or every 2 weeks.

4. Establish group norms and routinely revisit the norms.

5. Establish a pattern of study group leadership, rotating among members.

6. Develop a study group action plan (SGAP) by the end of the second study group meeting.

7. Complete a study group log after each study group meeting.

8. Have a curriculum and instructional focus that requires members to routinely examine student work and to observe students in classrooms engaged in instructional tasks.

9. Make a comprehensive list of learning resources, both material and human.

10. Use multiple professional development strategies, such as training, to accomplish the study group's intended results.

11. Practice reflection by agreeing that each member will keep a reflective journal.

12. Recognize all study group members as equals.

13. Expect and plan for transitions.

14. Assess the progress of the study group according to the evidence specified on the action plan.

15. Establish a variety of communication networks and strategies (pp. 72-73).

If the above list of guidelines becomes established, then successful teacher study groups may typically follow. However, this list may be extended to many characteristics

of study groups not listed above, such as journaling, portfolios, training, action research, etc.

Murphy and Lick (2001) acknowledge that one of the most frequently asked questions about teacher study groups is "Do they increase student achievement?" Simply stated, they answer: "It depends on what the study groups do" (p. 156). If study group members (PLCs) examine their teaching practices and focus on student work, student work may be impacted in a positive way (Defour, 1998; Bolman et al., 2005). Simply having study groups in a school will not improve student achievement. It is what those teachers do in the classroom that will impact student achievement (Murphy & Lick, 2001).

While there is an abundance of literature about what teacher study groups are and how they should function, there is limited empirical evidence about the effects that teacher study groups have on group participation and student performance. A study by Makibbin, Shirley, & Marsha (1991) focused on teacher study groups as a mechanism for changing teacher behavior. They discussed the history of study groups throughout the world, tracing study groups all the way back to the time of Benjamin Franklin and as far away as Sweden with their use of study circles. In their study, (Makibbin et al., 1991) defined teacher study groups as "educators studying their craft knowledge together" (p. 3). They go on to highlight four distinct models of study groups that are effective for the study of teaching and learning.

One model utilizes study groups to support prior learning obtained from teacher inservice or workshop courses. In this model, the study group assists participants in utilizing new methods or strategies of teaching. A second model discussed is one that

supports a strategy or technique that may have been mastered. In this study group, participants meet to discuss ways in which they are using the strategy and ways to improve and perfect the technique. A third model can be characterized as the research-sharing group. This study group promotes the acquisition of new knowledge and then connects that knowledge with classroom practice. And finally, a fourth model is termed the investigation study group. In this model, teachers identify a topic that they would like to know more about and then proceed to share their findings with the rest of the group.

To cap their historical review of study groups, Makibbin, et. al., (1991) highlight factors of successful study groups. These include a positive school culture and a belief in the system which supports them; administrative support and participation, facilitation, consistency of the meetings and sharing of classroom experiences. While this study provides a historical perspective of study groups and offers factors consistent with successful groups, the authors fail to discuss the impact, if any, that teacher study groups have on teacher beliefs and student achievement.

The literature about teacher study groups clearly indicates that study groups help to eliminate the isolation that teachers have traditionally experienced in the classroom (Rosenholz, 1986; Lortie, 1975). However, there are limited empirical studies about the relationship between participation in teacher study groups and student achievement. Simply having teacher study groups will not improve student learning. As the literature associated with professional learning communities indicates, a clear focus on teacher practices that will positively impact student learning is essential if the desired outcome is to raise student achievement. As Murphy and Lick (2001) point out, it is what the teachers do in the classroom that will impact student achievement. Teacher study groups

can serve as a vehicle to collaboratively examine those instructional practices that may support increased student performance.

Role of Instructional and Transformational Leadership in School Improvement

A review of the literature on professional learning communities indicates that PLCs can serve as the cornerstone for school improvement relative to teacher learning and student performance. The literature also supports the idea that school leadership is the key to the existence and development of professional learning communities (Hord, 1997, Huffman and Jacobson, 2003; Fullan, 1991; Wahlstrom, & Louis, 2008; Mitchell & Sackney, 2000).

Leadership in schools may come from a number of resources: school and district, parents, teachers, school-board members, state officials, etc. Although leadership from these sources has a bearing on school improvement and on student learning, the leadership of the district administrators, specifically the school principal, along with teachers, has demonstrably more influence than leadership from other sources (Leithwood, 2005). Therefore, in this section principal and teacher leadership will be the focus; specifically, the increasingly blurring lines between instructional leadership and transformational leadership and the emergence of distributed leadership.

The past 25 years have witnessed the development of new conceptual models in the field of educational leadership. Two of the most influential models have been instructional leadership and transformational leadership (Hallinger, 2007). Instructional leadership emerged in the early 1980s as an outgrowth from early research on effective schools; and as Hallinger (2007) points out, it became the "model of choice" by principal leadership academies in the United States of America. In this model, the principal was

viewed as a primary source of educational expertise, whose role was to maintain high expectations for teachers and students, supervise classroom instruction, coordinate the school's curriculum, and monitor student progress (Barth, 1986 as cited in Marks & Printy, 2003). However; the instructional leadership model soon fell out of favor due to the emergence of the school restructuring movement in the late 1980s and early 1990s in North America. It was displaced by discussion of school-based management and facilitative leadership (Lashway, 2002). The hierarchal nature of instructional leadership conflicted with the democratic and participative organization of schools and the movement to empower teachers as professional educators came into vogue (Hallinger, 2007, Marks & Printy, 2003).

The popularized form of educational leadership that emerged from the restructuring movement was transformational leadership. Transformational leaders motivate their followers by raising their consciousness about the importance of organizational goals and by inspiring them to transcend their own self-interest for the sake of the organization. By seeking to foster collaboration and to activate a process of continual inquiry into teaching and learning, transformational leaders attempt to shape a positive organizational culture and contribute to organizational effectiveness (Marks & Printy, 2003). Leithwood & Jantzi (2006) emphasized that authority and influence associated with this form of leadership are not necessarily allocated to those occupying formal administrative positions. Therefore, there is no need to view the transformational approach as a "heroic" or "great man" orientation to leadership (Leithwood, Jantzi, Steinbach, & Ryan, 1997).

These two leadership concepts remained in tension as instructional leadership

surged back to the top of the leadership agenda driven by the relentless growth of standards-based accountability systems (Lashway, 2002). Marks & Printy (2003) posit that transformational and "shared" instructional leadership are complementary, but neither conceptualization embraces the other. They attempted to integrate the two leadership constructs by initiating a study that explored the relationship of transformational and "shared" instructional leadership to the pedagogical practice of teachers to student performance on authentic measures of achievement. Because the study sampled from K-12 restructuring schools, and not from a random sample of schools, the study's outcomes cannot be generalized. Their findings, however, did suggest that teachers have both a desire and expertise to lead; and the study demonstrated the importance of cultivating teacher leadership. It is notable that the authors modified the generally accepted definition of instructional leadership from the principal as the sole leader of the organization, to a more "shared" instructional leadership model in which the principal's instructional responsibilities are carried out by many people working in collaboration. Further findings from the study indicate that strong transformational leadership is essential in supporting the commitment of teachers, and transformational principals need to invite teachers to share leadership functions. When teachers perceive principals' instructional leadership behaviors to be appropriate, they become more committed and are willing to innovate (Hallinger, 2003). A major criticism of this study is that it does not provide details on how principals and teachers should share institutional leadership, thus requiring a follow-up investigation on how shared instructional leadership worked in the sampled schools.

A similar study by Blasé & Blasé (2000) further blurred the line between

instructional leadership and transformational leadership. In their study, the authors

sought to identify what characteristics of school principals positively influence classroom

teaching and what effects such characteristics have on classroom instruction. In this

study, over 800 American teachers responded to an open-ended questionnaire by

identifying and describing characteristics of principals that enhanced their classroom

instruction and what impacts those characteristics had on them. The authors of the study

developed their model of effective instructional leadership directly from the data, which

consisted of two major themes: *talking with teachers to promote reflection* and *promoting

professional growth*. Their findings emphasized that effective instructional leadership

integrates collaboration, peer coaching, inquiry, collegial study groups, and reflective

discussion into a holistic approach to promote professional dialogue among educators

(Blasé & Blasé, 2000). One may argue that these characteristics, defined by the author of

the study as instructional leadership, transcend many of the characteristics defined by

transformational leadership, thus blurring the line between the traditional interpretations

of the two leadership constructs. This supports a more integrated structure of school

leadership as suggested by Marks and Printy (2003).

Sergiovanni (1992) supports the idea of a more integrated community-oriented, or

shared leadership, approach. He makes a distinction in education administration between

leadership of an organization and leadership of a school community. He discusses the

idea that the preferred metaphor of choice in looking at schools is organization; and with

that is the presumption of the existence of "organization behavior" that is hierarchical in

design. With that hierarchical structure comes the insinuation that hierarchy equals

"moral superiority" (p. 4). Within an organization, Sergiovanni contends that leadership

inevitably takes the form of bartering in which "principals give to teachers and teachers give to students something they want in exchange for compliance" (p. 6).

In contrast, Sergiovanni supports school communities that are organized around relationships rather than organized around a leadership structure that is tied together through bartering arrangements and compliance. True communities are bonded together through concepts, images, and values that comprise a shared idea of structure. In communities, collegiality resonates from within and community members are connected to one another because of "felt interdependencies" and other normative ties. In communities, sources of leadership are embedded in shared ideas which are consistent with more of a facilitative leadership style, thus supporting an environment that is consistent with professional learning communities.

The extant literature supports the idea that school leadership is the key to the development of professional learning communities (Hord, 1997, Huffman and Jacobson, 2003; Fullan, 1991; Wahlstrom, & Louis, 2008; Mitchell & Sackney, 2000). Studies by Marks and Printy (2003) and Blasé & Blasé (2000) suggest that effective school leaders promote professional dialogue by integrating instructional leadership practices such as peer collaboration and coaching, inquiry, and collegial study groups. In doing so, a more transformative style of leadership may emerge that supports and possibly strengthen a school environment where strong professional learning communities can flourish.

Distributed Leadership

While instructional leadership and transformational leadership dominated much of the educational leadership literature over the last few decades, distributed leadership has emerged recently and warrants mention in the realms of educational leadership. Spillane,

Halverson, & Diamond (1999) loosely define distributed leadership as a practice of "stretching over" leadership activities and interactions across people and situations. Leadership is not simply a function of the school principal; rather, it is about the activities engaged by leaders, in interaction with others, in particular contexts around specific tasks (Spillane et al., 1999).

While there are very few empirical studies about distributed leadership and its link to pupil outcomes, there are some studies linking it to alternate variables. Leithwood and Jantzi (1998) conducted a correlational study that explored "total leadership" including transactional and transformational leadership and its relative effects on student engagement. This was significant because earlier research tended to focus on leadership and its effects on the dependent variable of student achievement. Also, within this study, they explored questions about teacher leadership and principal leadership separately, not solely leadership from the principal, which constituted many studies prior to this one. The study was based on surveys of 2,727 teachers and 9,025 students in 110 elementary and secondary schools. The survey data was analyzed using Pearson-Product Correlation Coefficients to estimate the strength of the relationships between all of the variables measured in the study. While the results showed that neither the principal nor teacher leadership significantly impacted student engagement, Leithwood and Jantzi (1998) concluded that leadership distributed to teachers is perceived to have a greater direct effect on students than that of the principal, in large part due to the fact that teachers are directly involved with the students. While the perceived effect of distributive leadership is small, the findings do support the notion of distributing leadership functions across school and community. However, one major limitation of this study was that the

leadership was analyzed only through principal and teachers, and not through other sources of potential leadership.

Copeland (2003) reported on findings from a longitudinal study of leadership in the context of a region-wide school renewal effort entitled the Bay Area School Reform Collaborative (BASRC). In this study, distributed leadership was incorporated within the context of continual inquiry and collective decision making. One of the tenets of the study reported by Copland (1993) suggests the creation of a form of distributive leadership defined as, "a model for leadership less dependent on the actions of singular visionary individuals, but rather on one that views leadership as a set of functions or qualities shared across a much broader segment of the school community that encompasses administrators, teachers, and other professionals and community members both internal and external to the school" (p. 376). To further define the concept of distributed leadership, Copland (1993) highlights three main ideas:

1. Distributed leadership is collective activity focused on collective goals, which are comprised of a quality or energy that is greater than the sum of individual actions

2. Distributed leadership involves the spanning of task, responsibility, and power boundaries between traditionally defined organizations.

3. Distributed leadership rests on the base of expert rather than formal position as the basis of leadership authority in groups (pp. 378-379).

Within the sample of the 16 schools where reform processes were most mature, it was clear that new leadership structures emerged in those schools to "promote broader involvement in the work of reform, and the structures are most secure in schools with a

long history of reform....as schools advance in reform, the principal's role necessarily changes in key ways to enable reform efforts to deepen and grow" (p. 388). This research connects closely to Lamberts' (2002) idea of shared leadership and its close link to the concept of professional learning communities whereby inquiry, learning together, and constructing knowledge together enables the distribution of leadership and the "glue that binds a school community together in common work" (Copland 1993, p. 394).

Finally, Timperley (2005) presented an empirical study centered on the idea of leadership distributed across multiple people or situations as a more useful framework for understanding the realities of schools and how they might be improved. The study took place in elementary schools involved in a school improvement initiative over a four year period and involved observations, interviews, and the analysis of student achievement data for each year. Timperley (2005) points out some important consistencies through the literature about distributed leadership. The literature supports the idea that distributed leadership is particularly important in relation to instructional aspects of leadership because it has been shown to have the greatest "leverage" in effecting programmatic changes and instructional improvement (Leithwood, 2005; Leithwood & Jantzi, 1999; & Spillane, Halverson, & Diamond, 2004). Conversely, the varying descriptions of distributed leadership shows more divergence than similarity such as when compared to transformational leadership. While both involve mobilizing personnel to take on the tasks of improving instruction, the issue is whether one is a sub-set of the other, and if so which is a subset of which (Timperley, 2005). In Leithwood and Jantzi's (1999) study mentioned above, they list distributed leadership as one of the many components of transformational leadership. Spillane et al. (2004) considers leadership in schools to be

mostly distributed; however, it may not be transformative. For the purposes of this study, Timperly, (2005) took the side of Spillane et al. in assuming that "leadership in schools is almost inevitably distributed, and the issues to be considered are *how* the leadership activities are distributed and the ways in which this distribution is differentially *effective*"(p. 397).

The methodology of the study involved observations, interviews, and analysis of student achievement. A major limitation in this study, as in many leadership studies, is that the observations are limited to specific points and time and all leadership type interactions cannot be observed, as many may happen privately or in unplanned venues. Therefore, the participating leaders in the study were asked to schedule a meeting in which the discussion focused on student achievement in literacy and about recently completed professional development related to the school reform initiative. The observational and interview data were collected each year for three years beginning with the year of professional development. Student achievement data were collected the year prior to the professional development as a baseline and over the following three years.

The study found that the power of leadership activities in shaping teachers' visions for expectations of student achievement was apparent in all the school's studies. However, it was found that developing teacher leadership in ways that promoted student achievement presented some difficulties because teacher leaders that are widely accepted by their peers may not necessarily be the ones with the greatest expertise. In addition, politics within the school can lower the acceptability levels of those that demonstrate expertise. The combination of these two issues illuminates the fact that simply distributing leadership among teachers does not automatically develop instructional

capacity and hence does not improve student achievement. Because of this conflict, Timperley (2005) clearly advocates for additional research relative to the development of teacher leadership in reference to distributed leadership and teacher leadership.

The literature indicates that distributed leadership would appear to play as important a role as transformative leadership and shared instructional leadership in the development of professional learning communities. Research by Morrisey (2000) concluded that extending leadership responsibility beyond the principal is an important lever for developing effective professional learning communities in schools. Further studies by Little (1990) and Rosenholz (1989) support the idea that teachers' collegiality, collaboration, and shared decision making promotes positive school improvement, which is consistent with the development and sustainability of professional learning communities.

Balanced Leadership

Although many of the leadership approaches discussed above share common elements, very rarely do they operate in a vacuum. It would, perhaps, behoove school leaders to integrate various forms of leadership as they go deeper in their attempts to influence change within an organization. In essence, a balance of multiple leadership theories may be the preferred method to navigate from first order change towards more complex second order changes. Waters, McNulty, and Waters (2003) provide for such a model in their writings about balanced leadership. Their framework of balanced leadership, which is based on a meta-analysis of studies conducted over a thirty year period, moves beyond abstraction to more concrete responsibilities, practices, knowledge, strategies, tools, and resources that principals and others need to be effective leaders.

Balanced leadership is predicated on the notion that effective leadership means more than

simply knowing what to do; it's knowing when, how, and why to do it (Waters et. al.,

2003). The authors opine that leaders in the balanced leadership framework understand

how to balance pushing for change, while at the same time protecting aspects of culture,

values, and norms worth preserving. Similar to the leadership approaches mentioned

above, balanced leaders understand the value of people in the organization.

Waters et al. (2003) make a clear distinction about the degree, or "order," of

change. Change is an absolute when it comes to effective leadership; however, not all

change is of the same magnitude. The implications of the change for individuals,

organizations, and institutions determine the magnitude, or order, of change. Waters et

al. (2003) use the terms "first order" change and "second order" change to make the

distinction between these various intensities of change. School leaders must be cognizant

of the principles of first and second order change to ensure that the selected leadership

strategies fit both the problem and the solution. First order change is applied when the

initiative is consistent with the existing norms and values of the intuition. In other words,

the solution to the problem may already be visible through existing paradigms. For

example, within the context of schools, instructional practices, instructional materials,

and curricular programs might be used to solve problems related to student achievement.

In this case, known solutions are implemented, or "thrust upon" the problem, building on

established patterns and utilizing existing knowledge. Conversely, "second order"

change parallels an adaptive leadership approach in that change of the "second order"

requires a solution that may not be consistent with the norms and practices within an

organization. It requires a break from the past with solutions resting outside existing

paradigms. This type of change is more complex, nonlinear, and requires new knowledge and skills to implement. Change becomes of the "second order" when the initiative intentionally challenges the shared and widely accepted norm. It creates disequilibrium between the existing and accepted norms and the new initiative. "Second order" change can often be terrifying to leaders and stakeholders. It can create tremendous anxiety and fear within an organization because the process and outcomes are not linear, are unbounded, and require new knowledge and skills to implement. To complicate matters further for school leaders, Waters et al. (2003) point out that different perceptions about the implications of change can lead to one person's solution becoming someone else's problem. As the authors further explain, this is consistent with nearly every educational reform over the last 20 years. Examples include high-stakes testing, home schooling, school vouchers, and basing teacher raises on student test scores to name a few.

Principal Leadership and the Development of Professional Learning Communities

The importance of school leadership behaviors in the successful development and growth of a PLC is supported extensively through a review of the literature. Mulford and Silins (2003) found in their Leadership for Organizational Learning and Student Outcomes (LOLSO) Research Project that leadership is an important resource for professional learning communities, both in terms of principal commitment and shared or distributive leadership. In short, the LOSLO research demonstrated that the conditions that predominantly accounted for the variations in organizational learning between schools were a head teacher/principal skilled in transformational leadership and a situation where teachers and administrators were actively involved in the "core" work of the school. They found that "the school leader who is transformational focuses on:

- Individual Support – providing moral support shows appreciation for the work of individual staff and takes their opinion into account when making decisions.

- Culture – promoting an atmosphere of caring and trust among staff, sets a respectful tone or interaction with students and demonstrates a willingness to change his or her practices in the light of new understandings.

- Structure – establishing a school structure that promotes participative decision making, supports delegation and distributive leadership and encourages teacher autonomy for making decisions.

- Vision and Goals – working toward whole staff consensus in establishing school priorities and communicates these priorities and goals to students and staff giving a sense of overall purpose.

- Performance Expectation – having high expectations for teachers and for students and expects staff to be effective and innovative.

- Intellectual stimulation – encouraging staff to reflect on what they are trying to achieve with students and how they are doing it; facilitates opportunities for staff to learn from each other and models continual learning in his or her own practice" (p. 4).

In their report on sustaining professional communities, Bolam, et al. (2005) surmise that leadership and professional learning communities include creating a culture that is conducive to learning, ensuring learning at all levels, promoting modeling inquiry; and paying attention throughout to the human side of change. Emerging from their high school study, McLaughlin and Talbert (2001) conclude: "For better or worse, principals

set conditions for teacher community by the ways in which they manage school resources, relate to teachers and students, support or inhibit social interaction and leadership in faculty, respond to broader policy context, and bring resources into school" (p. 98).

In a longitudinal, qualitative synthesis of five case studies of high schools, middle schools, and an elementary school in an urban environment, Louis and Kruse (1995) discussed what teachers and school leaders can do to promote the development and growth of professional learning communities. They identified six issues that were critical for campus-based leaders to engage in to promote development and maturity of professional learning communities:

1. **Leadership at the center: The role of leaders in teacher-run schools.** In three of the schools that were more successfully developing community, the school leaders clearly positioned themselves in the center of the staff rather than at the top. Leading from the center requires being at the center, a physical presence, with accessibility the key. Second, leading from the center means giving up some of the typical behaviors expected of leaders such as being authoritative, running meetings in favor of sharing such behaviors with others. Third, individuals who lead at the center take advantage of every opportunity to stimulate conversation about teaching and learning and to bind faculty around issues of students and instruction.

2. **Supporting teachers in the classroom.** In the more successfully developing schools, there were persons available to provide support to individual teachers. Leaders need to provide attention to individual teacher

development within the classroom, teachers need to feel comfortable asking for and receiving assistance, and the school leader needs to foster a climate where instruction is viewed as problematic and is often discussed.

3. **Focusing change: Visions of professional community**. Principals help to keep the staff focused on the big picture and make sure the resources are available to support the teacher professional community. The ability of the principal to effect changes within the school depended to a great extent on their vision of a democratically based professional community.

4. **Managing culture: Providing intellectual leadership**. Leaders in the most successful schools actively supported a culture of inquiry and use of ideas from both inside and outside the school. They also encouraged action research as a way for teachers to enhance their knowledge.

5. **Micro-politics and professional community.** Principals can address conflict that arises within professional communities by creating an environment in which teachers can discuss differences in a way that is safe. The principal encourages differences of opinion and reinforces community values and effectiveness rather than a community where self-interests are promoted.

6. **Extending professional community.** The challenge for leaders is to move the idea of professional learning community beyond the enthusiastic early adopter and attempt to include all or most of the faculty. Without that, the community will remain fragmented, which can limit the chances of the school vision being realized (pp. 253-270).

Consistencies and connections can be drawn by the characteristics named above from Louis' and Kruse's (1995) work, and the focus of transformative leaders outlined in the LOSLO study conducted by Mulford and Silins (2003). Principals and school leaders who are supportive of teachers, promote school cultures of trust and collaboration, set collective school visions/goals, and promote intellectually challenging school environments focused on shared inquiry are well on their way to creating and sustaining professional learning communities.

The importance of the principal in the development of professional learning communities was further reinforced by the research of Huffman and Jacobson (2003). In their research they sought to determine whether 83 educators studying educational administration could identify the core components of learning community within their own schools and then realize the relationship of those components to the leadership style of their principals. Questionnaires were distributed during the summer and fall semesters and the results were analyzed using descriptive statistics and one-way analysis of variance. A significant limitation of the quantitative study was the fact that the participants were selected based on being enrolled in a specific graduate course, not on random or purposeful sampling. This provides for a limited geographic region, and therefore the findings may not be generalized to other populations. However, a major finding from the study showed that leaders who exhibit characteristics of a collaborative leadership, or transformational, style have greater opportunities for success in developing a professional learning community.

The literature associated with principal leadership and the development of professional learning communities indicated that regardless of the fact that teachers and

other school employees play a key role in the creation of a learning community, the school principal is the linchpin. Studies by Mulford & Silins (2003), Bolman et al. (2005) and Louis & Kruse (1995) clearly indicate that leaders who lead from the center of the organization, are supportive of teachers, promote a positive and collaborative school culture, and encourage the staff to engage in inquiry have the best chance of developing and sustaining learning communities. Essentially, leaders who exhibit transformational leadership characteristics are more likely to have success in developing and maintaining a school culture that supports professional learning communities. Without the active support and commitment of the principal, a learning community is unlikely to emerge in most schools (Mitchell & Sackney, 2000).

Possible Influences on Teacher Perceptions

There are a number of possible internal and external influences on how teachers perceive their work environments which may include their perceptions of their students, colleagues, principals, and level of self- efficacy. For the purposes of this research, four factors, or variables, are presented as possible influencers of teacher perceptions of their principal's leadership practices and their school's development as a professional learning community. These variables are gender, educational level, grade level taught, and years of teaching experience.

The literature contains research studies citing various influences on student achievement, including the factors mentioned above; however; the literature is lacking with research specific to factors that influence how teachers perceive the leadership practices of their principals. Therefore, the focus of this section of the literature review will be to examine how these factors influence, or affect, teacher perceptions holistically,

not specifically, of their leaders. The research shows that the variables mentioned above have some influence on teachers' perceptions, which may in turn possibly influence student achievement. The question explored in this study will be to determine to what extent these factors influence teacher perceptions of their principals' leadership practices and how the factors influence their perceptions of their schools as professional learning communities.

Teacher Experience

In his study of two New Jersey school districts, Rockoff (2004) found that teacher experience emerged as a determinant of student achievement even after including teacher fixed effects to control for the permanent characteristics of teachers. He used a set of panel data on student test scores and teacher assignments to estimate more accurately how much teachers affect student achievement. He found that teacher experience significantly raised student test scores, particularly in the subject areas of reading. Reading scores differed approximately 0.17 standard deviations on average between beginning teachers and teachers with ten or more years of experience. Gains in mathematics test scores relative to teacher experience are weaker. The first two years of teaching experience appear to raise scores significantly in math computations; however, subsequent years of experience appear to lower test scores.

Findings by Clotfelter, Ladd, and Vigdor (2007) generally support Rockoff's (2004) research in that they found, using administrative data from North Carolina, that close to half of the achievement returns related to experience arise during the first few years of teaching. Conversely, their results differed slightly from Rockoff's (2004) in that student achievement returns continued to rise throughout most of the teacher

experience range, whereas Rockoff's study revealed a slight drop in student achievement scores as teachers' years of experiences rose beyond year two. It is notable that Rockoff's (2004) research did find a statistically significant relationship between teaching experience and math achievement; however, point estimates suggested that returns come in the first few years of teaching.

In all, Clotfelter, et al. (2007) find that teachers with more experience are more effective relative to students' achievement than those with less experience. This is consistent with other studies by Hanushek, Kain, O'Brien, & Livkin (2005) and Clotfelter, Ladd, & Vigdor (2007). These findings support the notion that teacher experience has an effect on student outcomes.

Hart (1987) developed a case study that examined the effects of a reform initiative entitled *Career Ladders*. This study was launched to examine the redesign effect in teacher attitudes about their work and careers. Using theme and issues data from the first year's field research in a district in the Western United States, the researcher constructed a survey instrument to examine attitude and work factors emerging during the implementation of *Career Ladders* to see if job redesign constructs might emerge from teaching work. Results from the study clearly indicated that teacher experience affected their responses to the job redesign effort. Highly experienced teachers (more than 10 years experience) in the district studied did not involve themselves with *Career Ladder* teachers, and did not assess the *Career Ladders* teachers' efforts as positively in comparison with teachers who were less experienced. In addition, teachers in mid-career (4-10 years experience) were more likely to see peer supervision as a legitimate and accurate process. This differed slightly from more experienced teachers, who were more

likely to see peer supervision in a negative way. Although the reasons for the difference in perception of the reform initiative between more experienced and less experienced teachers are unclear, it is evident that career stages and experience may potentially influence teachers' views and perspectives on aspects related to their profession.

Teacher Education Degree Level

Until recently, much of the research related to teacher degree level and student performance has been mixed. Due to the lack of reliable data, most studies done in this area were indeterminate (Wayne and Young, 2003). However, recent improvements in data collection on degrees and coursework led to results making it apparent that, "earlier, mixed results for degree level were at least partly attributable to the failure of these studies to identify whether the additional degree was related to the subject being taught" (Wayne and Young, 2003, p. 101).

Goldhaber and Brewer (1996) followed the conventional educational production function methodology in their examination of various schooling variables and its effect on student performance, which included subject-specific teacher degree information. The data used in the study were derived from the first two waves of the National Educational Longitudinal Study of 1988 (NELS:88). NELS: 88 is a nationally representative survey of about 24,000 Grade 8 students conducted in the spring of 1988. A subset of these students was surveyed again in the spring of 10th (1990) and 12th (1992) grade students Therefore, the NELS:88 follow-up data sets allow for longitudinal analyses of growth and student achievement from 8th to 10th grade, 10th to 12th grade, and 8th to 12th grade in particular subjects: mathematics, science, English/writing, and history. Golhaber and Brewer (1996) found through their school level analysis of variables associated with

student performance, that "the percentage of teachers with at least an MA degree is statistically insignificant in all four subject areas" (p. 205). There was no difference evident in the math scores of 10th grade students regardless of whether their teachers had master's degrees. However, when information about the subject of the teachers' degrees were introduced, the influence on student performance was statistically significant. Mathematics students who were taught by teachers with master's degrees in mathematics had higher achievement gains than those students who were taught by teachers possessing no advanced degrees or advanced degrees in non-mathematics subjects. In addition, students taught by teachers who had a bachelor's degree in mathematics achieved higher results than teachers who had bachelor's degrees in non-mathematic subjects. The authors also observed that teachers with a BA degree in science had a positive impact relative to those who teach science, but have either no degree or a BA in another subject. Conversely, Golhaber and Brewer (1996) also found that there was no evidence to suggest that subject-specific degrees have an effect on student achievement in English or history, "where the subject-specific variables were statistically insignificant" (p. 206). These results clearly suggest that in math and science, it is the teachers' subject specific knowledge that is an important factor in determining tenth grade achievement (Goldhaber and Brewer, 1996).

Grade Level Taught

In Hart's (1987) study discussed above, she also examined whether the level of teaching influences attitudes about the *Career Ladders*. Hart found that elementary school teachers differed significantly in their assessment of the influence of the *Career Ladders* on the central work of their schools. High school level teachers were much more

skeptical than their elementary school counterparts on whether or not all the effort

exerted in improving the schools made a difference. Hart (1987) indicates that these

findings confirm the literature that describes secondary schools as entrepreneurial and

isolated and as more intransigent workplaces than elementary schools (Cusick, 1983;

Sizer, 1984, as cited in Hart, 1987). She found that high school teachers were much more

set in their beliefs regarding schools and schooling.

Wei, Darling-Hammond, and Adamson (2010) analyzed the Schools and Staffing

Survey (SASS)--a major national data set--over three administrations of the survey (2000,

2004, and 2008) to evaluate the progress of professional development efforts in the

United States over the past decade. They examined variations in participation of

professional development across school contexts and found that elementary teachers had

a significantly higher rate of participation in professional development on the content

they taught. Specifically, "91% of elementary teachers vs. 81% of secondary school

teachers participated in professional development in the content they taught; 71% vs.

44 % in student discipline/classroom management; and 46% vs. 44% in teaching LEP

students" (pg. 17). Elementary teachers also rated the value of their professional

development experiences significantly higher than did secondary teachers, and

elementary teachers had a significantly higher cumulative number of professional

development hours than secondary teachers. These numbers tend to support Hart's

(1987) findings and are consistent with the research on secondary schools by Cusick

(1983) and Sizer (1984). The studies above clearly indicate differences between

elementary and secondary teachers' attitudes and perceptions about professional

development and whether or not it makes a difference in student achievement and on

teaching performance.

Gender

Lee, Smith, and Cioci (1993) conducted a study that sought to measure the effect of teachers' and principals' gender on teachers' assessments of the effectiveness of the leadership in their schools. Their sample of 8894 teachers and 377 principals was drawn from High School and Beyond (HS&B), a general purpose survey of America's high schools and included high schools that were included in the Administrator and Teacher Survey (ATS) conducted in 1984. A two-way analysis of variance was conducted since ANOVA is particularly useful for detecting and testing for interaction effects, and it allows controls for confounding variables. Figures 2 and 3 display the conceptual model driving the study. Figure 2 (Model A) employs perception of leadership as the outcome, with teacher and principal gender as independent variables, and includes the two-teacher control variables (salary and experience). Investigation of the five measures of teacher power follows in Figure 3 (Model B), again including the two gender variables.
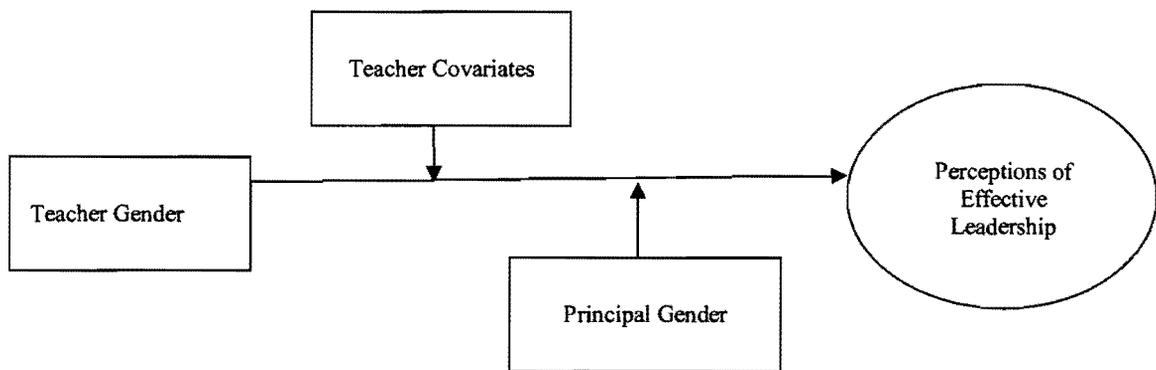
Figure 2. Model A: Teachers' Perceptions of Effective Leadership
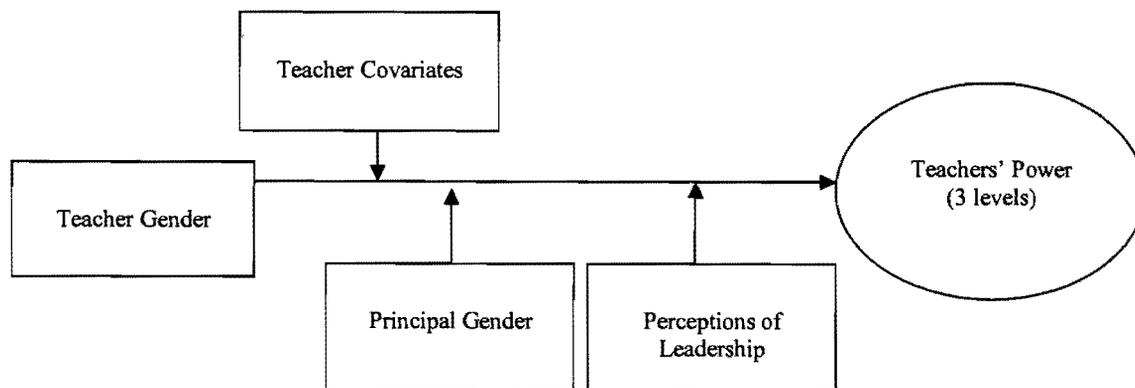
Figure 3. Model B: Teachers' Perceptions of Personal, Interpersonal, and Organizational Power

One trend that was definitive and consistent in the study was the fact that there were significant mean differences between male and female teachers working with female principals, with male teachers' means considerably lower. In other words, male teachers assessed the leadership of the female principals they work for as relatively ineffective, while female teachers assess the leadership as above average. This reinforces the notion that not only the gender of teachers influences their perceptions of their principals, but the gender of the principal also influences those perceptions.

Conversely, the mean differences between male and female teachers working with male principals were less significant with only the three sets of means showing significance. A strong and consistent finding from the study is that female teachers like working in environments where their direction comes from female leaders, while male teachers do not (Lee et al., 1993).

The research indicates that the variables of gender, educational level, grade level taught, and years of teaching experience have some effect on teacher perceptions (Rockoff, 2004; Clotfelter et al., 2007; Hart, 1987; Goldhaber & Brewer, 1996; Wei, et al., 2010; Lee et al., 1993). School leaders should be aware of external influences that

may influence teachers' perceptions, as these influences can impact school culture and leaders' attempts to develop and foster learning communities. This study explores the possible influence that these variables have on the relationship between teachers' perceptions of their principals' leadership behaviors and their perceptions of the staff as a professional learning community.

Summary

Schools and school leaders continue to be under enormous pressure and scrutiny during a time of accountability and standardized testing. A focus on teacher quality and teacher efficacy emerged through the work of Rosenholz (1986, 1989) who substantiated that teachers who were supported by their school leaders in their ongoing professional development were more committed and effective than those that did not receive the same support. To support teacher and instructional improvement, school reform efforts include building teacher learning structures that will help build more collaborative and collegial communities of teachers, providing them with the autonomy and motivation to make better curricular and pedagogical decisions in the interests of their students, therefore improving student learning (Supovitz, 2002). This autonomy combined with deep discussion, open debates, and shared inquiry can potentially serve to eliminate the "egg crate" isolation that teachers face in the classrooms (Lortie, 1975). Working within professional learning communities, or teacher study groups, helps to break down the teacher "workshop training model" coined by Senge (1990) and fosters teacher collegiality and shared inquiry. Teacher study groups are considered an effective method for supporting school professional development and can function as the cornerstone of PLCs (Hutinger & Mullen, 2007; Murphy & Lick, 2001).

The push for school reform has placed an increased focus and overwhelming expectations on the school principal to develop ways to ensure educational improvement. A supportive leadership approach is necessary for school improvement to occur and for professional learning communities to emerge and fully develop into a collection of professionals focused on school improvement guided by a shared purpose (Fullan, 1991).

School leadership has evolved from a top-down instructional leadership approach to more of a transformational and distributive leadership style that empowers teachers and other school personnel to share in the responsibilities of school improvement. The school principal is the key to establishing trust within the school, which is essential for the development and sustainability of professional learning communities (Hord, 2004; Wahlstrom & Louis, 2008).

The leadership behaviors of the school principal matter relative to teachers perceptions of professional learning communities (Huffman and Jacobson, 2003). The research suggests that a transformational, distributive approach to leadership supports the development and growth of professional learning communities. Transformational leaders attempt to shape a positive organizational culture that contributes to organizational learning through continual inquiry into teaching and learning (Marks & Printy, 2003). Leithwood and Jantzi (1998) conclude that when leadership is distributed to teachers, it is perceived to have a greater direct effect on students than that of the principal. A shared leadership approach is closely linked to the concept of professional learning communities, whereby learning together and constructing knowledge together enables the distribution of leadership that binds a school community together with common purpose (Copland, 1993; Lambert, 2002). The research outlined in the literature review above

(Hord, 1997, 2004; Newman & Wehlage, 1995; Louis & Kruse 1995; Edmonds, 1979;

Senge, 1991, 2000; Little, 1993; Darling-Hammond, 1994; Huffman, 2001; Fullan,

1991; Wahlstrom & Louis, 2008) clearly indicates that the school administrator is the key

to the existence of a professional learning community.

Chapter III

Methodology

This study was quantitative in nature and utilized relational, correlational, and descriptive statistics to explore the relationship between principals' leadership behaviors and the development of professional learning communities. Participants for the study included teachers who were teacher study group participants and whose schools were recent recipients of the Montclair State University Teacher Study Groups Grant. Additionally, the instruments used in this study were the School Professional Staff as Learning Community Questionnaire (SPSLC) developed by Hord (1996), and the Leadership Practices Inventory (LPI) developed by Kouzes & Posner (2004).

Design of the Study

This was a quantitative, non-experimental, explanatory, cross-sectional study that used a quantitative analysis in order to determine the relationship between principals' leadership behaviors and the development of schools as professional learning communities. Two survey instruments were used and collected via mail, the LPI and the SPSLC. Descriptive statistics were used to analyze responses using subscale means, median, mode, range, standard error, and standard deviation information from the surveys. The Pearson Product Moment Correlation Coefficient (Pearson r) was used to calculate the correlation coefficient between each of the five exemplary leadership practices contained in the LPI and the five dimensions of professional learning communities as measured by the SPSLC.

Multiple regression analysis was used with the survey item responses from both the LPI and the SPSLC surveys (dependent variables) across demographic factors (independent/predictor variables) including gender, teaching experience, current level

taught, and educational level (degree). Additionally, an analysis using simple regressions for each of the LPI subcategories as independent/predictor variables was used to explain the amount of variance in the SPSLC dependent/outcome variable when controlling for specific demographic factors.

The population for this study included teachers from K-12 in New Jersey who were participants in a teacher study group and whose schools were recent recipients of a Montclair State University (MSU) Teacher Study Group Grant in 2010-2011. Schools selected are also member schools of the Montclair State University Network of Educational Renewal. As part of that membership, school districts are eligible for Teacher Study Group Grants of up to $1000 to fund teacher study groups in their schools. To satisfy the grant, teacher study group participants are required to meet for a minimum of sixteen study hours over the course of the academic year to explore an area of professional interest or to work on an academic project. A listing of schools and faculties who were recipients of the Teacher Study Group Grant was acquired by accessing MSU's Network for Educational Renewal public website (http://msuner.org/page/teacher-study-groups).

Instrumentation

School Professional Staff as Learning Community (SPSLC)

The first instrument used in this study was the School Professional Staff as Learning Community Questionnaire (SPSLC) designed by Shirley Hord (1996) to assess the global maturity/development level of a school's professional staff as a learning community. The development of the instrument emerged from Hord's research through the Southwest Educational Development Laboratory, where she sought to identify several

schools that were functioning as learning communities. To do so, she needed an instrument to identify specific criteria of learning communities. Thus, the SPSLC was developed to serve as a "screening and filtering" tool used to assess the maturity of PLCs in the selected schools (Meehan, Orletsky, & Sattes, 1997). The instrument consists of 17 "descriptors" of a professional learning community grouped into five major dimensions or areas, including: *Supportive and Shared Leadership* (Questions 1a and 1b), *Shared Values and Vision* (Questions 2a, 2b, and 2c), *Collective Learning and Application* (Questions 3a, 3b, 3c, 3d and 3e), *Shared Personal Practice* (Questions 4a and 4b), and *Supportive Conditions* (Questions 5a, 5b, 5c, 5d and 5e). Each descriptor consists of a 5-point scale, from "5" (high) to "1" (low). Respondents were asked to mark their assessments on the 5-point scale above the three indicator statements that best represents the degree to which they feel their faculty has achieved that item. The unique format of this instrument requires the respondents to read all three indicators for each of the 17 descriptors and then mark a response on the scale. This layout requires more mental processing than the usual Likert-type assessment (Meehan, Orletsky, & Sattes, 1997).

A field test using the SPSLC instrument was conducted by the Appalachia Educational Laboratory (AEL) in the summer of 1996 to determine its reliability, validity, and usability. Based on the field test, AEL researchers concluded that Hord's 17-item instrument is very useful as a screening, filtering, or measuring device to assess the maturity of a school's professional staff as a learning community, especially when the total score was used (Meehan, Orletsky, & Sattes, 1997). The reliability was measured by Cronbach's Alpha for internal consistency and by the stability (test-retest) method. AEL determined that the internal consistency reliabilities (Alphas) for the dimension

items were in the mid .80s and the Alpha for all 17 items was .94. The concurrent validity was assessed through a parallel administration of a school-climate instrument and resulted in a score of .75. Reliabilities above .70 are considered good, and therefore the SPLSLC has an acceptable internal reliability. The construct validity was measured by the "known group" method and by exploratory factor analysis. There was a significant difference (.0001 level) from the teachers in the field test on the five dimensions and the total instrument scale (Meehan, Orletsky, & Sattes, 1997).

Leadership Practices Inventory (LPI)

The second instrument used in this study is the Leadership Practices Inventory (LPI) developed by Kouzes & Posner (2004). The LPI was developed through a triangulation of qualitative and quantitative research methods and studies, including interviews and written case studies for personal best leadership practices. Out of this research, a framework was developed consisting of five leadership practices:

1. *Modeling the Way* (Questions 1, 6, 11, 16, 21, 26):

   Involves the leaders' ability to establish principles concerning the way people should be treated and the way goals should be pursued. Leaders create standards of excellence and then set the example for others to follow. Because the prospect of complex change can overwhelm people and stifle action, they set interim goals so that people can achieve small victories as they work towards larger objectives.

2. *Inspiring a Shared Vision* (Questions 2, 7, 12, 17, 22, 27):

   Involves a leaders' ability to create an ideal and unique image of what the

organization can become and then, using their magnetism and quiet persuasion, enlist others to see the exciting possibilities for the future.

3. *Challenging the Process* (Questions 3, 8, 13, 18, 23, 28):
   Involves leaders' ability to search for opportunities to change the status quo and look for ways to improve the organization while accepting the inevitable disappointments as learning opportunities.

4. *Enabling Others to Act* (Questions 4, 9, 14, 19, 24, 29):
   Involves the leaders' ability to foster collaboration and build spirited teams by actively involving others and making each person feel capable and powerful in some way. Leaders strive to create an atmosphere of trust and human dignity.

5. *Encouraging the Heart* (Questions 5, 10, 15, 20, 25, 30):
   Involves the leaders' ability to recognize the contributions that individuals make with the understanding that it is important that members share in the rewards of their efforts. Leaders make people feel like heroes through the celebration of their accomplishments (Kouzes & Posner, 2002, pp. 3-4).

The LPI was created by developing a total of 30 behavioral statements describing each of the five key practices of exemplary leaders. There is both a "Self" and "Observer" version of the LPI, and for this study the "Observer" version was used as it tends to score slightly higher in reliability. Originally cast on a five-point Likert scale, the LPI underwent modifications in 1999 and was given a more robust and sensitive ten-point Likert scale. The new ten point scale ranges from "Almost never do what is described in the statement" through "Almost always do what is described in the

statement." The LPI Observer version is voluntary and generally anonymous and takes approximately 8-10 minutes to complete.

Validation studies performed by Kouzes & Posner (2001) as well as other researchers over a 15 year period consistently confirm the reliability and validity for the LPI and the five practices of exemplary leaders' model. The most common assessment of validity is called face validity, which considers whether, on the basis of subjective evaluation, an instrument appears to measure what it intends to measure (Kouzes & Posner, 2001). Respondents of workshop participants found the LPI to have excellent validity. Several meta-reviews of leadership development instruments have been conducted and the LPI consistently rated among the best, regardless of criteria.

The reliability coefficient for the LPI Observer, which refers to the extent to which an instrument contains "measurement errors," ranges between .88 and .92, using Cronbach's Alpha. Reliabilities above .70 are considered good, and therefore the LPI has a strong internal reliability. Using test-retest reliability, which relates to the extent to which an instrument is sensitive to extraneous factors that might affect a respondent's scores from one administration to the other, the five leadership practices have been consistently strong with scores generally ranging at the .90 level and above.

Data Collection

The participants for this study were determined based on their recent receipt of a Montclair State University (MSU) Teacher Study Group Grant. Schools that were recipients of the grant were identified through a review of the recipient list from MSU's Network for Educational Renewal public website (http://msuner.org/page/teacher-study-groups). As part of the grant application process, each teacher study group grant recipient

must identify a teacher study group coordinator to oversee the study group and to ensure that the grant requirements are met. Prior to sending each school teacher study group coordinator an electronic mail requesting participation in the study, an electronic mail was sent to each district's superintendent to obtain permission to conduct the study. Specifically, each superintendent was informed of the framework of the study and permission was sought to speak to each building principal whose school was a recent recipient of a MSU Teacher Study Group Grant. Following permission from the superintendent, an electronic mail was sent to each school's principal requesting the same. Permission from the principal was sought to contact the teacher study group coordinator in his or her building to request participation in the study; and if permission were granted, to then visit the school to attend a teacher study group meeting. Once permission was received from the school principal, a third electronic mail was sent to each school's teacher study group coordinator requesting participation in the study. The teacher study group coordinators were asked to respond via electronic mail if they were willing to participate in the study. Upon agreement to participate, a visit to each school was scheduled to meet with the teacher study group participants. At that meeting, I introduced myself as a doctoral student and then described the framework of the study. A letter was distributed indicating that participation in the study was strictly voluntary and responses to the surveys would remain anonymous and confidential. Study group participants were asked to complete the Leadership Practices Inventory (LPI), a short demographic survey, and the School Professional Staff as Learning Community Questionnaire (SPSLC). As soon as the surveys were distributed, it was requested that the study group participants complete the surveys within two weeks time and return them

via mail in an included self-addressed stamped envelope. In total, 16 schools were visited over the course of 30 days to collect the data. Data collection began immediately following IRB approval.

Table 1

Linking Research Questions with Data Collected

	Leadership Practices Inventory - Observer completed by teacher study group members	School Professional Staff as Learning Community completed by teacher study group members	Demographic Information completed by teacher study group members
For teachers involved in a MSU sponsored teacher study group, to what extent did gender, teaching experience, current level taught, and educational level influence their perceptions of the principal engaging in specific leadership practices?	X		X
For teachers involved in a MSU sponsored teacher study group, to what extent did gender, teaching experience, current level taught, and educational level influence their perceptions of the school staff as a learning community?		X	X
What is the nature of the relationship between specific leadership behaviors of the school principal and the development of professional learning communities, specifically teacher study groups?	X	X	

Using the Leadership Practices Inventory (LPI), to what extent did teachers who participated in a Montclair State University (MSU) sponsored teacher study group perceive their principals engaging in distributive or shared leadership practices?	X		X
Using the School Professional Staff as Learning Community Questionnaire (SPSLC), to what extent did teachers who participated in a MSU sponsored teacher study group perceive the school staff as a professional learning community?		X	X

Data Analysis

This study is quantitative in nature and involves correlational, relational, and descriptive statistics. Correlation research involves collecting data to determine whether, and to what degree, a relation exists between two or more quantifiable variables. "The purpose of a correlational study may be to determine relations among variables, (i.e., a relationship study) or to use relations to make predictions (i.e. prediction studies)" (Gay, Mills, & Airasian, 2009, p. 196). The unit of analysis consisted of teachers who participated in teacher study groups supported through a grant from Montclair State University. There were a total 213 possible participants for this study from seventeen schools. (n=213).

Descriptive statistics were used to analyze responses from the two survey instruments, using subscale means, median, mode, range, standard error, and standard deviation. Using SPSS statistical software, multiple regression was performed determine the strength, significance, and direction of the relationship between the demographic

variables of gender, teaching experience, current level taught, educational level, and each of the five exemplary leadership practices contained in the LPI including: *Challenging the Process, Inspiring a Shared Vision, Enabling Others to Act, Modeling the Way, and Encouraging the Heart*. Additionally, multiple regression was performed to determine the strength, significance, and direction of the relationship between the demographic independent variables of gender, teaching experience, current level taught, and educational level and any of the five dimensions of a professional learning community as measured by the SPSLC, including *Supportive and Shared Leadership, Shared Values and Vision, Collective Learning and Application, Shared Personal Practice, and Supportive Conditions*.

A Pearson Product Moment Correlation (r) was then used to evaluate whether there is a significant relationship between the dependent variables (subscales) from the SPSLC surveys and the leadership practices of the LPI including: *Challenging the Process, Inspiring a Shared Vision, Enabling Others to Act, Modeling the Way, and Encouraging the Heart*.

Finally, using SPSS software, simple regressions were analyzed using each of the LPI composite scores as independent/predictor variables to explain the amount of variance in each of the composite scores of each dimension of the SPSLC (dependent/outcome variables). Scatter plots were constructed using the data and then analyzed to check the normality of the data and the direction of potential relationships between variables. Additionally, simple regressions using subscale mean scores as predictor variables were used to further examine the amount of variance in each of the subscale mean scores of the individual dimensions of the SPSLC (dependent variable).

Pearson Product Moment Correlations between all pairs of predictors were computed and analyzed to detect possible multicollinearity between the predictors. Multicollinearity is when there is a high correlation between two or more independent/predictor variables. This can be problematic when trying to determine the relative contributions of each independent variable to the model. Variance inflation factors (VIF) and tolerance levels were examined to determine any problems with multicollinearity. To set the minimum tolerance levels for this study the equation, $< 1 - R^2$ was used.

Chapter IV

Analysis and Presentation of Data

Introduction

The purpose of this quantitative study is to explain the strength and direction of

the relationship between principals' leadership behaviors and the development of

professional learning communities, specifically teacher study groups. In effect, this study

sought to uncover the extent to which principal leadership behaviors positively affect the

development and maturity of professional learning communities (PLC) in schools that are

members of the National Network of Educational Renewal, and were recipients of a

Montclair State University Teacher Study Group Grant. Schools that were recipients of a

teacher study group grant were chosen because a review of the research found that similar

studies (Meyers, 2008; Hord, 1997; Huffman, 2003; Huffman & Jacobson, 2003) focused

on professional learning communities in a general sense and not on specific types of

PLCs. Therefore, this study could add empirical results to the limited research on

specific forms of professional learning communities.

Data Analysis Procedures

The data used for analysis in this study were collected through the use of two

surveys and a demographic profile that was included with the surveys. Teachers'

perceptions of their principals' leadership practices were measured by the Leadership

Practices Inventory (LPI) (Kouzes & Posner, 2004). Validation studies for the LPI were

performed by Kouzes and Posner (2001) as well as other researchers over a 15-year

period. Those studies consistently confirm the reliability and validity for the LPI and the

five practices of the exemplary leaders' model. Respondents of workshop participants found the LPI to have excellent validity.

The reliability coefficient for the LPI, which refers to the extent to which an instrument contains "measurement errors," ranges between .88 and .92 using Cronbach's Alpha. Reliabilities above .70 are considered good. Using test-retest reliability, which has to do with the extent to which an instrument is sensitive to extraneous factors that might affect a respondent's scores from one administration to another, the five leadership practices have been consistently strong with scores generally ranging at the .90 level and above. Data from the LPI served as the dependent variable for Research Question 3, and served as the predictor/independent variable for the main research question.

Teachers' perceptions of their school staff as a professional learning community were measured by the School Professional Staff as Learning Community Survey (SPSLC) (Hord, 1997). The reliability of the SPSLC was measured by Cronbach's Alpha for internal consistency and by the stability (test-retest) method. The internal consistency reliabilities (Alphas) for the dimension items were in the mid .80s and the Alpha for all 17 items was .94. The concurrent validity was assessed through a parallel administration of a school climate instrument and resulted in a score of .75.

The construct validity of the SPSLC was measured by the "known group" method and by exploratory factor analysis. There was a significant difference (.0001 level) from the teachers in the field test on the five dimensions and the total instrument scale (Meehan, Orletsky, & Sattes, 1997).

The results from the SPSLC were used as the dependent variable throughout the study, specifically for Research Questions 3 and 4. The independent variables used for

Research Questions 3 and 4 consisted of data collected through the demographic profile which included gender, teaching experience, current level taught, and educational level (degree).

The data analysis for this study consisted of multiple stages. The first stage consisted of a brief review of the study population and the response rate. Stage one also detailed demographic information specific to the gender, teaching experience, current level taught, and educational level of the respondents.

The second stage used descriptive statistics to analyze the survey responses from the LPI and the SPSLC. Descriptive data used in the analysis included the following calculations: subscale means, median, mode, range, standard error, and standard deviation.

In stage three, multiple regression was used to determine the extent to which the demographic variables (independent/predictor variables) of gender, teaching experience, current level taught, and educational level influenced teacher perceptions measured through the LPI survey including the five exemplary leadership behaviors (dependent variables): *Challenging the Process, Inspiring a Shared Vision, Enabling Others to Act, Modeling the Way,* and *Encouraging the Heart.* Pearson Product Moment Correlations were conducted between the predictor variables to test for potential multicollinearity. Multiple regression was then used to determine the extent to which the demographic variables influenced teacher perceptions measured through the SPSLC questionnaire including the five dimensions of a professional learning community (dependent variables): *Supportive and Shared Leadership, Shared Values and Vision, Collective Learning and Application, Shared Personal Practice,* and *Supportive Conditions.*

A major concern with multiple regression is multicollinearity. Multicollinearity exists when two or more predictor variables are highly correlated. Pearson Product Moment Correlations between all pairs of predictors were computed and analyzed to determine the strength of the relationship between them to see if they were highly correlated prior to performing multiple regression statistics. To check for normality, scatter plots were constructed using the data and then analyzed to check for normality and the direction of potential relationships between variables. Variance inflation factors (VIF) and Tolerance tables for each predictor were also calculated to further determine any problems with multicollinearity. After performing checks for multicollinearity, additional analysis was conducted to further examine the relationship between the demographic variables (predictors) and the dimensions of PLCs. This additional analysis consisted of stepwise multiple regression using the demographic variables as the independent variables and the combined composite scores of the SPSLC as dependent variables.

In the fourth stage of the statistical analyses, Pearson Product Moment Correlation Matrices were created independently to evaluate whether there was a significant relationship, or correlation, between the variables (subscale means) on both the LPI and the SPSLC surveys. In addition, a Pearson Product Moment Correlation matrix was created for the composite scores from the LPI and the SPSLC. Following that, a multiple regression analysis was conducted to determine the relationship between the LPI composite score (independent variable) and demographic variables (independent variable) with the dependent variable of SPSLC composite score. Hierarchical multiple regression was then used to further investigate the findings.

In the fifth stage of analysis, a series of simple regressions were used to determine the extent of the influence that the LPI composite scores (independent/predictor variables) had on each of the five dimensions of the SPSLC composite scores (dependent/outcome variables). To further examine the influence that the LPI variables had on the dimensions of the SPSLC, simple regressions were performed using the subscale mean scores from both instruments (See Appendix A).

Response Rate

In the fall of 2011, teachers who worked in schools that were recipients of a Montclair State Teacher Study Group Grant were invited to participate in a study to determine their perceptions of their principals' exemplary leadership practices and their perceptions of their colleagues as professional learning communities. Teachers' perceptions were measured using two survey instruments: the Leadership Practices Inventory (LPI) and the School Professional Staff as Learning Community (SPSLC). Participation was solicited from 18 schools with 17 schools agreeing to participate. Of the 17 schools, 16 were visited to discuss the study and to distribute the surveys. Surveys were mailed to one school because a visit was unable to be scheduled that was convenient for all parties. All of the schools were located in northern New Jersey and consisted of five high schools (9-12) and twelve elementary schools (K-6). There were a total number of 213 participants eligible for the study. Of those, 119 returned the surveys via mail, which indicated a response rate of 55.9%. One participant returned the survey packet with only the demographic information completed. Therefore, a total of 118 fully completed surveys of both the LPI and the SPSLC were received. Table 2 lists the number of schools that participated, the total number of returned surveys, and the

response percentage. It does not include the one incomplete LPI survey and the one incomplete SPSLC survey.

Table 2

Study Population and Response Rate

Schools	Total Teacher Study Group Members	Returned Surveys	Percentage of Returned Surveys
17	213	119	55.9

Demographic Characteristics

Participation in the study by female teachers was significantly higher than that of males. Female participation constituted over 89% (106) of the respondents as opposed to just 9.2% (11) of male respondents. This was due to the fact that the teacher study groups were disproportionately comprised of female staff members. Two participants did not complete the demographic information included with the survey packet.

The majority of the participants surveyed were elementary school teachers, which for this study were defined as teachers working at the K-6 grade levels. Specifically, 76 (63.9%) of the study participants were elementary school teachers as opposed to 41 (34.5%) secondary school teachers. Secondary teachers for this study were defined as teachers working at the 9-12 grade levels. No middle schools (Grades 6-8) participated in the study. My school was the only middle school in the National Network of Educational Renewal that was a recipient of a MSU Teacher Study Group grant. Because I am the principal of that school, it was not considered for participation in the study.

The educational degree levels of the participants were categorized as either holding a bachelor's degree or a master's degree, or higher. Of the participants, 68.1%

(82) held master's degrees, while 29.4% (35) held bachelor's degrees. The mean

(average) in years of experience for the participants was 15.2 years with the majority

(55.5%) falling below the mean. The largest group represented was t in the 6-10 years of

experience range (27.7%). Demographic information is summarized in Table 3.

Table 3

Demographic Information of Participants

N=119

Gender	Frequency	Percentage
Male	11	9.2
Female	106	89.1
No Response	2	1.7

Degree Level		
MA+	82	68.1
BA	35	29.4
No Response	2	1.7

Grade Level Taught		
Elementary	76	63.9
Secondary	41	34.5
No Response	2	1.7

Teachers Years of Experience		
1 to 5 Years	14	11.8
6 to 10 Years	33	27.7
11 to 15 Years	19	16
16 to 20 Years	18	15.1
21 to 25 Years	14	11.8
26+ Years	19	16
No Response	2	1.7

Table 4 indicates the staff and student population of each of the schools included

in this study. The student population in the 5 high schools surveyed in the study ranged

from a low of 794 students to a high 1882 students. The staff population of the high

schools ranged from a low of 86 staff to a high of 185 staff. The student population of

the 12 elementary schools surveyed in this study ranged from a low of 235 students to a

high of 591 students, with the staff population at those schools ranging from a low of 19

staff to a high of 51 staff.

Table 4

Student and Staff Population by School

School	Level	Student Population	Staff Population
School 1	High School	1882	178
School 2	High School	794	86
School 3	High School	1774	164
School 4	High School	1303	108
School 5	High School	1850	185
School 6	Elementary	288	21
School 7	Elementary	235	19
School 8	Elementary	350	42
School 9	Elementary	466	34
School 10	Elementary	325	34
School 11	Elementary	591	49
School 12	Elementary	368	30
School 13	Elementary	331	23
School 14	Elementary	379	32
School 15	Elementary	492	51
School 15	Elementary	438	36
School 16	Elementary	405	29

Research Questions

The overall research question under investigation in this study was: What is the

nature of the relationship between specific leadership behaviors of the school principal

and the development of professional learning communities, specifically teacher study

groups? The following research sub-questions were considered in the statistical analyses

of the data collected in the study:

Research Question 1. Using the Leadership Practices Inventory (LPI), to what extent did teachers who participated in a Montclair State University (MSU) sponsored teacher study group perceive their principals engaging in distributive or shared leadership practices?

Research Question 2. Using the School Professional Staff as Learning Community Questionnaire (SPSLC), to what extent did teachers who participated in an MSU sponsored teacher study group perceive the school staff as a professional learning community?

Research Question 3. For teachers involved in an MSU sponsored teacher study group, to what extent did gender, teaching experience, current level taught, and educational level influence their perceptions of the principal engaging in specific leadership practices?

Research Question 4. For teachers involved in an MSU sponsored teacher study group, to what extent did gender, teaching experience, current level taught, and educational level influence their perceptions of the school staff as a learning community?

Results of Statistical Analysis

To examine Research Question 1, Using the Leadership Practices Inventory (LPI), to what extent did teachers who participated in a Montclair State University (MSU) sponsored teacher study group perceive their principals engaging in distributive or shared leadership practices?, descriptive statistics were used to determine teachers' perceptions of their principals' leadership characteristics using the Leadership Practices Inventory. Table 5 shows descriptive statistics and the summary results of the study participants for the Leadership Practices Inventory (LPI) survey instrument. The LPI records teacher

perceptions via a Likert scale (1-10) ranging from 1 (Almost Never) to 10 (Almost Always). The LPI consists of 30 questions with five random groupings of six questions that define each of the five exemplary leadership practices: *Challenging the Process, Inspiring a Shared Vision, Enabling Others to Act, Modeling the Way*, and *Encouraging the Heart*. The maximum possible score for each of the five subscales is 60, and the lowest possible score is 6. A subscale mean was calculated for each one of the leadership practice domains so that each domain can be clearly identified and articulated. The subscale mean for *Challenging the Process* was 7.49, the subscale mean for *Inspiring a Shared Vision* was 7.46, the subscale mean for *Enabling Others to Act* was 7.26, the subscale mean for *Modeling the Way* was 7.72, and the subscale mean for *Encouraging the Heart* was 7.56. The literature describing the Likert Scale values of the LPI indicates that a subscale mean of 7 (Fairly Often) and higher suggests the presence of the leadership practice (Kouzes and Posner, 1997). The two leadership practices most present in schools with MSU teacher study groups are *Modeling the Way* (7.72) and *Encouraging the Heart* (7.56). The least present leadership practice was *Enabling Others to Act* (7.26).

Table 5

Descriptive Statistics of Teacher Perceptions of Their Principals' Leadership Practices using Subscales from the Leadership Practices Inventory (LPI)

Leadership Practices (LPI)	Participants	Total Number of Items	Minimum Score	Maximum Score	Mean	Median	Mode	Standard Deviation	Subscale Mean
Challenging the Process	118	6	8	60	44.96	47.5	46	11.87	7.49
Inspiring a Shared Vision	118	6	8	60	44.75	48	48	13.06	7.46
Enabling Others to Act	118	6	7	60	43.46	47.5	44	13.71	7.26
Modeling the Way	118	6	9	60	46.31	49.5	51	11.53	7.72
Encouraging the Heart	118	6	6	60	45.35	49	51	12.61	7.56

To examine Research Question 2, Using the School Professional Staff as Learning Community Questionnaire (SPSLC), to what extent did teachers who participated in an MSU sponsored teacher study group perceive the school staff as a professional learning community?, descriptive statistics were used to determine teachers' perceptions of their school as a professional learning community using the School Professional Staff as Learning Community Questionnaire. Table 6 shows descriptive statistics and the summary results of the study participants for the SPSLC Questionnaire. The SPSLC records teacher perceptions via a Likert scale (1-5) across 17 "descriptors" of a professional learning community grouped into five major dimensions or areas including *Supportive and Shared Leadership, Shared Values and Vision, Collective Learning and Application, Shared Personal Practice*, and *Supportive Conditions*. Each descriptor

consists of a 5-point Likert scale, from 5 (high) to 1 (low). Respondents were asked to

mark their assessments on the 5-point scale above each of the three indicator statements

that best represents the degree to which they feel their faculty has achieved that item,

with 5 being the highest indication that the dimension is present; and the higher the score,

that means that dimension represents a more developed professional learning community.

The unique format of this instrument requires the respondents to read all three indicators

for each of the 17 descriptors and then mark a response scale. For example, on the

SPSLC survey, dimension one (*Supportive and Shared Leadership*) reads: "School

administrators participate democratically with teachers sharing power, authority, and

decision making." This dimension consists of two descriptors that are placed along a

Likert Scale, which requires participants to read each descriptor and indicate their

selection along the scale. The two descriptors for SPSLC dimension one read as follows

> 1a. Although there are some legal and fiscal decisions required of the principal,
>
> school administrators consistently involve the staff in discussing and making
>
> decisions about issues
>
> Administrators invite advice and counsel from staff and then make decisions
>
> themselves
>
> Administrators never share information with the staff nor provide opportunities
>
> to be involved in decision making
>
> 1b. Administrators involve the entire staff
>
> Administrators involve a small committee, council, team, or staff
>
> Administrators do not involve any staff

This layout requires more mental processing than the usual Likert-type assessment (Meehan, Orletsky, & Sattes, 1997).

The maximum possible score for each of the five major professional learning community dimension subscales varied depending on the PLC dimension being measured: *Supportive and Shared Leadership* (10), *Shared Values and Vision* (15), *Collective Learning and Application* (25), *Shared Personal Practice* (10) and *Supportive Conditions* (25). The lowest possible score also varies based on the PLC dimension being measured and are as follows: *Supportive and Shared Leadership* (2), *Shared Values and Vision* (3), *Collective Learning and Application* (5), *Shared Personal Practice* (2), and *Supportive Conditions* (5). A subscale mean was calculated for each of the PLC dimensions so that each dimension could be clearly identified and articulated. The subscale mean for *Supportive and Shared Leadership* was 3.40; the subscale mean for *Shared Values and Vision* was 4.09, the subscale mean for *Collective Learning and Application* was 4.03, the subscale mean for *Shared Personal Practice* was 2.50, and the subscale mean for *Supportive Conditions* was 3.63. The literature describing the Likert Scale values of the SPSLC indicates that a subscale mean of 3 or higher indicates that that dimension is present, with a higher score suggesting a stronger presence of that PLC dimension (Hord, 1997). The two professional learning community dimensions that were most present in schools with MSU teacher study groups were *Shared Values and Vision* (4.09) and *Collective Learning and Application* (4.03). The least present dimension was *Shared Personal Practice* (2.50).

Table 6

Descriptive Statistics of Teacher Perceptions of Their School as a Professional Learning
Community Using Subscales from the School Professional Staff as Learning Community
(SPSLC)

Dimensions of PLC's (SPSLC)	Participants	Total Number of Items	Minimum Score	Maximum Score	Mean	Median	Mode	Standard Deviation	Subscale Mean
Supportive and Shared Leadership	118	2	2	10	6.80	7	8	1.85	3.40
Shared Values and Vision	118	3	3	15	11.85	12	13	3.41	4.09
Collective Learning and Application	118	5	10	25	19.06	19	19	3.41	4.03
Shared Personal Practice	118	2	2	10	4.97	5	4	1.96	2.50
Supportive Conditions	118	5	5	25	18.63	19	19	3.67	3.63

To examine Research Question 3, For teachers involved in an MSU sponsored
teacher study group, to what extent did gender, teaching experience, current level taught,
and educational level influence their perceptions of the principal engaging in specific
leadership practices?, multiple regression was used to determine the nature of the
relationship between the demographic variables and teacher perceptions of their principal
engaging in the specific leadership practices as indicated by the composite score from the
Leadership Practices Inventory. Prior to using multiple regression analysis to calculate
the potential influence of the demographic variables, a Pearson Product Moment
Correlation Matrix was generated to measure the extent to which the independent
variables are correlated to head off any potential problems with multicollinearity.

Multicollinearity exists when two or more predictor variables are highly correlated.

Table 7 shows that overall the Pearson Product Moment Correlations (r) between the

demographic variables are generally weak to negligible. Only the variables of gender and

level taught show a statistically strong negative relationship (r = -.439), with variables of

level taught and degree showing a statistically weak positive correlation (r = .245).

Additional checks for multicollinearity were analyzed by examining the tolerance tables

and VIF following the multiple regression analysis.

Table 7. Pearson Product Moment Correlations Between Demographic Variables

Demographic Variables	Gender	Degree	Level Taught	Experience
Gender	1.00	-.019	-.439**	.165
Degree	-.019	1.00	.245**	.047
Level Taught	-.439**	.245**	1.00	-.176
Experience	.165	.047	-.176	1.00

N=119
**. Correlation is significant at the 0.01 level (2tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Multiple regression analysis results indicated (Table 8) that none of the

demographic variables showed a statistically significant influence on teachers'

perceptions of their principals' leadership behaviors as measured by the LPI. The R

Square value is .026, which means 2.6% of the variance in teachers' perception of their

principals' leadership behaviors can be explained by gender, degree, experience, and

level taught.

Table 8

Model Summary of Multiple Regression Model for Demographic Variables and the LPI Composite Score.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.162[a]	.026	-.009	59.42409

[a] Predictors: (Constant), Experience, Level Taught, Degree, Gender

A review of the ANOVA, which estimates the impact of the four main effects on the dependent variable in model one, indicates that the regression model is not significant.

Table 9

ANOVA for Multiple Regression Model for Demographic Variables and the LPI Composite Score.

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10584.553	4	2646.138	.749	.560[a]
	Residual	391965.654	111	3531.222		
	Total	402550.207	115			

[a] Predictors: (Constant), Experience, Level Taught, Degree, Gender

[b] Dependent Variable: LPI Total Score

Table 10

Standardized Coefficient Betas & Tolerance for Multiple Regression Model for Demographic Variables and the LPI Composite Score.

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	241.157	23.867		10.104	.000		
Gender	-25.732	21.092	-.128	-1.220	.225	.797	1.254
Degree	15.362	12.664	.119	1.213	.228	.916	1.092
Level Taught	-4.752	13.327	-.039	-.357	.722	.750	1.333
Experience	-.156	.593	-.025	-.263	.793	.970	1.031

[a] Dependent Variable: LPI Total Score

The coefficients table demonstrates how each predictor variable influences the dependent variable. In Model 1, the predictor variables of gender, degree, level taught and experience are not statistically significant.

To examine Research Question 4, For teachers involved in an MSU sponsored teacher study group, to what extent did gender, teaching experience, current level taught, and educational level influence their perceptions of the school staff as a learning community?, multiple regression was used to determine the nature of the relationship between the demographic variables and teacher perceptions of the school as a learning community as measured by the SPSLC.

The multiple regression analysis indicated that the demographic variable, level taught had a statistically significant influence on the SPSLC composite score.

Table 11 shows the multiple regression model summary for the independent

variables of gender (0 = male and 1 = female), degree (0 = BA and 1 = MA+), experience

(continuous), and level taught (0 = elementary and 1 = secondary). The dependent

variable is the combined composite score for the five dimensions on the SPSLC. The R

Square value is .088 which means 8.8% of the variance in teachers' perception of their

schools as a professional learning community can be explained by gender, degree,

experience, and level taught.

Table 11

*Model Summary of Multiple Regression Model for Demographic Variables and the
SPSLC Composite Score*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.297[a]	.088	.056	9.63376

[a] Predictors: (Constant), Experience, Level Taught, Degree, Gender

A review of the ANOVA which estimates the impact of the four main effects on

the dependent variable in model one indicates that the regression model is significant at

the .033 level, F=2.713, df = 4, 112.

Table 12

ANOVA for Multiple Regression Model for Demographic Variables and the SPSLC Composite Score

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1007.220	4	251.805	2.713	.033[a]
	Residual	10394.644	112	92.809		
	Total	11401.863	116			

[a] Predictors: (Constant), Experience, Level Taught, Degree, Gender

[b] Dependent Variable: SPSLC Total Score

Table 13

Standardized Coefficient Betas & Tolerance for Multiple Regression Model for Demographic Variables and the SPSLC Composite Score

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	61.821	3.854		16.043	.000		
	Gender	.423	3.419	.012	.124	.902	.797	1.255
	Degree	1.752	2.039	.081	.859	.392	.910	1.099
	Level Taught	-6.226	2.159	-.301	-2.883	.005	.747	1.338
	Experience	-.004	.096	-.004	-.042	.966	.968	1.033

[a] Dependent Variable: SPSLC Total Score

The coefficients table demonstrates how each predictor variable influenced the dependent variable. In Model 1, the predictor variables of gender, degree, and experience are not statistically significant. However, the predictor, level taught, is statistically significant at the .005 level, t = -2.883, with a standardized beta of -.301. The beta is negative, which means secondary teachers (coded "1") in teacher study groups are

predicted to report that their schools are less likely to show a presence of a professional learning community. Elementary teachers (coded "0") in teacher study groups are predicted to report that their schools are more likely to show the presence of a professional learning community. The predictor, level taught, reported a VIF of less than 2, which indicates that there is a low likelihood of a problem with multicollinearity. However, a review of the tolerance levels indicated possible multicollinearity bias with tolerance factors below .912, using, tolerance $< 1 - R^2$. Therefore, additional analysis was performed to address multicollinearity concerns using a stepwise multiple regression incorporating the demographic variables as the predictor variables and using the SPSLC composite score as the dependent variable.

Table 14 shows the stepwise multiple regression model summary for the independent variables of gender (0 = male and 1 = female), degree (0 = BA and 1 = MA+), experience (continuous), and level taught (0=elementary and 1 = secondary). The dependent variable is the combined composite score for the five dimensions on the SPSLC. Using stepwise multiple regression, only variables that contribute to the model are retained. Those variables that no longer contribute significantly are removed. Therefore, only the variable, level taught, was retained in this model. The R Square value is .082, which means 8.2% of the variance in teachers' perception of their schools as a professional learning community can be explained by level taught.

Table 14

Model Summary of Stepwise Multiple Regression Model for Demographic Variables and the SPSLC Composite Score

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.286[a]	.082	.074	9.54074

[a] Predictors: (Constant), Experience, Level Taught, Degree, Gender

A review of the ANOVA which estimates the impact of the main effect on the dependent variable in model one indicates that the regression model is significant at the .002 level, F=10.260, df = 1, 115.

Table 15

ANOVA for Stepwise Multiple Regression Model for Demographic Variables and the SPSLC Composite Score

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	933.907	1	933.907	10.260	.002[a]
	Residual	10467.956	115	91.026		
	Total	11401.863	116			

[a] Predictors: (Constant), Experience, Level Taught, Degree, Gender

[b] Dependent Variable: SPSLC Total Score

The coefficients table demonstrates how each predictor variable influenced the dependent variable. In Model 1, the predictor variables of gender, degree, and experience were not statistically significant and were therefore removed from the stepwise multiple

regression. However, the predictor, level taught, is statistically significant at the .002 level, t = -3.203, with a standardized beta of -.286. The beta is negative, which means secondary teachers (coded "1") in teacher study groups are predicted to report that their schools are less likely to show a presence of a professional learning community. Elementary teachers (coded "0") in teacher study groups are predicted to report that their schools are more likely to show the presence of a professional learning community. The predictor, level taught, reported a VIF of less than 2 and a tolerance of 1.00 (.918 < 1 − R^2), which indicates that there is a low likelihood of a problem with multicollinearity. These results lend additional support in the analysis in Table 13.

Table 16

Standardized Coefficient Betas & Tolerance for Stepwise Multiple Regression Model for Demographic Variables and the SPSLC Composite Score

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	63.263	1.094		57.806	.000		
Level Taught	-5.922	1.849	-.286	-3.203	.002	1.000	1.000

[a] Dependent Variable: SPSLC Total Score

To examine the overall research question, What is the nature of the relationship between specific leadership behaviors of the school principal and the development of professional learning communities, specifically teacher study groups?, Pearson Product Moment Correlation matrices were created to evaluate whether there was a significant relationship, or correlation, between the variables (subscale means) from both the LPI

and the SPSLC surveys. Matrices of the LPI and SPSLC were examined separately and then a correlation matrix was created using subscale means from both survey instruments.

To determine the direction and strength of the relationship between the subscale means of the LPI survey, a Pearson Product Moment Correlation was performed. The Correlation Coefficient (r) for the analysis ranges from -1 to 1 with the number "1" representing a perfect positive linear relationship, and a "-1" representing a perfect negative linear relationship. A value of zero indicates that there is no linear relationship between the variables. Therefore, values that are closer to +1 or -1 represent a stronger relationship between the variables. While there is not a definitive interpretative scale used to analyze Pearson Correlation Coefficients (r) values, this study will use the following scale to interpret the correlation results. Since all the results were positive, this correlation coefficient (r) scale is limited to the following positive interpretations: .70 or higher (very strong positive relationship), .40 to .69 (strong positive relationship), .30 to .39 (moderate positive relationship), .20 to .29 (weak positive relationship), .01 to .19 (negligible relationship).

Table 17 indicates a very strong positive correlation between the exemplary leadership behavior characteristics as recorded using the LPI with the unit of analysis (n=118) being the teacher study groups members at the identified schools. All were found significant at the .01 level.

Table 17

Pearson Product Moment Correlations (r) Between the Five Exemplary Leadership Practices of the Leadership Practices Inventory (LPI)

Leadership Practices	Challenge the Process	Inspire a Shared Vision	Enable Others to Act	Modeling the Way	Encouraging the Heart
Challenging the Process	1.00	.873**	.898**	.858**	.865**
Inspiring a Shared Vision	.873**	1.00	.935**	.702**	.792**
Enabling Others to Act	.898**	.935**	1.00	.796**	.848**
Modeling the Way	.858**	.702**	.796**	1.00	.883**
Encouraging the Heart	.865**	.792**	.848**	.883**	1.00

N=118
**. Correlation is significant at the 0.01 level (2tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

To determine the strength of the relationship between the subscale means of the dimensions of the SPSLC survey, a Pearson Product Moment Correlation was performed and the results were analyzed. Table 18 indicates mostly a moderate positive to strong positive relationship between the dimensions of professional learning communities as recorded using the SPSLC with the unit of analysis (n = 118) being the teacher study group members at the identified schools. The correlation coefficients (r) ranged from the strongest relationship between the dimensions of *Supportive Conditions* and *Collective Learning and Application* (r = .564), to weak correlations between the dimensions of *Shared Personal Practice* and *Supportive and Shared Leadership* (r = .287), *Shared Personal Practice* and *Collective Learning and Application* (r = .251), and *Shared*

Personal Practice and *Shared Values and Vision* (r = .226), to a negligible relationship

between *Supportive Conditions* and *Shared Personal Practice* (r = .172).   All dimensions

were found to be significant at the .01 level except for the relationship between the

dimensions of *Supportive Conditions* and *Shared Personal Practice* (r =.172)

Table 18

Correlation Coefficients (r) Between the Five Dimensions of Staff as a Professional Learning Community (SPSLC)

Professional Learning Community Dimensions	Supportive and Shared Leadership	Shared Values and Vision	Collective Learning and Application	Shared Personal Practice	Supportive Conditions
Supportive and Shared Leadership	1.00	.516**	.371**	.287**	.371**
Shared Values and Vision	.516**	1.00	.557**	.226*	.431**
Collective Learning and Application	.371**	.557**	1.00	.251**	.564**
Shared Personal Practice	.287**	.226*	.251**	1.00	.172
Supportive Conditions	.371**	.431**	.564**	.172	1.00

N=118
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

To determine if there is a relationship between principal leadership behaviors and

the current level of a school's professional staff as a learning community as indicated by

teachers who participated in a teacher study group, a Pearson Product Moment

Correlation was conducted between the teachers' perceptions of their principals'

leadership practices as measured by the LPI and teachers' perceptions of their school as a

professional learning community using the dimensions measured by the SPSLC.   The

results presented in Table 19 indicate a strong positive relationship (r = 40 to .69)

between all of the LPI leadership behaviors' subscales and the PLC subscale for the dimension of *Supportive and Shared Leadership*. Each of the relationships between the subscales was significant at the .001 level. Additionally, there was a strong positive relationship (r = .415) between the LPI subscale *Enabling Others to Act* and the PLC subscale dimension *Shared Values and Vision*. That relationship was significant at the .001 level.

There was a significant (at the .001 level) and moderate positive relationship (r = .30 to .39) between the PLC dimension of *Shared Values and Vision* and the following four exemplary leadership practices: *Challenging the Process, Inspiring a Shared Vision, Modeling the Way*, and *Encouraging the Heart*. The only other significant (at the .001 level) and moderate positive relationship that existed was between the LPI subscale, *Inspiring a Shared Vision* and the SPLC dimension of *Shared Personal Practice* (r = .302).

There was a significant (at the .001), but weak positive relationship (r = .20 to .29) between the LPI subscales of *Challenging the Process, Enabling Others to Act, Modeling the Way, Encouraging the Heart*, and the SPSLC dimensions of *Shared Personal Practice* and *Supportive Conditions*. In addition, there was a significant (at the .05 level) weak positive relationship between the SPSLC dimension of *Collective Learning and Application* and the LPI subscales *Challenging the Process* (r = .226) and *Modeling the Way* (r =.234). The only other weak positive relationship that was significant (at the .01 level) involved the SPSLC dimension *Collective Learning and Application* and the LPI subscale *Enabling Others to Act* with a correlation coefficient (r) of .266.

A significant (at the .05 level), but negligible relationship (.01 to .19) relationship was found between the LPI subscale *Inspiring a Shared Vision* and the SPSLC dimension *Collective Learning and Application* (r = .183). There was no significant relationship between *Inspiring a Shared Vision* from the LPI and the SPSLC dimension *Supportive Conditions*, and no significant relationship existed between the LPI subscale *Encouraging the Heart* and the SPSC dimension *Collective Learning and Application*.

Table 19

Correlation Coefficients (r) of Teacher Perceptions of their Principals' Leadership Practices and their Perceptions of their School as a Professional Learning Community

	PLC Dimensions				
Leadership Practices	Supportive and Shared Leadership	Shared Values and Vision	Collective Learning and Application	Shared Personal Practice	Supportive Conditions
Challenging the Process	.563**	.360**	.226*	.238**	.239**
Inspiring a Shared Vision	.509**	.341**	.183*	.302**	.131
Enabling Others to Act	.595**	.415**	.266**	.287**	.239**
Modeling the Way	.588**	.333**	.234*	.239**	.289**
Encouraging the Heart	.538**	.300**	.169	.276**	.249**

N=118
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Through the analysis of the correlation matrix between the subscale means of the LPI (Table 17), it was discovered that the all five leadership practices were strongly correlated. Because of the high level of correlation between the leadership practices, issues with multicollinearity surfaced when performing multiple regression analysis to

examine the relationship between the LPI subscale means and the SPSLC subscale means. Therefore, the focus of the analysis shifted away from the examination of the individual leadership practices of the LPI (subscale means) and its influence on the five dimensions of the SPSLC. Instead, the composite scores for both instruments were used. This makes logical sense, as the literature on leadership supports a more systemic, macro view of leadership in which a leader makes decisions by viewing issues through multiple lenses, or practices, as different situations often require the leader to combine leadership practices (Bolman & Deal, 2009). In addition, due to the shift from an analysis of subscale mean scores to an analysis of composite scores, the examination of the influence of demographic variables on the individual subscale means of the SPSLC was revisited. Using a multiple regression analysis, the LPI total score was entered, followed by the demographic variables: level taught, gender, degree, and experience to determine which variables had the greatest influence. Combining the LPI composite score and the demographic variables was an attempt to further examine the relationship between leadership and professional learning communities and also to see if concerns with multicollinearity were lessened through the analysis.

Table 20 indicates the model summary for the multiple linear regression. This regression model sought to determine the influence of the independent variables of LPI total score, gender, experience, degree, and level taught on the dependent variable of SPSLC total score. The R Square value was .330, which means that 33% of the variance in SPSLC total score can be explained by LPI total score, gender, experience, degree, and level taught.

Table 20

Simultaneous Multiple Regression Model for Demographic Variables and the Composite Scores of the LPI and the Composite Score of the SPSLC

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.574[a]	.330	.299	8.26417

Predictors: (Constant), Experience, LPI Total Score, Level Taught, Degree, Gender

A review of the ANOVA which estimates the impact of the five main effects on the dependent variable in Model 1 indicates that the regression model is significant at the .000 level, F=10.826, df = 5, 110.

Table 21

ANOVA for Multiple Regression for Demographic Variables and the Composite Scores of the LPI and the Composite Score of the SPSLC

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3696.840	5	739.368	10.826	.000[a]
	Residual	7512.608	110	68.296		
	Total	11209.448	115			

[a] Predictors: (Constant), Experience, LPI Total Score, Level Taught, Degree, Gender
[b] Dependent Variable: SPSLC Total Score

Table 22

Standardized Coefficient Betas & Tolerance for Multiple Regression for Demographic
Variables and the Composite Scores of the LPI and the Composite Score of the SPSLC

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	41.287	4.599		8.977	.000		
	LPI Total Score	.083	.013	.499	6.302	.000	.974	1.027
	Gender	2.478	2.953	.074	.839	.403	.787	1.271
	Degree	.798	1.773	.037	.450	.654	.904	1.106
	Level Taught	-5.738	1.854	-.279	-3.094	.003	.749	1.335
	Experience	.020	.083	.020	.248	.804	.970	1.031

a Dependent Variable: SPSLC Total Score

The coefficients table demonstrates how each predictor variable influences the

dependent variable. In Model 1, the predictor variables of gender, degree, and experience

are not statistically significant. However, the predictor LPI total score is statistically

significant at the .000 level, t = 6.302, and a standardized beta of .499. The beta is

positive which means that as the scores on the LPI total score (predictor variable)

increase and can be predicted, the scores of the SPSLC (dependent variable) also

increase. The predictor variable of level taught is statistically significant at the .003

level, t = -3.094, with a standardized beta of -.279. The beta is negative, which means

secondary teachers (coded "1") in teacher study groups are predicted to report that their

schools are less likely to show a presence of the professional learning community.

Elementary teachers (coded "0") in teacher study groups are predicted to report that their

schools are more likely to show the presence of a professional learning community.

The beta for LPI total score (.499) is larger than the beta for level taught (-.279), which suggests that LPI total score is a stronger predictor of SPSLC total score than the independent variable, level taught. The predictors, LPI total score and level taught, reported a VIF of less than 2 and tolerances that are greater than .67 ($< 1 - R^2$), which indicates that there is a low likelihood of a problem with multicollinearity.

To further test the relationship between the predictor variables, LPI total score, gender, level taught, degree, and experience, a hierarchical linear regression was performed with the variables being entered in a specific order based on their significance and strength. The predictor variables were entered into the hierarchical linear regression model in the following order beginning with the strongest predictor: LPI total score, level taught, gender, degree, and experience. The researcher found a strong correlation between the variables of gender and level taught; thus, these were entered in sequence.

Table 23 indicates the model summary for the hierarchical linear regression. In Model 1, the R Square value for the predictor LPI total score was .231, which means 23.1% of the variance in the SPSLC total score (dependent variable) can be explained by the predictor variable, LPI total score. In Model 2, the predictor, level taught, was added and reports an R Square of .323, which means that 32.3% of the variance in the SPSLC total score can be explained by the variables LPI total score and level taught. The R Square change value for this model is .092, which means the addition of level taught as a predictor accounts for an additional 9.2% of the variance in the SPSLC total score. In Model 3, the R-Square value of LPI total score, level taught, and gender is .328, which means 32.8% of the variance in SPSLC total score can be explained by the three predictor variables. The R Square change value for this model is .005, which means the addition of

gender as a predictor accounts for an additional .5% of the variance in the SPSLC total score. In Model 4, the predictor, degree, was added to the variable LPI total score, gender, and level taught and reported an R Square of .329, which means 32.9% of the variance in SPSLC total score can be explained by these four predictor variables. The R Square change for this model was .001, which means that the addition of degree as a predictor accounted for an additional .1% of the variance in the SPSLC total score. In model 5, the predictor, experience, was added to all of the other predictors and reported an R Square of .330, which means 33% of the variance in the dependent variable can be explained by the predictors: LPI total score, level taught, gender, degree, and experience. The R Square change value for model 5 was .001, which means that the addition of experience as a predictor accounts for an additional .1% of the variance in the SPSLC total score. Of the five models, Model 5 explains the greatest variance on the dependent variable.

Table 23.

Hierarchical Linear Regression Model for Demographic Variables and the Composite scores of the LPI and the Composite Score of the SPSLC

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.480[a]	.231	.224	8.69767	.231	34.176	1	114	.000
2	.568[b]	.323	.311	8.19584	.092	15.388	1	113	.000
3	.573[c]	.328	.310	8.20122	.005	.852	1	112	.358
4	.574[d]	.329	.305	8.22916	.001	.241	1	111	.625
5	.574[e]	.330	.299	8.26417	.000	.062	1	110	.804

[a] Predictors: (Constant), LPI Total Score..
[b] Predictors: (Constant), LPI Total Score, Level Taught.
[c] Predictors: (Constant), LPI Total Score, Level Taught, Gender.
[d] Predictors: (Constant), LPI Total Score, Level Taught, Gender, Degree.
[e] Predictors: (Constant), LPI Total Score, Level Taught, Gender, Degree, Experience

A review of the ANOVA, which estimates the impact of the five main effects on the dependent variable within five different models, indicates that all five models are significant.

Model 1 is significant at the .000 level with F = 34.176, df = 1,114.

Model 2 is significant at the .000 level with F = 26.939, df = 2,113.

Model 3 is significant at the .000 level with F = 18.219, df = 1,112.

Model 4 is significant at the .000 level with F = 13.632, df = 1,111.

Model 5 is significant at the .000 level with F = 10.862, df = 1,110.

Table 24

ANOVA for Hierarchical Linear Regression for Demographic Variables and the Composite Scores of the LPI and the Composite Score of the SPSLC

ANOVA[f]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2585.408	1	2585.408	34.176	.000[a]
	Residual	8624.040	114	75.649		
	Total	11209.448	115			
2	Regression	3619.039	2	1809.519	26.939	.000[b]
	Residual	7590.410	113	67.172		
	Total	11209.448	115			
3	Regression	3676.319	3	1225.440	18.219	.000[c]
	Residual	7533.129	112	67.260		
	Total	11209.448	115			
4	Regression	3692.627	4	923.157	13.632	.000[d]
	Residual	7516.822	111	67.719		
	Total	11209.448	115			
5	Regression	3696.840	5	739.368	10.826	.000[e]
	Residual	7512.608	110	68.296		
	Total	11209.448	115			

[a] Predictors: (Constant), LPI Total Score

[b] Predictors: (Constant), LPI Total Score, Level Taught

[c] Predictors: (Constant), LPI Total Score, Level Taught, Gender

[d] Predictors: (Constant), LPI Total Score, Level Taught, Gender, Degree

Table 25

Standardized Coefficient Betas & Tolerance for Hierarchical Linear Regression for Demographic Variables and the Composite Scores of the LPI and the Composite Score of the SPSLC

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	43.065	3.184		13.526	.000		
	LPI Total Score	.080	.014	.480	5.846	.000	1.000	1.000
2	(Constant)	44.730	3.030		14.762	.000		
	LPI Total Score	.083	.013	.495	6.384	.000	.998	1.002
	Level Taught	-6.252	1.594	-.304	-3.923	.000	.998	1.002
3	(Constant)	41.766	4.416		9.457	.000		
	LPI Total Score	.084	.013	.502	6.442	.000	.987	1.013
	Level Taught	-5.539	1.772	-.269	-3.127	.002	.808	1.237
	Gender	2.683	2.907	.080	.923	.358	.799	1.251
4	(Constant)	41.555	4.452		9.333	.000		
	LPI Total Score	.083	.013	.498	6.325	.000	.974	1.026
	Level Taught	-5.774	1.841	-.281	-3.136	.002	.754	1.327
	Gender	2.517	2.936	.075	.857	.393	.789	1.268
	Degree	.858	1.749	.040	.491	.625	.921	1.085
5	(Constant)	41.287	4.599		8.977	.000		
	LPI Total Score	.083	.013	.499	6.302	.000	.974	1.027
	Level Taught	-5.738	1.854	-.279	-3.094	.003	.749	1.335
	Gender	2.478	2.953	.074	.839	.403	.787	1.271
	Degree	.798	1.773	.037	.450	.654	.904	1.106
	Experience	.020	.083	.020	.248	.804	.970	1.031

[a] Dependent Variable: SPSLC Total Score

The coefficient table indicates how each predictor influenced the dependent variable. Model 1 is significant at the .000 level, with t =5.846 and a beta =.480. The beta is positive, which means as the LPI total score increases, the SPSLC total score increases.

In Model 2 the predictor LPI total score is significant at the .000 level with t = 6.384 and a beta = .495. A slight increase in the beta for LPI total score in Model 2 demonstrates that it became a stronger predictor in Model 2.

In Model 2, the predictor, level taught, is significant at the .000 level, t = -3.923 and a beta = -.304. The beta is negative, which means secondary teachers (coded "1") in teacher study groups are predicted to report that their schools are less likely to show the presence of a professional learning community. Elementary teachers (coded "0") in teacher study groups are predicted to report that their schools are more likely to show the presence of a professional learning community. In Model 2, the beta for the predictor LPI total score (.495) is higher than the beta for level taught (-.304), which suggests the LPI total score is a stronger predictor of SPSLC total score than the variable level taught.

In Model 3, the predictor LPI total score is significant at the .000 level, with t =6.442 and reports a beta =.502. An increase in the beta for LPI total score demonstrates that the predictor continues to gain strength from Model 2 to Model 3. It also reports the highest beta in model 3 which suggests it is still the strongest predictor of SPSLC total score. In Model 3, the predictor level taught is significant at the .002 level, t= -3.127. Level taught slightly loses losses power in Model 3 with a reported beta of -.269. In Model 3, the predictor gender is not significant.

In Model 4 the predictor LPI total score is significant at the .000 level, t =6.325. With a reported beta of .498, LPI total score loses its predictive power slightly when the predictor, degree is added. The predictor, level taught, is significant at the .002 level, t = -3.136 with a beta of -.281. The variable level taught demonstrates a slight increase in predictive power with an increase in reported beta in Model 4. The predictor gender and the added predictor degree are not significant. The predictor LPI total score remains the strongest independent variable in model 4 with the highest reported beta (.498).

In Model 5, LPI total score is significant at the .000 level, t =6.302 and a beta of .499. The predictor level taught is significant at the .003 level, t = -3.094 and slightly loses some predictive power when the variable of experience is added, as it reported a beta of -.279. The influence of the predictor LPI total score remained virtually the same. The predictor variables of gender, degree, and experience are not significant.

Model 5 is the best model, as it accounted for the most variance (33%) in the SPSLC total score. It is clear that LPI total score has the most influence on the dependent variable. The predictor, level taught, had the second highest influence on the SPSLC total score. The results of the hierarchical linear regression are consistent with the simultaneous multiple regression, which provided additional evidence of the predictive reliability of the variables of the LPI total score and level taught on the dependent variable of SPSLC total score.

The predictors associated with all of the models reported a VIF of less than 2 and tolerances that are greater than $.769 < 1 - R^2$ (Model 1), $.677 < 1 - R^2$ (Model 2), $.672 < 1 - R^2$ (Model 3), $.671 < 1 - R^2$ (Model 4), and $.670 < 1 - R^2$ (Model 5), which indicates that there is a low likelihood of a problem with multicollinearity.

Prior to performing a series of simple regressions to examine the influence of leadership practices on the five dimensions of a PLC, a Pearson Product Moment Correlation was performed to examine the strength and direction of the relationship between principal leadership behavior (composite score) and the current level of a school's professional staff as a learning community as indicated by teachers who participated in a teacher study group. The results presented in Table 26 indicate a significant relationship between the LPI and the PLC composite scores for all of the dimensions measured by SPSLC. The correlation coefficient (r) between the two is .475, which indicates a strong positive relationship.

Table 26

Correlation Coefficients (r) of Teacher Perceptions of Their Principals' Leadership Practices and Their Perceptions of Their School as a Professional Learning Community Using Composite Scores

	SPSLC Total Score (composite)
LPI Total Score (composite)	.475[**]

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

The following analysis in Table 27 indicates the influence of the LPI composite score (predictor variable) on the composite scores from each dimension of the SPSLC (dependent variable).

Table 27

Simple Regression of Teacher Perceptions of Their Principals' Leadership Practices and Their Perceptions of Their School as a Professional Learning Community Using Composite Scores

Leadership Practices	R Square	Percent of Variance	F	df	Beta	t	Sig.	PLC Dimensions
LPI Composite Score	0.338	33.8	59.198	1,116	0.581	7.694	.000	Supportive and Shared Leadership
LPI Composite Score	0.188	18.8	26.811	1,116	0.433	5.178	.000	Shared Values and Vision
LPI Composite Score	0.127	12.7	16.882	1,116	0.356	4.109	.000	Collective Learning and Application
LPI Composite Score	0.085	8.5	10.83	1,116	0.292	3.291	.001	Shared Personal Practice
LPI Composite Score	0.065	6.5	8.072	1,116	0.255	2.841	.005	Supportive Conditions

The above table lists the R Square value and the percent of variance for the LPI composite score relative to the composite score for each dimension of the SPSLC. All of the predictors were found to be significant using a p-value ≤ 0.05. Of the five PLC dimensions, the dimension *Supportive and Shared Leadership* is the most influenced PLC dimension by the LPI total score, as it accounts for the greatest percentage of variance (.338) which means that 33.8% of the variance in *Supportive and Shared Leadership* can be explained by the LPI composite score. The LPI composite score accounts for 18.8% of the variance in *Shared Values and Vision*, 12.7% of the variance in *Collective Learning and Application*, 8.5% of the variance in *Shared Personal Practice*, and 6.5% of the variance in *Supportive Conditions*. The largest beta value (.581) is associated with

the dimension *Supportive and Shared Leadership*, which suggests that the LPI composite score has the strongest predictor value over that dimension than any of the others. The PLC dimension least influenced by the LPI composite score is *Supportive Conditions* with recorded beta of .255. All of the betas are positive, which suggests that as the LPI composite score increases, so does the individual composite scores of each PLC dimension.

To further analyze the relationship between the leadership practices and professional learning communities, simple regressions were performed using the LPI subscale mean scores as predictive variables and the individual subscale mean scores of each dimension of the SPSLC as the dependent variable. Results are contained in Appendix A of this study. The results revealed similar outcomes to the simple regression analysis that incorporated composite scores. The dimension of *Supportive and Shared Leadership* was again the most the most influenced PLC dimension when using individual subscale mean scores of the LPI (See appendix A).

The overall question for this study was, "What is the nature of the relationship between principals' leadership behaviors and the development of professional learning communities in schools that were recipients of a Montclair State University Teacher Study Group Grant?" To this end, I sought the faculties' perceptions of their principals' leadership behaviors and their perceptions of the development of their schools as professional learning communities. The hypothesis addresses the perception of the faculties involved in a teacher study group which is one form of a professional learning community.

Null Hypothesis: There is no significant relationship between principals'
leadership behaviors and the development of professional learning communities in
schools that were recipients of a teacher study group grant.

The null hypothesis is rejected. A significant relationship between principals'
leadership behaviors and the development of professional learning communities in
schools that were recipients of a teacher study group grant were identified through
descriptive statistics and analysis of Pearson Product Moment Correlations.

Summary

This chapter presented findings about teachers' perceptions of the level to which
their principals exhibited exemplary leadership practices as evidenced by the Leadership
Practice Inventory(LPI) and teachers' perceptions of their school staff as a professional
learning community as evidenced by the results of the School Professional Staff as
Learning Community Questionnaire (SPSLC). The data suggests that exemplary
leadership practices are present in schools who were recipients of Montclair State
University Teacher Study Group Grants as indicated by the existence of Likert subscale
means scores higher than 7 (out of 10) on the LPI, which indicates these practices exist
often. Data about teacher's perceptions of their schools as a professional learning
community suggest that teachers see many of the dimensions of professional learning
communities present in varying degrees in their schools as indicated by a Likert subscale
mean score of 3 or higher (out of 5) on the SPSLC. Four out of five PLC dimensions are
present and developing in the schools with the exception of the PLC dimension, *Shared
Personal Practice*, which resulted in a subscale mean of 2.5.

A multiple regression analysis was performed to determine whether or not the demographic variables, gender, degree level, years of experience, and level taught influenced the subscale means of the LPI. The analysis revealed that none of the variables had a statistical influence on teachers' responses on any of the subscale means of the LPI. However, a multiple regression analysis was completed to determine the influence that these same demographic variables had on the teacher responses on the SPSLC, and the results indicated that there was a statistically significant influence of the variable, level taught, on the SPSLC composite score.

Correlations between subscales of the Leadership Practices Inventory and the School Professional Staff as Learning Community indicated a number of statistically significant relationships. The strongest relationships existed between the *Supportive and Shared Leadership* dimension of the SPSLC and all five of the leadership practices from the LPI, with the leadership practice of *Enabling Others to Act*, showing the strongest correlation. Moderate to strong relationships existed between all of the leadership practices and the SPSLC dimension of *Shared Values and Vision.* The remaining SPSLC dimensions demonstrated mostly weak correlations in relation to the five leadership practices with the exception of a moderate relationship between the leadership practice of *Inspiring a Shared Vision*, and the professional learning community dimension of, *Shared Personal Practice.* Overall, the leadership practice of *Enabling Others to Act* demonstrated the most statistically significant correlation with all the dimensions of the SPSLC.

After multiple regression analysis using the LPI subscale mean scores as predictor variables on the SPSLC subscale means (dependent variable) revealed problems with

multicollinearity, I adjusted the analysis and used the composite scores from the LPI and SPSLC to perform a multiple linear regression using the LPI composite score and the demographic variables. Using those results, a hierarchical linear regression was performed to further examine the relationship between leadership practices, demographic variables, and professional learning communities. The results of the hierarchical linear regression were consistent with the outcomes of the simultaneous multiple regression. As a result, it provided additional evidence of the predictive reliability of the independent variables of LPI total score and variable grade level taught on SPSLC total score (dependent variable).

Simple regressions were then performed to determine the influence that the leadership practices (predictor variables) had on the individual dimensions of a professional learning community. The PLC dimension most influenced by the composite score of leadership practices was the dimension *Supportive and Shared Leadership*. The PLC dimension least influenced by the leadership practices composite scores score was, *Supportive Conditions*. These results were further supported through the outcomes of another series of simple regressions using the LPI subscale mean scores as predictor variables against the individual subscale mean scores of each dimension of the SPSLC. The results revealed similar outcomes to the simple regression using composite scores. The dimension of *Supportive and Shared Leadership* was again the most influenced PLC dimension when using individual subscale mean scores of the LPI (See appendix A).

These results will be discussed in more detail in Chapter 5. Additionally,

summary statements will be made for each research question, and findings, conclusions,

and recommendations for policy, practice, and further research will be presented.

Chapter V

Conclusions and Recommendations

Introduction

The purpose of this study was to explain the strength and direction of the

relationship between principals' leadership behaviors and the development of

professional learning communities, specifically teacher study groups. In effect, I sought

to uncover principal leadership practices that positively affect the development of

professional learning communities (PLC). With increased demands being placed on

schools as a result of school reform initiatives, much is expected of the school principal.

In order for school improvement to occur, the leadership of the school principal is critical

(Edmonds, 1979; Leithwood, 2005; Hord, 1997; Dufour & Eaker, 1998). Leadership

practices that are shared and distributed with others can positively influence school

culture and perhaps move schools toward a more collaborative environment where

teachers work together to improve teaching practices. This, in turn, may improve student

learning, while using professional learning communities as vehicles to do so. Through

teacher study groups, teachers can unite to increase their capacities to enable students to

reach higher levels of performance (Murphy & Lick, 2001).

To explore leadership practices and the development of professional learning

communities, the overarching research question was: What is the nature of the

relationship between specific leadership behaviors of the school principal and the

development of professional learning communities, specifically teacher study groups?

To further accomplish the purpose of this study, I developed the following research

questions:

Research Question 1. Using the Leadership Practices Inventory (LPI), to what extent did teachers who participated in a Montclair State University (MSU) sponsored teacher study group perceive their principals engaging in distributive or shared leadership practices?

Research Question 2. Using the School Professional Staff as Learning Community Questionnaire (SPSLC), to what extent did teachers who participated in an MSU sponsored teacher study group perceive the school staff as a professional learning community?

Research Question 3. For teachers involved in an MSU sponsored teacher study group, to what extent did gender, teaching experience, current level taught, and educational level influence their perceptions of the principal engaging in specific leadership practices?

Research Question 4. For teachers involved in an MSU sponsored teacher study group, to what extent did gender, teaching experience, current level taught, and educational level influence their perceptions of the school staff as a learning community?

Results of Statistical Analysis

The hypothesis for this study addresses the perception of the faculties involved in a teacher study group.

Null Hypothesis: There is no significant relationship between principals' leadership behaviors and the development of professional learning communities in schools that were recipients of a teacher study group grant.

This chapter contains the summary of the findings of the study and an interpretation of the quantitative components of the study. Conclusions will be

extrapolated from the analysis of the research questions, and implications for practice and policy will be discussed along with recommendations for further research.

Conclusions for Research Question 1

My first research question asked to what extent school faculties perceive their principals engaging in distributive and shared leadership practices. To examine this question I used the Leadership Practices Inventory (LPI) (Kouzes & Posner, 2004) to measure teachers' perceptions of their principals' leadership practices. The findings of this study suggest that all five leadership practices measured by the LPI existed at a more than "fairly often" level in schools with established teacher study groups. This level was determined using a Likert scale of 1-10 ranging from 1 (Almost Never) to 10 (Almost Always), with (Fairly Often) equaling a 7 on the scale. The subscale mean scores for each leadership practice are as follows: *Challenging the Process*, 7.49; *Inspiring a Shared Vision*, 7.46; *Enabling Others to Act*, 7.26; *Modeling the Way*, 7.72, and *Encouraging the Heart*, 7.56. This suggests a relatively strong presence of the five leadership practices as measured by the LPI in schools with MSU teacher study groups. Specifically, the results from this study suggested that the leadership practice most present was, *Modeling the Way*, which is defined as the leader's ability to establish principles concerning the way people should be treated and the way goals should be pursued. Essentially, this leadership practice calls for leaders to create standards of excellence and then set the example for others to follow (Kouzes & Posner, 2001). The extant literature supports the idea that it is important for principals to practice and model supportive leadership for a professional community to emerge. Fullan (1991) reinforced the concept of *Modeling the Way* when he surmised that leadership exercised by

principals needed to focus on issues related to school improvement, collegiality, shared

purpose, accountability, and responsibility for performance and instructional change all

within the context of leading by example. This idea connects with the leadership practice

of *Encouraging the Heart*, which respondents reported appeared nearly as often as

Modeling the Way, based on scores from the LPI. *Encouraging the Heart* involves the

leaders' ability to foster collaboration and build spirited teams by actively involving

others and making each person feel capable and powerful in some way. In effect, leaders

strive to create an atmosphere of trust and human dignity (Kouzes & Posner, 2002).

Principals who combine the leadership practices of *Modeling the Way* and *Encouraging*

the Heart are likely to increase their chances of developing a strong professional learning

community. This idea is supported in the literature on school leadership, PLCs, and

school culture. Specifically, a number of studies pointed to the existence, development

and importance of collaboration and trust within a school culture (Wood, 2007; Yendol-

Silva, 2003; Tschannen-Moran, 2000; Bryk & Schneider, 2002; Berry, Johnson, &

Montgomery, 2005; Phillips, 2003; Strahan, 2003). Tschannen-Moran (2000) concluded

in her study that, "Collaboration in an atmosphere of trust holds promise for transforming

schools into vibrant learning communities" (p. 328). In addition, Supovitz (2002) and

Christman (2003) reported that through the collaborative efforts of the teachers who

participated in teams and small learning communities, changes in instructional cultures

with an increased emphasis on student learning was reported. These efforts begin with

the example set by the school leader.

The consistent and leading presence of these two leadership practices, *Modeling*

the Way and *Encouraging the Heart,* within the schools studied is not surprising as it is

consistent with the concept of transformative leadership, which involves shared and distributive leadership practices. Transformative leaders motivate their followers by raising their consciousness about the importance of organizational goals and by inspiring them to transcend their own self-interest for the sake of the organization (Marks & Printy, 2003). In order for teachers to be inspired to lead, the principal needs to "Model the Way" in striving to meet the goals of the organization. Furthermore, *Encouraging the Heart* is consistent with extant literature on transformational leadership, as transformational leaders seek to foster collaboration and attempt to activate a process of continuous inquiry into teaching and learning, shaping a positive organizational culture that contributes to organizational effectiveness (Marks & Printy, 2003). Marks & Printy (2003) suggest that teachers have both the desire and the expertise to lead, and their study demonstrated the importance of cultivating teacher leadership. In addition, findings from their study indicate that strong transformational leadership is essential in supporting the commitment of teachers, and transformational principals are needed to invite teachers to share leadership functions.

The results from this study suggest that participating schools with successful teacher study groups are led by principals who demonstrate a strong presence of leadership practices that are consistent with transformative and shared leadership practices. Being cognizant of this, school leaders who wish to develop PLCs within their schools might want to consider the development of a comprehensive understanding of the elements of shared and distributive leadership. Leithwood (2005) emphasized that authority and influence associated with a transformational style of leadership are not necessarily allocated to those occupying formal administrative positions. In other words,

principals need to be comfortable with sharing the leadership responsibilities with others in the organization.

Conclusions for Research Question 2

The second research question asked school faculties to rate their perceptions of their school staff as a professional learning community. To examine this question, the School Professional Staff as Learning Community Questionnaire (SPSLC) (Hord, 1996) was used to measure teachers' perceptions of their schools' development as professional learning communities. The findings from this study suggest that overall teachers report a strong presence of four out of the five professional learning community dimensions. The presence of these PLC dimensions indicates that the schools in this study contained moderate to strong professional learning communities. This level was determined using a 5-point Likert scale, from 5 (high) to 1 (low). Respondents were asked to mark their assessments on the 5-point scale above the three indicator statements that best represent the degree to which they feel their faculty has achieved that item, with 5 being the highest indication that the dimension is present; and the higher the score, that dimension represents a more developed professional learning community. The subscale mean scores for each PLC dimension are as follows: *Supportive and Shared Leadership,* 3.40; *Shared Values and Vision,* 4.09; *Collective Learning and Application,* 4.03; *Shared Personal Practice,* 2.50; and *Supportive Conditions,* 3.63. The PLC dimensions most present in this study of schools with established teacher study groups were the dimensions of *Shared Values and Vision* and *Collective Learning as Application.* Hord (1997) defines *Shared Values and Vision* as the condition where school staff share visions for school improvement that have an undeviating focus on student learning, and are consistently

referenced in the staff's work. *Collective Learning and Application* is defined as a staff's

collective learning and application of the learning (taking action) to create high

intellectual learning tasks and solutions to address student needs (Hord, 1997). Teacher

survey responses indicated a strong presence of these PLC dimensions and can be

explained through adult learning theory. Many aspects and characteristics of professional

learning communities are associated with theories of adult learning, dating back to the

1920s. Lindeman (1926) believed that a learner's experience had the highest value in

adult learning. His writings about peoples' experiences relative to successful adult

learning align closely with some characteristics of modern day PLCs, as when he

describes ideal learning experiences as "small groups of aspiring adults who desire to

keep their minds fresh and vigorous, who begin to learn by confronting pertinent

situations...who dig down in the reservoirs of their experience...who are led in discussion

by teachers who are also searchers after wisdom...this constitutes the setting for adult

education" (p. 46). Knowles (1980) adds to this in his writings about andragogy, which

he defines as, "The art of and science of helping adults learn" (pg. 46). He discusses the

importance of a supportive and comfortable psychological climate as it relates to adult

learning. Specifically, he mentions that the psychological climate should be one "which

causes adults to feel accepted, respected, and supported...people tend to feel more 'adult'

in an atmosphere that is friendly and informal"(p. 47). His description of a healthy

psychological climate to support adult learning is similar to a healthy school climate that

is nurtured through transformative and supportive leadership.

The importance of a positive psychological climate and a supportive learning

environment is further reinforced through basic aspects of Social Cognitive Theory.

Social Cognitive Theory views the learner from three modes of agency: personal agency exercised individually, proxy agency in which people secure desired outcomes by influencing others to act on their behalf, and collective agency in which people act in concert to shape their future (Bandura, 2002). In personal agency exercised individually, people turn inward to manage their circumstances and to deal with the environment before them. However, individuals do not always have direct control over the social conditions and institutional practices that appear in their everyday lives. Therefore, learners seek proxy agency in a more socially mediated mode of agency practices, where comfort is sought in trying to get to those who have the power and the resources to secure the desired outcomes. As Bandura (2002) posits, "People don't live their lives autonomously. Many of the things they seek are achievable only through socially interdependent effort. Hence they have to pool their knowledge, skills, and resources, provide mutual support, form alliances, and work together to secure what they cannot accomplish on their own" (p. 270).

Essentially, social cognitive theory tells us that learning occurs when one is integrated into the social environment and observes environmental models that can be accomplished through the development of self-efficacy within the individual. This self-efficacy, or core belief that one has the power to accomplish the desired outcome through one's actions, plays prominently in the individuals motivation and decision making process. Once this occurs, the learner believes he or she can successfully accomplish the desired outcome. As in professional learning communities, the individual's ability to self-reflect and engage in inquiry is central to obtaining the desired outcomes.

The other two dimensions that showed a strong presence in the schools examined in this study included the PLC dimensions of *Supportive Conditions* and *Supportive and Shared Leadership*. These dimensions point to supportive school conditions in which the school administrator demonstrates a willingness to participate democratically with teachers, sharing power, authority, and decision making.

The strong presence of four of the five dimensions of effective professional learning communities is not surprising due to the fact the schools in this study also report that their principals engage in shared and distributed leadership practices that are consistent with transformative leadership. The one professional learning community dimension that was reported as having a weak presence was the *Shared Personal Practice* dimension. This dimension involves regular peer observations and peer feedback on teacher instruction. While much progress has been made in recent years to develop a more collaborative culture among teachers, it appears that elements of the "egg crate" culture coined by Lortie (1975) still exists, whereby teachers work in isolation in "individual cell" classrooms and have very little interaction with one another. While the presence of professional learning communities helps to extinguish the "egg crate" culture of schools, teacher responses in this study suggest that shared personal practice and peer review and feedback are still evolving within professional learning communities. This finding appears to be unique to this sample as a review of the extant literature failed to uncover similar results. Possible reasons for this outcome may be associated with a possible deficit in teachers' understanding of how to engage in peer observation and peer feedback, or the lack of school resources, personal finances, etc., to help facilitate a shared practice initiative. Other possibilities may include an underdeveloped school

culture in the area of trust and collaboration. While a small group of teachers may form a teacher study group within a school, there still may factions of staff within that school who haven't experienced the same level of trust as the participating members. Being aware of this, principals can take an active role in encouraging and supporting building-wide initiatives associated with peer observation and peer feedback. Involving teachers in the development of this initiative is critical to ensure a sustainable grassroots effort. Developing a peer observation program within a teacher-led and principal-supported PLC would be an excellent way to strengthen this PLC dimension as the culture within the school continues to develop. The continued growth and development of PLCs is one major effort to address this fundamental issue of teacher isolation (Louis, 2006).

Conclusions for Research Question 3

The third research question examined the extent to which gender, teaching experience, current level taught, and educational level influenced teacher perceptions of their principal engaging in specific leadership practices. Results from multiple regression analysis indicated that none of the demographic variables showed a statistically significant influence on teachers' perceptions of their principals' leadership behaviors as measured by the LPI. These results are contrary to a study conducted by Lee, Smith, and Cioci (1993) that sought to measure the effect of teachers' and principals' gender on teachers' assessments of the effectiveness of the leadership in their schools. In their study, male teachers assessed the leadership of the female principals they work for as relatively ineffective, while female teachers assess the leadership as above average. This supported the notion that not only the gender of the teachers influences their perceptions of their principals, but the gender of the principal also

influences those perceptions. Although the extant literature points to possible factors that influence teacher perceptions relative to student achievement, the results of my study are consistent with the lack of literature (with the exception of the study by Lee et al., (1993), specific to factors that influence how teachers perceive the leadership characteristics of their principals. The findings from my study did not add anything significant to the existing literature relative to demographic effects on teachers' perceptions of the principals' leadership practices. Therefore, the results of my study should alert school leaders to the possibility that the demographic characteristics mentioned above have no statistical influence on how teachers view their leadership practices. This is important because as teachers move into school administration positions, their concerns about how they are perceived due to the demographics of the staff are lessened and thus are free to engage in leadership practices with which they are comfortable and that best meet the needs of the teachers and students. If school leaders believe they are perceived a certain way by a certain demographic, then that perception may directly influence the leadership practices in which the principal engages to effectuate the desired instructional or cultural change within the school. Conversely, the results from this study indicate that the gender of the staff, educational level, grade level taught, staff experience level, should not cause the principal to rely too heavily on a specific leadership practice to obtain the desired organizational outcome, or change.

Conclusions for Research Questions 4

Research Question 4 examined the extent to which gender, teaching experience, current level taught, and educational level influenced teacher perceptions of their school staff as a professional learning community. The findings suggest that the grade level

taught by teachers has a statistically significant influence on their perception of their school as a learning community as measured by the SPSLC composite score. In this study, elementary (K-5) teachers' (n =76) perceptions of their school as a professional learning community differed from the perceptions of teachers at the secondary (9-12) grade levels (n = 41). Based on the findings of this study, elementary teachers in teacher study groups were predicted to report that their colleagues were more likely to show a presence of a professional learning community than their secondary level counterparts.

This influence of grade level taught on teacher perceptions might be explained through a review of the literature. Hart (1987) discovered that high school teachers were much more skeptical than their elementary school counterparts on whether or not all the effort exerted in improving schools made a difference. In addition, Hart's (1987) findings confirm the literature that describes secondary school teachers as entrepreneurial and isolated, and high schools as more intransigent workplaces than elementary schools (Cusik, 1983; Sizer, 1984, as cited in Hart, 1987). Hart (1987) found that high school teachers were much more set in their beliefs of schools and schooling.

To further examine the literature on the differences in perceptions between elementary level and secondary level teachers, I reviewed the work of Wei, Darling-Hammond, and Adamson (2010). They found that over the past decade, elementary teachers rated the value of their professional development experiences significantly higher than did secondary teachers; and elementary teachers had a significantly higher cumulative number of professional development hours than secondary teachers. A possible reason for the different perceptions of professional learning communities and

professional development may be due to the decentralized nature of many high schools, which may cause a natural division of content and grade levels. Elementary schools tend to be less decentralized and teachers are not typically divided by subject area departments as are secondary school teachers. This may account for a more common perception of a stronger presence of professional learning communities at the elementary school level. As a school leader at the secondary level, it is important to be cognizant of the challenges in developing the shared vision of a professional learning community. If a secondary administrator's prior experience was at the elementary level, it is important to realize that a different leadership approach might be advised when dealing with the dynamic decentralized structure of high schools and isolated department structure of secondary teachers. Initiating regular staff meetings and professional development activities that extend beyond content areas and grade levels might be a helpful first step in the development of a professional learning community.

In summary, this study concluded that all five leadership practices measured by the LPI showed a strong presence in the participating schools. The leadership practices most present were *Modeling the Way* and *Encouraging the Heart*. The strong presence of all five leadership practices suggests that participating schools are led by principals who demonstrate transformative and shared leadership practices. The results from the SPSLC Questionnaire revealed that participating schools also showed a strong presence of four out of the five professional learning community dimensions. The PLC dimensions most present were *Shared Values and Vision* and *Collective Learning and Application*. The presence of these dimensions indicates the existence of supportive school conditions where school administrators demonstrate a willingness to participate democratically with

teachers, sharing power, authority, and decision making. Multiple regression analysis revealed that gender, teaching experience, current level taught, and educational level had no statistical influence on teachers' perceptions of their principals' engaging in specific leadership practices. Conversely, grade level taught had a statistical influence on teachers' perceptions of their school staff as a professional learning community. Specifically, elementary teachers who participate in teacher study groups are predicted to report that their colleagues are more likely to show a presence of a professional learning community than their secondary level counterparts.

Conclusions and Discussion

The overall research question for this study examined the nature of the relationship between specific leadership behaviors of the school principal and the school's level of development as a professional learning community in schools with teacher study groups. The findings of this study suggest that overall there is a strong relationship between principals' leadership practices and the development of professional learning communities. Additionally, the results of a hierarchical multiple regression analysis conducted in this study suggests that the combination of all the leadership practices, measured by the LPI, can help predict the development and maturity of professional learning communities. In other words, as the presence of shared and distributed leadership practices by the school principal increases, the developmental level of professional learning communities also increases. This is consistent with the findings of studies conducted by Mulford and Silins (2003) and Louis and Kruse (1994). Mulford and Silins (2003) found that leadership is an important component resource for professional learning communities, both in terms of principal commitment and shared or

distributive leadership. Louis and Kruse (1994) supported these findings as they identified six issues that were critical for leaders to engage in to promote the development and maturity of professional learning communities. One of the six issues was the ability of the leader to "lead from the center," which essentially means giving up some of the typical behaviors expected of leaders such as being authoritative, and instead running meetings in favor of sharing such behaviors with others. Together, these studies revealed that principals who are supportive of teachers, promote school cultures of trust and collaboration, and promote intellectually challenging school environments focused on shared inquiry and shared leadership practices are best positioned to develop and sustain strong professional learning communities.

The findings in this study also ascertained that the PLC dimension *Supportive and Shared Leadership* showed the strongest relationship to each of the leadership practices measured in the study. This PLC dimension was influenced more by school leadership than any other PLC dimension as measured by the SPSLC. *Supportive and Shared Leadership* requires collegial and facilitative participation of the principal, one who shares leadership by inviting staff input and action. This requires a great deal of trust between the principal and the school staff. It is clear that strong leadership is related to the development of strong professional learning communities.

During the analysis of the correlation matrices for this study, it became clear that the leadership practices associated with the Leadership Practice Inventory were highly correlated and essentially worked together to influence the organization. There was a significant and strong relationship between the leadership practices on the LPI. Therefore, a more macro view of leadership was envisioned as leadership practices very

rarely operate independent of one another. While a leader needs to be cognizant of the independent nature of different leadership practices, a leader makes decisions by viewing issues through multiple lenses, or practices, as different situations requires the leader to often combine leadership practices (Bolman & Deal, 2009). This shift from viewing leadership as independent variables to a more macro view of leadership is supported in the literature in Chapter II of this study, and much of the literature concludes that a more systematic approach to school leadership is preferred, especially when related to the development of professional learning communities. While unintended, the results of simple regression analyses demonstrated that the independent leadership practices of the LPI did indeed work in concert as a predictor of the dimensions of the professional learning communities when using the composite score of the LPI.

The importance of school leadership practices and the successful development and growth of a professional learning community is supported in the literature about leadership and PLCs. Mulford & Silins (2003) found that leadership is an important resource for professional learning communities. Specifically, they found that the school leader who is transformational focuses on the following:

- Individual Support – providing moral support shows appreciation for the work of individual staff and takes their opinion into account when making decisions.

- Culture – promoting an atmosphere of caring and trust among staff, sets a respectful tone or interaction with students and demonstrates a willingness to change his or her practices in the light of new understandings.

- Structure – establishing a school structure that promotes participative decision making, supports delegation and distributive leadership and encouraging teacher autonomy for making decisions.

- Vision and Goals – working toward whole staff consensus in establishing school priorities and communicates these priorities and goals to students and staff giving a sense of overall purpose.

- Performance Expectation – having high expectations for teachers and for students and expect staff to be effective and innovative.

- Intellectual Stimulation – encouraging staff to reflect on what they are trying to achieve with students and how they are doing it; facilitates opportunities for staff to learn from each other, and models continual learning in his or her own practice" (p. 4).

Connections to the above transformational leadership characteristics can be linked to the underpinnings of the theoretical foundations of social capital theory. Trust and social relations are critical elements of successful learning communities (Tsia & Ghosha, 1998). A leader's role in developing and harnessing trust and a value system within a social organization, such as a school, is essential in growing "stocks" of social capital to benefit the organization and to move it forward towards reaching its potential. Bolman et al. (2005) surmised that leadership and professional learning communities include (a) creating a culture that is conducive to learning, (b) learning at all levels, (c) promoting modeling inquiry, and (d) paying attention to the human side of change throughout. McLaughlin and Talbert (2001) concluded, "For better or for worse, principals set the conditions for teacher community by ways in which they manage resources, relate to

teachers and students, support or inhibit social interaction and leadership in faculty, respond to broader policy context, and bring resources into the school" (p. 98).

In summary, irrespective of the fact that teachers and other school employees play a key role in the creation of a learning community, the leadership practices of the school principal are important. Without the active support and commitment of the principal, a learning community is unlikely to emerge in most schools (Mitchell & Sackney, 2000). Principals who successfully integrate transformational leadership characteristics in their schools should be aware that the job does not end there. To successfully sustain a culture of collaboration and PLCs, the literature identifies the importance of continual support and encouragement from the school principal. School leaders must continue to take an active role in continuing to work collaboratively with teachers on the development of the five dimensions of PLCs. As mentioned earlier in this chapter, the data suggests that even when many of the leadership behaviors represented on the LPI are present, the PLC dimension of shared personal practice surfaces as the weakest of the five PLC dimensions. This indicates that there is still work to be done in the development of PLCs. The principals' leadership and sustained involvement is essential to maintain and grow PLCs.

Recommendations for Policy and Practice

For school improvement to occur, the leadership of the school principal is crucial (Edmonds, 1979; Leithwood, 2005; Hord, 1997; DuFour & Eaker, 1998). With increased levels of accountability relative to student achievement and teacher quality, schools are continually searching for ways to meet these increased expectations and school reform initiatives. Regardless of whether there is an agreement about which

reform initiatives are most important, one thing is certain; school policy should be created using research-based strategies to enhance the effectiveness of teacher practices and to improve student learning. According to Edmonds (1979), one of the main commonalities among effective schools is strong leadership, especially the principal, who is instrumental in setting the tone for a positive school culture, in helping select appropriate instructional strategies, and in organizing and distributing school resources. This study demonstrated the importance of principals' leadership in the schools studied and its relationship to the development of professional learning communities, specifically teacher study groups. The development and nurturing of PLCs offers one solution to satisfy the high levels of accountability relative to teacher professional development and to the tremendous pressure school leaders face to take action under the auspices of school reform. The teacher study group model can serve as a core strategy for teacher development within the context of a professional learning community. Teacher study groups provide for a learner-driven approach to professional development. When structured appropriately, teacher study groups build community in which professionals continually strive to increase student learning. To appropriately support the structure of teacher study groups, it is suggested that the guidelines established by Murphy & Lick (2001) be followed as a guiding structure. When working in concert, these guidelines allow teacher study groups to operate effectively. These guidelines should not function independently, but rather should be interwoven to offer study groups a foundation to achieve the desired results. Schools that show evidence that teacher study groups have had a positive effect on student achievement and on the culture of the school have followed the following study group guidelines:

1. Keep the size of the study group between 3 and 6 members.

2. Determine study group membership by those who want to address identified student needs.

3. Establish and keep a regular schedule, meeting weekly or every 2 weeks.

4. Establish group norms and routinely revisit the norms.

5. Establish a pattern of study group leadership, rotating among members.

6. Develop a study group action plan (SGAP) by the end of the second study group meeting.

7. Complete a study group log after each study group meeting.

8. Have a curriculum and instructional focus that requires members to routinely examine student work and to observe students in classrooms engaged in instructional tasks.

9. Make a comprehensive list of learning resources, both material and human.

10. Use multiple professional development strategies, such as training, to accomplish the study group's intended results.

11. Practice reflection by agreeing that each member will keep a reflective journal.

12. Recognize all study group members as equals.

13. Expect and plan for transitions.

14. Assess the progress of the study group according to the evidence specified on the action plan.

15. Establish a variety of communication networks and strategies (Murphy & Lick, 2001 pp. 72-73).

If the above list of guidelines becomes established, then successful teacher study groups should follow. However, this list may be extended, as many study groups take on characteristics not listed above, such as journaling, portfolios, training, action research, etc.

In essence, a teacher study group is a small number of individuals uniting to increase their capacities to enable students to reach higher levels of performance (Murphy & Lick, 2001).

This study demonstrated that in schools where there are established and successful teacher study groups, the school principal exhibited moderate to high levels of transformational leadership practices. These characteristics involve leadership that is distributed, or shared. In fact, the findings of this study demonstrate that the PLC dimension most associated with principal leadership practices is the *Supportive and Shared Leadership* dimension. This dimension emphasizes the importance of the school principal's willingness to share in the leadership responsibilities of a school. This is supported through Sergiovanni's (1993) idea of school communities that are organized around relationships rather than organized around a leadership structure that is tied together through bartering arrangements and compliance. Transformational leadership is characterized by an approach defined in terms of the leaders' influence over their colleagues and the nature of leader-follower relations. Transformational leaders have power and facilitate a school development process that engages the human potential and commitment of teachers (Leithwood, 2005).

If there are certain leadership practices that exist within schools that have established teacher study groups, it is important to look beyond the school leader to

investigate the nature of the school climate/teaching culture in relationship to the school's leadership style. Rosenholtz (1986, 1989) maintained that teachers who felt supported in their own ongoing learning and classroom practice were more committed and effective than those who did not receive such confirmation. In addition, Rosenholz (1986) found that providing opportunities to establish new teaching strategies and skills through teachers' decision making, collaborative interaction, and instructional coordination are heavily implicated in teacher improvement. In essence, studies by Little (1990) and Rosenholz (1989) support the idea that teachers' collegiality, collaboration, and shared decision making promotes positive school improvement, which is consistent with the development and sustainability of professional learning communities. Therefore, institutions involved in the preparation of school leaders should develop professional development programs that emphasize the theory and strategies associated with a more transformational style of school leadership. In addition, if collaborative school environments are seen as breeding grounds for professional learning communities, school leadership programs at universities and state level organizations should include specific courses dedicated to developing a school leaders' capacity for creating schools where positive, collaborative school cultures exist. These courses should require students to closely examine and study schools that have been identified as having collaborative cultures where professional learning communities are established and flourishing. This would provide for a best-practices model, or roadmap, for future leaders to follow as they begin their careers as school leaders.

Based on the findings from this study, the one professional learning community dimension that was reported as having a weak presence was the *Shared Personal*

Practice dimension. This dimension involves regular peer observations and peer feedback on teacher instruction. This phenomenon may point to the fact that while the presence of professional learning communities have helped to make schools more collaborative among teachers and principals, the teacher responses in this study suggest that the behaviors of shared personal practice and peer review and feedback are still evolving within the concept of professional learning communities. Lortie (1975) and Rosenholtz (1986) posited that during the time of their studies, most schools were characterized by isolated working conditions, where teaching was seen as an individual enterprise. It is apparent, based on the results of this study, that some elements related to isolated working conditions of teachers are still present, even in schools with established teacher study groups. Therefore, school policies geared toward providing time for teachers to engage in regular peer observations that allow for opportunities for peer feedback should be considered. Specifically, peer observations should be considered a part of school districts' overall teacher professional development programs. Professional development should be provided to teachers specific to classroom observation techniques and strategies and on ways to provide constructive feedback following classroom observations. Federal, state, and local education agencies may consider offering incentive-based programs to school districts that engage in research based practices that foster the development of professional learning communities and peer feedback programs.

If professional learning communities are considered a possible solution to address many education reform initiatives such as student achievement and teacher quality, it is important to demonstrate that professional learning communities enhance student

learning. A number of studies found that participation in PLCs improved student learning (Berry et. al, 2005; Phillips, 2003; Strahan, 2003; Supovitz, 2002; Louis & Marks, 1998; Supovitz & Christman, 2003). The literature about the above mentioned studies indicates that increases in student performance are more likely to occur when well-implemented professional learning communities provide important and necessary conditions for teachers to engage in instructional practices that improve student learning. The results from this study show that the principals' willingness to share, or distribute the leadership responsibilities, is important for professional learning communities to develop and thrive. Leadership is not simply a function of the school principal; rather, it is about the activities engaged by leaders, in interaction with others, in particular contexts around specific tasks (Spillane et al. (1999). If one holds this statement to be true, then it is incumbent upon schools to develop the leadership capacity of the staff to help assist in the implementation of school improvement initiatives. Leithwood and Jantzi (1998) concluded that leadership distributed to teachers is perceived to have a greater direct effect on students than that of the principal; in large part due to the fact that the teachers are directly involved with the students. School district policies and practices should encourage the development of teacher leaders within the schools by providing financial and professional support to those teachers. More specifically, principals should develop a cadre of teachers to serve as PLC facilitators so that PLCs can be supported at the grassroots level and led and facilitated by teachers. This would reflect a shared leadership approach, whereby inquiry, learning together, and constructing knowledge together enables the distribution of leadership and the "glue that binds the school community together in common work (Copeland, 1993).

Recommendations for Future Research

The following recommendations for further research can be made based on the findings from this research study to further investigate the nature of the relationship between leadership practices and the development of professional learning communities:

1. This study was limited to schools that were members of the National Network of Educational Renewal and recipients of a Montclair State University Teacher Study Group Grant. Future research should examine schools outside of this sample in a different geographic region that are unaffiliated with a university.

2. This study surveyed teachers from elementary schools (K-5) and high schools (9-12). Future research could include teacher perceptions on leadership and professional learning communities from the middle grades (6-8).

3. This study was quantitative in nature. In an attempt to gain a deeper understanding of teachers' perceptions, qualitative research could be performed on the same schools surveyed in this study. This could involve interviews with teacher study group members, or focus groups from a couple of different schools that participated in this study.

4. A study that includes perceptions of the school principal in relation to the teachers' perceptions could be added to the current analysis on the relationship between leadership and professional learning communities.

5. A replication of this study using a different leadership survey and professional learning community survey should be conducted to add to the analysis of the relationship between the two.

6. This study used the teacher as the unit of analysis without identifying specific schools. A study that identifies the school as the unit of analysis should be conducted, which would allow for a different form of statistical analysis such as a categorical analysis.

7. A replication of this study taking into consideration the principals' years of experience as a controlling (predictor) variable in a regression analysis and the possibility of a factorial analysis of teacher survey responses related to both the Leadership Practices Inventory (LPI) and the School Professional Staff as Learning Community (SPSLC) based on principals' years of experience.

8. A replication of this study exploring the relationship between the leadership characteristics of the professional learning community teacher leaders and professional learning community maturation as measured by the School Professional Staff as Learning Community Questionnaire.

The leadership of the school principal is critical for school improvement to occur. Recent school reform initiatives have placed increased demands on school administrators to increase student achievement and to raise the level of teacher effectiveness. The principal cannot meet these increasing demands alone. The leadership practices exhibited by the principal can help foster a collaborative environment in which teachers work together in professional learning communities to improve school performance. The development and nurturing of teacher study groups can be one solution to satisfy the high levels of accountability and pressure principals face under the increasing demands of school reform. The results of this study suggest that overall there is a strong relationship between principals' leadership practices and the development of professional learning

communities. Specifically, as the presence of shared and distributed leadership practices increases, the developmental level of professional learning communities also increases. Therefore, it is incumbent upon the school principal to develop and foster a collaborative school culture that engages in shared leadership practices, and provides teachers with continual support and encouragement. A transformative and distributed leadership approach can help support school environments where professional learning communities flourish, enabling schools to reach higher levels of performance.

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Appendix A

Letters of Solicitation

Letter to Participating Teachers

Dear Teacher:

I am a doctoral student at Seton Hall University. Presently, I am the middle school principal at Grover Cleveland Middle School in Caldwell, NJ, and I am kindly requesting your voluntary participation in my research study.

The title of my dissertation is <u>An Examination of the Relationship Between School Principals' Leadership Behaviors and the Development of Professional Learning Communities in Schools with Established Teacher Study Groups.</u> It is my intention to analyze principals' leadership behaviors and the development of professional learning communities, specifically teacher study groups (TSG).

The study requires teacher participants to complete two surveys: a researcher developed demographic survey, the <u>Leadership Practices Inventory</u> (LPI), and the <u>School Professional Staff as Learning Community</u> (SPSLC) survey. The LPI will measure participants' perceptions of specific leadership practices exhibited by the school principal, and the SPSLC will measure participants' perceptions of the level of maturity of the school as a professional leaning community.

Completion of the survey instruments should take less than 15 minutes.

A demographic survey, the LPI, and the SPSLC are enclosed in this packet.

Data from the study will be used solely for academic research purposes only. No names or persons or school districts will be used.

All surveys are anonymous and will be numerically coded to provide anonymity.

All data collected and stored in a locked facility during and after the research, and data collected for the study will be destroyed thirty-six months after the study is concluded.

Please return the completed surveys to me in the included return self-addressed stamped envelope within two weeks time. Thank you in advance for your time and significant contributions to this study.

Sincerely,

Casey D. Shorter
Principal

Electronic Communication to Superintendent

Dear (Superintendent):

I am the middle school principal at Grover Cleveland Middle School in Caldwell, New Jersey, and a doctoral student in the Seton Hall University College of Education and Human Services. I write to ask your permission to contact one of your principals, (principal) whose teachers have been engaged in Montclair State University Teacher Study Group activities.

My doctoral dissertation relates to school leadership and the development of professional learning communities- specifically teacher study groups. My research will include the collection of data from two different surveys of district staff members who have participated in a Teacher Study Group. The data collected will be anonymous and no names, persons, schools, or school districts will be identified.

If you are willing to grant me permission to conduct the surveys in your school district, please respond positively to this email. I greatly appreciate your attention to this request, and I thank you in advance for your district's anonymous participation in my doctoral study.

Sincerely,

Casey D. Shorter
Principal

Electronic Communication to Principals

Dear (Principal),

I hope you are enjoying your summer. I am the middle school principal at Grover Cleveland Middle School in Caldwell, New Jersey, and a doctoral student in the Seton Hall University College of Education and Human Services. I write to ask your permission to contact one or more teachers in your school who have been engaged in Montclair State University Teacher Study Group activities. Your superintendent has already granted me permission to contact you about my study. I would like to reach out to (TSG Coordinator) at the beginning of the school year.

My doctoral dissertation relates to school leadership and the development of professional learning communities- specifically teacher study groups. My research will include the collection of data from two different surveys of district staff members who have participated in a Teacher Study Group. The data collected will be anonymous and no names, persons, schools, or school districts will be identified.

If you are willing to grant me permission to conduct the surveys in your school, please respond positively to this email. I greatly appreciate your attention to this request, and I thank you in advance for your school's anonymous participation in my doctoral study. I will contact you by phone upon receipt of your email to discuss the study with you in more detail.

Regards,

Casey D. Shorter
Principal

Electronic Communication to Teacher Study Group Coordinator

Dear (Teacher Study Group Coordinator),

I am the middle school principal at Grover Cleveland Middle School in Caldwell, New Jersey, and a doctoral student in the Seton Hall University College of Education and Human Services. I am conducting a study about school leadership and the development of professional learning communities – specifically Teacher Study Groups. I plan on visiting all of the schools that participated in MSU Teacher Study Groups 2010-2011.

I corresponded via email with (Principal) and she suggested that I reach out to you via email to possibly schedule a visit to your school. I would like to meet with last year's teacher study group for about 5 minutes to discuss my study and to distribute surveys that I will ask the group to voluntarily complete. The surveys are anonymous.

If you would kindly respond via email, or phone (973-***-9115 x2***), I would appreciate it.

Thank you for your attention to my request to speak to the study group, and I hope to speak with you soon to discuss the study in more detail.

Regards,

Casey D. Shorter
Principal

Appendix B

Survey Permissions

KOUZES POSNER INTERNATIONAL
1548 Camino Monde
San Jose, California 95125
FAX: (408) 554-4553

March 21, 2011

Casey Shorter
8 Bradr*********
West *****, NJ 07***
Email: csho****35@gmai

Dear Mr. Shorter:
Thank you for your request to use the Leadership Practices Inventory (LPI) in your dissertation. We are willing to allow you to *reproduce* the instrument in written form, as outlined in your request, at no charge. If you prefer to use our electronic distribution of the LPI (vs. making copies of the print materials) you will need to separately contact Lisa Shannon (lshannon@wiley.com) directly for instructions and payment. Permission to use either the written or electronic versions requires the following agreement:

(1) That the LPI is used only for research purposes and is not sold or used in conjunction with any compensated management development activities;
(2) That copyright of the LPI, or any derivation of the instrument, is retained by Kouzes Posner International, and that the following copyright statement is included on all copies of the instrument; "Copyright 8 2003 James M. Kouzes and Barry Z. Posner. All rights reserved. Used with permission",
(3) That one (1) **electronic** copy of your dissertation and one (1) copy of all papers, reports, articles, and the like which make use of the LPI data be sent **promptly** to our attention; and,
(4) That you agree to allow us to include an abstract of your study and any other published papers utilizing the LPI on our various websites.

If the terms outlined above are acceptable, would you indicate so by signing one (1) copy of this letter and returning it to us. Best wishes for every success with your research project.

Cordially,
Ellen Peterson
Permissions Editor
epeterson@scu.edu

I understand and agree to abide by these conditions:

(Signed)_____Date: _____

Expected Date of Completion is: _____

```
SEDL License Agreement
```

To: Casey Shorter (Licensee)
                  Principal
                  Grover Cleveland Middle School
                  36 A***********
                  C*******l, NJ 074***

From: Nancy Reynolds
                  Information Associate
                  SEDL
                  Information Resource Center
                  4700 Mueller Blvd.
                  Austin, TX 78723

Subject: License Agreement to reprint and distribute SEDL materials
Date: September 15, 2010

Thank you for your interest in using SEDL's **School Professional Staff as Learning Community Questionnaire** (SPSLCQ) developed by Shirley Hord in 1996. This questionnaire will be referred to as the "work" in this License Agreement.

SEDL is pleased to grant permission for use of the material cited above by the Licensee in his dissertation at Seton Hall University in South Orange, NJ. The following are the terms, conditions, and limitations governing this limited permission to reproduce the work:

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Thank you, again, for your interest in SEDL's *School Professional Staff as Learning Community Questionnaire*. If you have questions about SEDL's License Agreement, please contact me at 800-476-6861, ext. 6548 or 512-391-6548, or by e-mail at nancy.reynolds@sedl.org.

Sincerely,

_____   _____

Nancy Reynolds for SEDL   Date signed

Agreed and accepted:

Signature_____   _____

Date signed

Printed Name: _____

Appendix C

Surveys

LPi OBSERVER

by JAMES M. KOUZES
& BARRY Z. POSNER

INSTRUCTIONS

You are being asked by the person whose name appears at the top of the next page to assess his or her leadership behaviors. Below the person's name you will find thirty statements describing various leadership behaviors. Please read each statement carefully, and using the RATING SCALE on the right, ask yourself:

"How frequently does this person engage in the behavior described?"

When selecting your response to each statement:

* Be realistic about the extent to which this person *actually* engages in the behavior.

* Be as honest and accurate as you can be.

* Do NOT answer in terms of how you would like to see this person behave or in terms of how you think he or she should behave.

* DO answer in terms of how this person typically behaves on most days, on most projects, and with most people.

* Be thoughtful about your responses. For example, giving this person 10s on all items is most likely not an accurate description of his or her behavior. Similarly, giving someone all 1s or all 5s is most likely not an accurate description either. Most people will do some things more or less often than they do other things.

* If you feel that a statement does not apply, it's proba-

The RATING SCALE runs from 1 to 10. Choose the number that best applies to each statement.

1	=	Almost Never
2	=	Rarely
3	=	Seldom
4	=	Once in a While
5	=	Occasionally
6	=	Sometimes
7	=	Fairly Often
8	=	Usually
9	=	Very Frequently
10	=	Almost Always

When you have completed the LPI-Observer, please return it to:

_____

Name of Leader:_____

The Observer Is This Leader's (Check one): ☐ Manager   ☐ Direct Report   ☐ Coworker   ☐ Other

To what extent does this person typically engage in the following behaviors? Choose the response number that best applies to each statement and record it in the square to the right of that statement.

He or She:

1. Sets a personal example of what he/she expects of others. ☐

2. Talks about future trends that will influence how our work gets done. ☐

3. Seeks out challenging opportunities that test his/her own skills and abilities. ☐

4. Develops cooperative relationships among the people he/she works with. ☐

5. Praises people for a job well done. ☐

6. Spends time and energy making certain that the people he/she works with adhere to the principles and standards that we have agreed on. ☐

7. Describes a compelling image of what our future could be like. ☐

8. Challenges people to try out new and innovative ways to do their work. ☐

9. Actively listens to diverse points of view. ☐

10. Makes it a point to let people know about his/her confidence in their abilities. ☐

11. Follows through on promises and commitments he/she makes. ☐

12. Appeals to others to share an exciting dream of the future. ☐

13. Searches outside the formal boundaries of his/her organization for innovative ways to improve what we do. ☐

14. Treats others with dignity and respect. ☐

15. Makes sure that people are creatively rewarded for their contributions to the success of projects. ☐

16. Asks for feedback on how his/her actions affect other people's performance. ☐

17. Shows others how their long-term interests can be realized by enlisting in a common vision. ☐

18. Asks "What can we learn?" when things don't go as expected. ☐

19. Supports the decisions that people make on their own. ☐

20. Publicly recognizes people who exemplify commitment to shared values. ☐

21. Builds consensus around a common set of values for running our organization. ☐

22. Paints the "big picture" of what we aspire to accomplish. ☐

23. Makes certain that we set achievable goals, make concrete plans, and establish measurable milestones for the projects and programs that we work on. ☐

24. Gives people a great deal of freedom and choice in deciding how to do their work. ☐

25. Finds ways to celebrate accomplishments. ☐

26. Is clear about his/her philosophy of leadership. ☐

27. Speaks with genuine conviction about the higher meaning and purpose of our work. ☐

28. Experiments and take risks, even when there is a chance of failure. ☐

29. Ensures that people grow in their jobs by learning new skills and developing themselves. ☐

30. Gives the members of the team lots of appreciation and support for their contributions. ☐

School Professional Staff as Learning Community Questionnaire

> *Directions:* This questionnaire concerns your perceptions about your school staff as a learning organization. There are no right or wrong responses. Please consider where you believe your school is in its development of each of the five numbered descriptors shown in bold-faced type on the left. Each sub-item has a five-point scale. On each scale, circle the number that best represents the degree to which you feel your school has developed.

1. School administrators participate democratically with teachers sharing power, authority, and decision making.

1a.

5	4	3	2	1
Although there are some legal and fiscal decisions required of the principal, school administrators consistently involve the staff in discussing and making decisions about school issues.		Administrators invite advice and counsel from staff and then make decisions themselves.		Administrators never share information with the staff nor provide opportunities to be involved in decision making.

1b.

5	4	3	2	1
Administrators involve the entire staff		Administrators involve a small committee, council, or team of staff		Administrators do not involve any staff.

---

2. The staff shares visions for school improvement that have an undeviating focus on student learning, and these visions are consistently referenced in the staff's work.

2a.

5	4	3	2	1
Visions for improvement are discussed by the entire staff such that consensus and a shared vision result.		Visions for improvement are not thoroughly explored; some staff members agree and others do not.		Visions for improvement held by the staff members are widely divergent.

2b.

5	4	3	2	1
Visions for improvement are always focused on students, teaching, and learning.		Visions for improvement are sometimes focused on students, teaching, and learning.		Visions for improvement do not target students, teaching, and learning.

2c.

5	4	3	2	1
Visions for improvement target high-quality learning experiences for all students.		Visions for improvement address quality learning experiences in terms of students' abilities.		Visions for improvement do not include concerns about the quality of learning experiences.

3. The staff's collective learning and application of the learnings (taking action) create high intellectual learning tasks and solutions to address student needs.

3a.

5	4	3	2	1
The entire staff meet to discuss issues, share information, and learn with and from one another.		Subgroups of the staff meet to discuss issues, share information, and learn with and from one another.		Individuals randomly discuss issues, share information, and learn with and from one another.

3b.

5	4	3	2	1
The staff meet regularly and frequently on substantive student-centered educational issues.		The staff meet occasionally on substantive student-centered educational issues.		The staff never meet to consider substantive educational issues.

3c.

5	4	3	2	1
The staff discuss the quality of their teaching and students' learning.		The staff does not often discuss their instructional practices nor its influence on student learning.		The staff basically discuss non-teaching and non-learning issues.

3d.

5	4	3	2	1
The staff, based on their learnings, make and implement plans that address students' needs, more effective teaching, and more successful student learning.		The staff occasionally act on their learnings and make and implement plans to improve teaching and learning.		The staff do not act on their learnings.

3e.

5	4	3	2	1
The staff debrief and assess the impact of their actions and make revisions.		The staff infrequently assess their actions and seldom make revisions based on the results.		The staff do not assess their work.

----

4. Peers review and give feedback based on observing one another's classroom behaviors in order to increase individual and organizational capacity.

4a.

5	4	3	2	1
Staff members regularly and frequently visit and observe one another's classroom teaching.		Staff members occasionally visit and observe one another's teaching.		Staff members never visit their peers' classrooms.

4b.

5	4	3	2	1
Staff members provide feedback to one another about teaching and learning based on their classroom observations.		Staff members discuss non-teaching issues after classroom observations.		Staff members do not interact after classroom observations.

5. School conditions and capacities support the staff's arrangement as a professional learning organization.		5	4	3	2	1
	5a.	Time is arranged and committed for whole staff interactions.		Time is arranged but frequently the staff fail to meet.		Staff cannot arrange time for interacting.
	5b.	The size, structure, and arrangements of the school facilitate staff proximity and interaction.		Considering the size, structure, and arrangements of the school, the staff are working to maximize interaction.		The staff take no action to manage the facility and personnel for interaction.
	5c.	A variety of processes and procedures are used to encourage staff communication.		A single communication method exists and is sometimes used to share information.		Communication devices are not given attention.
	5d.	Trust and openness characterize all of the staff members.		Some of the staff members are trusting and open.		Trust and openness do not exist among the staff members.
	5e.	Caring, collaborative, and productive relationships exist among all staff members.		Caring and collaboration are inconsistently demonstrated among the staff members.		Staff members are isolated and work alone at their task.

Demographic Profile

Please check or fill in the appropriate responses.

What is your Gender?

_____ **Female**   _____ **Male**

What is your age? _____

What is the highest level of education you have completed?

_____ **Bachelor's degree**   _____ **Master's degree**   _____ **Doctoral Degree**

How many years have you been teaching? _____

What grade level are you currently teaching? _____

How long have you worked with your current principal? _____

Appendix D

Data Table

Table D1. Simple Regression of Teacher Perceptions of their Principals' Leadership Practices and their Perceptions of their School as a Professional Learning Community Dimensions using Subscale Mean Scored

	R Square	Percent of Variance	F Value	β	Beta	t	Sig	
LPI 1								
Challenging the Process	0.317	31.7	53.9	0.256	0.563	7.342	.000	Supportive and Shared Leadership
Challenging the Process	0.129	12.9	17.248	0.136	0.36	4.153	.000	Shared Values and Vision
Challenging the Process	0.051	5.1	6.243	0.083	0.226	2.499	0.014	Collective Learning and Application
Challenging the Process	0.057	5.7	6.957	0.117	0.238	2.638	0.009	Shared Personal Practice
Challenging the Process	0.057	5.7	7.013	0.096	0.239	2.648	0.009	Supportive Conditions
LPI 2								
Inspiring a Shared Vision	0.259	25.9	40.622	0.21	0.509	6.374	.000	Supportive and Shared Leadership
Inspiring a Shared Vision	0.116	11.6	15.23	0.117	0.341	3.903	.000	Shared Values and Vision
Inspiring a Shared Vision	0.034	3.4	4.021	0.061	0.183	2.005	0.047	Collective Learning and Application
Inspiring a Shared Vision	0.091	9.1	11.61	0.135	0.302	3.407	0.001	Shared Personal Practice
Inspiring a Shared Vision	0.017	1.7	2.016	0.048	0.131	1.42	0.158	Supportive Conditions
LPI 3								
Enabling Others to Act	0.354	35.4	63.471	0.235	0.595	7.967	.000	Supportive and Shared Leadership
Enabling Others to Act	0.172	17.2	4.099	0.136	0.415	4.909	.000	Shared Values and Vision
Enabling Others to Act	0.071	7.1	8.863	0.084	0.266	2.977	.004	Collective Learning and Application

Enabling Others to Act	0.082	8.2	10.405	0.122	0.287	3.226	0.002	Shared Personal Practice
Enabling Others to Act	0.057	5.7	7.017	0.083	0.239	2.649	0.009	Supportive Conditions

LPI 4

Modeling the Way	0.346	34.6	61.244	0.275	0.588	7.826	.000	Supportive and Shared Leadership
Modeling the Way	0.111	11.1	14.48	0.13	0.333	3.805	.000	Shared Values and Vision
Modeling the Way	0.055	5.5	6.745	0.088	0.234	2.597	0.011	Collective Learning and Application
Modeling the Way	0.057	5.7	7.007	0.121	0.239	2.647	0.009	Shared Personal Practice
Modeling the Way	0.083	8.3	10.566	0.119	0.289	3.251	0.002	Supportive Conditions

LPI 5

Encouraging the Heart	0.289	28.9	47.186	0.23	0.538	6.869	.000	Supportive and Shared Leadership
Encouraging the Heart	0.09	9	11.499	0.107	0.3	3.391	.001	Shared Values and Vision
Encouraging the Heart	0.029	2.9	3.412	0.058	0.169	1.847	0.067	Collective Learning and Application
Encouraging the Heart	0.076	7.6	9.56	0.128	0.276	3.092	0.002	Shared Personal Practice
Encouraging the Heart	0.062	6.2	7.571	0.094	0.249	2.77	0.007	Supportive Conditions

Appendix E

Approval Documentation

OFFICE OF INSTITUTIONAL REVIEW BOARD

SETON HALL UNIVERSITY

June 9, 2011

Casey D. Shorter
8 Bradrick Lane
West Milford, NJ 07480

Dear Mr. Shorter,

The Seton Hall University Institutional Review Board has reviewed your research proposal entitled "An Examination of the Relationship Between School Principals' Leadership Behaviors and the Development of Professional Learning Communities in Schools with Established Teacher Study Groups" and has approved it as submitted under exempt status.

Enclosed for your records are the signed Request for Approval form, the stamped Recruitment Flyer and Letter of Solicitation.

Please note that, <u>where applicable</u>, subjects must sign and must be given a copy of the Seton Hall University current stamped Letter of Solicitation or Consent Form before the subjects' participation. All data, as well as the investigator's copies of the signed Consent Forms, must be retained by the principal investigator for a period of at least three years following the termination of the project.

Should you wish to make changes to the IRB approved procedures, the following materials must be submitted for IRB review and be approved by the IRB prior to being instituted:

- Description of proposed revisions;
- *If applicable*, any new or revised materials, such as recruitment fliers, letters to subjects, or consent documents; and
- *If applicable*, updated letters of approval from cooperating institutions and IRBs.

At the present time, there is no need for further action on your part with the IRB.

In harmony with federal regulations, none of the investigators or research staff involved in the study took part in the final decision.

Sincerely,

Mary F. Ruzicka, Ph.D.
Professor
Director, Institutional Review Board

cc: Dr. Gerard Babo