The Social Capital in Teacher Leadership Activities

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THE SOCIAL CAPITAL IN TEACHER LEADERSHIP ACTIVITIES

A DISSERTATION

Submitted to the Faculty of
Montclair State University in partial fulfillment
of the requirements
for the degree of Doctor of Philosophy

by
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ABSTRACT

THE SOCIAL CAPITAL IN TEACHER LEADERSHIP ACTIVITIES

by Kristen Trabona

This dissertation presents findings from a qualitative case study of two K-12 science teacher leader fellows involved in a corporate grant funded professional development program. I specifically examined how teacher leaders used social capital as they facilitated professional development in their schools. I explored the following question: How do teacher leadership activities facilitated by novice teacher leaders who participate in a grant funded teacher leadership professional development program rely on social capital to enact change? The following main themes emerged in the data: (a) intentionality plays a critical role in teacher leadership; (b) teacher leadership activities require an introspective lens; and (c) teacher leaders need to navigate the activity pathway to enact change. The findings highlighted the fluidity and multiplicity of teacher leadership activities and drew on activity theory through a social capital perspective to examine and understand the interconnected nature of relationships among community members (teacher leaders, teachers, administrators, and university faculty) within a teacher leadership activity pathway.

Keywords: teacher leader, teacher leadership, social capital, activity theory
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DEDICATION

I dedicate this dissertation to my beautiful daughters, Riley and Reagan. Our family is a circle of strength and love. We have proven that nothing gets in our way and I want you both to know “Mommy is finally done with her paper!”
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CHAPTER ONE: INTRODUCTION

It feels like only yesterday that I left the classroom to begin my journey in administration. After more than ten years of being a ninth-grade biology teacher, my closest colleague and best friend said, “You know you are moving to the other side. You are now one of them. Are you sure you want this? You are so good at what you do.” At first, I did not know whether to take offense to her comment or just brush it off as humor, but the comment really struck me. I could not understand how educators saw administrators in their buildings as being members of the “other side.” That was not the last time I heard comments of this type. Within the first few months of my first position as science supervisor, colleagues walking down the hall would smile and say, “Are you happy? Did you do the right thing?” Others would drop into my office and say, “How is the new job?” Just smiling and nodding, I replied “So far so good.” The more I began thinking about the perceived barrier between teachers and administrators, the more I could not help but wonder about the lack of confidence that some teachers have in administration. This situation made it apparent that some educators in the field believe that only administrators execute leadership. A true leader is one in the classroom affecting students daily. These experiences inspired me to question how teacher leaders expand their impact beyond their classrooms. I have always considered myself a teacher leader, whether as a classroom teacher, my role as department supervisor or principal, and even now as Director of Education, because I understand teacher leadership to be teachers teaching teachers. A teacher leader influences teaching and learning beyond just the students she teaches. Nevertheless, do all teacher leaders view their role as instrumental?

Teacher leadership, in an informal sense, has existed as long as the teaching profession itself. Teachers going beyond to support their school community are inherently at the core of
many teacher practices. How does one formalize the concept of teacher leadership with the goals of recognizing, facilitating, and learning from the leadership many teachers already demonstrate in their schools?

**Statement of Problem**

In recent years, accountability policies have raised the stakes for school improvement, resulting in an almost continuous stream of reform efforts to increase student achievement (Coburn, 2003; Hatch et al., 2005; Henig & Stone, 2008). A range of formal structures or processes guide the implementation of these reforms with the direct intention of building the individual capacity of teachers in improving performance (Darling-Hammond, 2000; Datnow et al., 2002; Fishman et al., 2003; Spillane, 1999), thus, redefining the role of a teacher. Teacher leadership represents a major shift in a teacher’s role from a norm of concentrating solely on his or her students to collaborating with other professionals and influencing the success of all (students and teachers) within a school (Barth, 2001; Katzenmeyer & Moller, 2001; Robinson, 2008; Wenner & Campbell, 2017). Even with the recent emphasis on teacher leadership from a reform perspective, there is little empirical research on how emerging teacher leaders navigate the structure of schools and districts, build collegial relationships, encourage collaboration, and foster educational improvement at the classroom level.

Some studies have documented that teacher leaders have influenced implemented reforms that change instructional practices and these studies suggest teacher leadership provides opportunities for teacher learning (Coburn, 2003; Printy, 2008; Wenner & Campbell, 2017). However, the evidence on success and failures of such reform has driven research to focus on the quality of social interactions within teacher leadership aimed at school improvement (Bryk & Schneider, 2003; Coburn & Russell, 2008; Daly, 2010; Goddard et al., 2007; Peniel et al., 2009).
Teachers’ relationships are important sources of social capital. Literature on social capital has shown that it is a significant resource for positive changes in school reforms (Baker-Doyle & Yoon, 2011; Penuel et al., 2009; Uekawa et al., 2005). Although educational researchers have given attention to social capital, few studies have investigated how teacher leaders build social capital within their school community. Such research is important as school improvement depends on the work of teacher leaders working collaboratively with others to support improved instructional practice. Specifically, and of special interest to this study, is the lack of research examining the experiences teachers have as they develop into teacher leaders and build their social capital while still in the classroom.

The purpose of this dissertation was to identify how novice teacher leaders gain and use social capital in their leadership experiences. First, I present the research questions followed by relevant historical and background information on teacher leadership and social capital. Second, I provide a discussion of the activity theory as a theoretical framework. Within this discussion, I interweave characteristics of social capital as they pertain to an activity theory construct, and introduce an authentic model I call the Activity Theory/Social Capital Theory (AT/SCT) framework. Next, I present ideas from the teacher leadership and social capital literature to locate my question within the existing literature. Then I present a methodology section describing the purposeful selection of the research design chosen for this study and its alignment with the established research questions. I describe in depth participant selection, instrumentation, data collection, and data analysis.

**Research Questions**

To help fill current research gaps, I examine teacher leadership activities as a means of building teacher leaders’ social capital. The overarching research question for this study is: How
do teacher leadership activities facilitated by novice teacher leaders who participate in a grant funded teacher leadership professional development program rely on social capital to enact change? The specific sub questions are:

- What kind of social capital emerge from the fellows’ activities as teacher leaders?
- How are teacher leadership activities navigated or negotiated through the micro- and meso-levels of social capital?

**Background**

As the educational accountability demands of U.S. schools increase so does the focus on student achievement, and in turn school reform (Hatch, White, & Faigenbaum, 2005). The No Child Left Behind Act (NCLB) of 2002 brought with it challenges for K-12 public schools, a sense of urgency about preparing students for success in the 21st century, and intolerance for discrepant results in student performance (McLaughlin & Talbert, 2006). NCLB created an educational climate that required school districts, schools, administrators, and classroom teachers to reexamine their core beliefs or instructional practices (NCLB, 2002). Teacher leadership has been a topic of school reform research since the release of NCLB in 2002. The concept has been examined through a variety of lenses ranging from the wider view of "assuming greater leadership of the organizations in which they work" (Murphy, 2005, p.3) to a narrower focus of influencing and engaging colleagues toward improved practice (Robinson, 2008; Smylie, 2010) within a school. A report commissioned and published by the Wallace Foundation (Leithwood et al., 2004) found a direct relationship between strong teacher leadership and increased student achievement, supporting the idea that teacher leadership may be a promising way to cultivate teachers to become leaders aimed at improving teachers’ instructional practice in schools, with the potential to impact student learning (Crowther et al., 2002). The rationale for
teacher leadership stemmed in part from the extensive research highlighting the profound impact effective instruction has on student learning (Curtis, 2013; Wenner & Campbell, 2017). As Curtis (2013) argued, school systems must leverage this impact, putting the most effective teachers “in front of the greatest number of students” (p. 3). The Aspen Institute, in partnership with Leading Educators, joined forces to develop a roadmap to teacher leadership called, *Leading from the Front of the Classroom* (2014). A key step in developing teacher leadership is examining current school leadership structures. The authors argued for a shift in school culture, making a case for the redistribution of leadership tasks to teachers (Aspen Institute, 2014). This roadmap is a backward design process that enables systems to examine the challenge of identifying and cultivating the conditions under which teacher leadership can be most effective as a school reform mechanism (Aspen Institute, 2014).

Pivotal to this new notion of reform is the recognition of the rich resource of teacher leaders and their capacity to transform their professional roles by building social capital, a form of professional capital, through teacher leadership (Hargreaves & Fullan, 2012; Nolan & Molla, 2017). The notion of professional capital includes the “resources, investments, and assets that make up, define, and develop a profession and its practice” (Hargreaves & Fullan, 2012, p. 92). Furthermore, research has shown interconnectedness between professional learning and forms of professional capital (Mulford, 2007; Penuel et al. 2009; Svensson, 2006). Hargreaves and Fullan’s (2012) account of professional capital emphasized the importance of: (a) the knowledge base of teaching as a profession (i.e. human capital); (b) access to ongoing support, resources, and collaboration (i.e. social capital); and (c) professional agency of teachers (i.e. decisional capital). The critical types of capital that provide a basis for leadership are human capital and social capital (Nolan & Molla, 2017). Human capital refers to an individual’s cumulative
abilities, knowledge, and skills developed through formal and informal education and experience (Becker, 1964). In teaching, human capital encompasses the notion of knowing your subject, knowing the pedagogical skills to teach your subject, and knowing and understanding children and how they learn (Hargreaves & Fullan, 2012). Social capital focuses on the structural relations among individuals and mobilizing resources through those relationships (Adler & Kwon, 2002; Bourdieu, 1986; Coleman, 1988). A teacher’s social capital is a form of collective capacity and the social capital of teachers refers to “how the quantity and quality of interactions and social relationships among themselves and with others affects their access to knowledge and information; their sense of trust; and how likely they are to adhere to norms and codes of behavior” (Hargreaves & Fullan, 2012, p. 90). The larger approach to improving public schools aims at enhancing human capital of teachers in such areas as teacher experience, subject skills, and pedagogical skills. Research by Leana (2006; 2009) suggested that school reform should not solely rely on human capital. Instead, to address reform, schools should foster the enhancement of social capital—a perspective that focuses on how trust, social relationships, roles, procedures and professional norms develop in school organizations (Leana & Pil, 2006; Pil & Leana, 2009; Smylie & Hart, 1999). The research has also shown that teacher leaders, teachers, and administrators working together to improve student learning in a school organization are building social capital (Coburn & Russell, 2008; Penuel et al., 2009). That is, they are learning from one another and focusing their efforts in the same direction toward common goals. Researchers acknowledge the significance of teacher social capital for reform (Carmichael et al., 2006; Hopkins & Reynolds, 2001) and more recently, but still understudied, the association of that capital to student achievement (Andrews, 2007; Pil & Leana, 2009; Shriner et al., 2010),
therefore, recognizing how teacher leaders interact with others in the school community as they share and access knowledge in support of student learning (Pil & Leana, 2009).

Teacher leadership is not a new concept, yet the definition is an emerging but still elusive term. According to Frost and Durant (2003), “One obstacle to researching teacher leadership is the concept itself often remains ill-defined” (p. 78). The definition of teacher leadership may include some basic similarities but descriptions will be in slightly different terms with the emphasis placed on the needs or experiences of those defining this term; the classroom teacher, the team leader, the principal, the superintendent, or the professor.

Silva et al. (2000) have described the history of teacher leadership as a three-phase process, representing an ongoing transformation of teacher leaders’ roles in the educational system. The phases reflect fluid entities that exist in different phases depending upon the state, district, school, teacher and hierarchical leadership structures. The first phase involves formal teacher leadership roles. These managerial roles place the teacher leader as a liaison between teachers and administrators, with responsibilities that include instructional support and administrative duties (Little, 2003). The second phase of teacher leadership acknowledges the role of instructional leaders. Administrators recognize these entrusted teacher leaders for their specific professional knowledge (Hatch et al., 2005). Through an extensive literature review, Spillane et al.(2004) identify tasks of instructional leadership to include: (a) constructing and selling an instructional vision, (b) developing and managing a school culture conducive to conversations about instruction by building norms of trust and collaboration among staff, (c) supporting teacher growth and development, both individually and collectively, and (d) establishing a school climate in which disciplinary issues do not dominate instructional issues. These characteristics speak to the second wave teacher leader, yet hierarchical positioning of
teachers still exist (Silva et al., 2000) because of formalized positions. Teacher leaders are “experts” in an instructional area (Little, 2003) and are “controlled” by the principal’s decisions about the work in implementing curricular reform. This form of leadership occurs in many schools today. The third phase of teacher leadership fosters collaboration and exists informally; it is teachers helping other teachers. This shift in practice introduces the idea that teacher leadership is a process within the transformational realm of leadership. Teachers help other teachers improve their professional practice by engaging and supporting colleagues in professional growth activities (Pounder, 2006).

More recently, Katzenmeyer and Moller (2009) defined teacher leaders as those who “lead within and beyond the classroom; identify with and contribute to a community of teacher learners and leaders; influence others toward improved educational practice; and accept responsibility for achieving the outcomes of their leadership” (p. 6). Henderson and Barron (2001) describe the six most common roles of teacher leaders: master teacher, curriculum specialist, mentor, teacher educator, student advocate and researcher. These definitions encapsulate most educational researchers’ operational definitions of teacher leadership.

The literature collectively has described teacher leaders as educators who positively influence their peers by establishing and sustaining collegial relationships for affecting change (Lieberman & Miller, 2005; York-Barr & Duke, 2004; Wenner & Campbell, 2017). Teacher leaders also possess a keen sense of purpose (Donaldson, 2007; Lambert, 2003), but they do not force colleagues to uphold the same values as they do (Frost & Durrant, 2003). Teacher leaders are willing to extend their work beyond their respective classrooms (Fullan & Hargreaves, 1996), and foster collegial interactions that focus on instructional strategies. They shine as risk takers and role models (The Center for Comprehensive School Reform and Improvement, 2005). As
lifelong learners, teacher leaders continually reflect and refine their practice (Day & Harris, 2002). Finally, teacher leaders cultivate a positive school environment because they understand how political factors of the school affect their peers’ needs (Donaldson, 2007; Frost & Durrant, 2003; Gronn, 2000; Harris, 2010; Muijs & Harris, 2006; Spillane, 2006).

In a recent paper from the Aspen Institute, Curtis (2013) defined teacher leadership as “specific roles and responsibilities that recognize the talents of the most effective teachers and deploy them in the service of student learning, adult learning and collaboration, and school and system improvement” (p. 4). Additionally, Curtis (2013) called teacher leaders, “innovators, researchers, champions of student learning, leaders of colleagues, and policy advocates” (p. 4). This broad definition accurately reflects the varied concepts of teacher leadership. The function or goal of the activity or initiative surrounding teacher leadership determines the precise definition.

The emphasis on teacher leadership reemerged with the announcement of the Teach-to-Lead Initiative (2014), a partnership between the U.S. Department of Education and the National Board for Professional Teaching Standards. The nation’s two largest teachers unions and the associations representing principals and administrators also support the program, which is aimed at training and guiding teachers to take on teacher leadership roles in both policy and practice (New Leaders, 2015). Additionally, the 2016 National Summit on Teacher Leadership in Washington D.C. brought together four leading educational groups: The National Education Association (NEA), the American Federation of Teachers (AFT), the Council of Chief State School Officers (CCSSO), and the U.S. Department of Education, to address teacher leadership reform efforts with teachers, state superintendents, and union representatives (Alvarez, 2016).
Despite the recognized importance of teacher leadership, little is known about how teachers learn in practice to become teacher leaders (Lieberman & Miller, 2005). The existing school structure, established authority patterns, professional norms, and hierarchical relationships with administrators all present potential challenges for teacher leaders to enact their leadership (Donaldson 2007; Murphy 2005). These challenges force teacher leaders to establish new relationships with colleagues and administrators. Teacher leaders walk a fine line between the role of teacher and the role of administrator.

Research also suggests that for teacher leaders to influence others’ instructional practice, there must be collaboration of teacher leaders with teachers and administrators (Ackerman & Mackenzie, 2006; Martin, 2002; Rogers, 2006). By the very nature of their work, teacher leaders are influential beyond the scope of their own classroom. This involves collaborating with colleagues and administrators to shape their pedagogy, while simultaneously changing and refining their own teaching practice. Thus, to support teacher leaders’ work toward improved instructional practice, understanding teacher leaders’ experiences of enacting and supporting leadership is essential.

Ideally these relationships are dynamic and continually evolve in response to current needs. The principal's role as single leader at the top of the educational hierarchy must shift to a more collective or shared model of leadership, where teachers and leaders are jointly involved in organizational decisions (Kafka, 2009; Lieberman & Miller, 2005; Marzano et al., 2005).

The concept of social capital intersects sociology and educational studies providing a useful framework for understanding the potential for teacher leader relationships with their peers to influence their instructional expertise and classroom practice. Most notably articulated by Bourdieu (1986), Coleman (1988), Putnum (2000), and Lin (2001), social capital describes the
access to potential resources that individuals gain by their relationships with others (Adler & Kwon, 2002). Resources may include information, material goods or services, and social support. Social capital in organizations benefits both the individual and the organization, and facilitates trust (Coleman, 1988), knowledge transfer (Inkpen & Tsang, 2005), and the development of intellectual capital (Nahapiet & Ghoshal, 1998) among the organization’s members. Specifically, in schools, social capital among teachers promotes instructional innovation, the spreading of successful teaching practices, and facilitates school reform efforts (Bryk & Schneider, 2003; Frank et al., 2004).

**Conceptual Framework**

This research study focuses on how teacher leaders gain social capital as they engage in teacher leadership activities. To understand the complexities of engaging in teacher leadership, and specifically how teacher leadership involves a variety of stakeholders with differing respective tasks, calls for a lens that accounts for such fluidity and multiplicity. Therefore, I will draw on activity theory (Engeström, 1999; Engeström et al., 1999, Kaptelinin & Nardi, 2006; Jonassen, 2002; Scanlon & Issroff, 2005) through a social capital perspective to examine the interconnected nature of relationships among community members (teacher leaders, teachers, administrators, and university faculty) (Engeström, 2001; Jonassen, 2002; Scanlon & Issroff, 2005). Activity theory is a dynamic way of conceptualizing and analyzing human action through a sociocultural lens, provides a useful interpretative framework that provides a means for observing the emergence of patterns in human activity, such as teacher leadership. Furthermore, through a social capital lens of activity theory one can analyze most forms of human activity; this is particularly true for those activities, which help build teacher leader social capital (Jonassen & Ronrer-Murphy, 1999).
In this section, I describe activity theory (Engeström, 1999; Engeström et. al. 1999, Kaptelinin & Nardi, 2006; Jonassen, 2002; Scanlon & Issroff, 2005) as a conceptual framework specifically highlighting the socio-cultural concept that “defines human learning as a dynamic social activity that is situated in physical and social contexts, and distributed across persons, tools, and activities” (Johnson, 2006, p. 237). I then provide an example of the use of activity systems as an analytical lens for understanding teacher leaders’ experiences that build their social capital.

Activity theory (Engeström, 1999; Engeström, et al, 1999, Kaptelinin & Nardi, 2006; Jonassen, 2002; Scanlon & Issroff, 2005) is an appropriate theoretical lens to analyze the guiding question for this study because it enables the analysis of myriad actions performed by teacher leaders during their leadership activities. In a general sense, this framework helps me understand how actions and interactions of teacher leaders in a collaborative setting help build and sustain their social capital. Specifically, activity theory allows me to focus on an array of factors influencing individual behaviors and how these factors appear and change in group settings. Importantly, according to activity theory (Engeström, 1999; Engeström, et al, 1999, Kaptelinin & Nardi, 2006; Jonassen, 2002; Scanlon & Issroff, 2005), interactions with various groups can change or alter the social capital of individuals to varying degrees. Applying this theory to this study allows me to understand how the mediating factors (teacher leaders’ experiences) in a teacher leadership activity system, can build structural social capital.

Many scholars argue that activity theory is not a “theory” in strict interpretation of the term, but a conceptual framework offering a set of principles for generating more specific theories (Kapetlinin & Nardi, 1997; Kuuti, 1996). There are two fundamental concepts that underpin activity theory: knowledge mediated through tools and artifacts, and human activity as
the fundamental unit of analysis (Engeström, 2001; Engeström et al. 1999; Yamagata-Lynch, 2010). Activity theory is concerned with understanding experiences as they emerge within activity. This perspective centers on how people engage in contexts, or settings, and how factors such as tools or structures mediate human actions.

In recent years, Engeström (1999) has created a complex model of an activity system, yet this theory has its primary roots in Marxism and aims at describing actions and interactions in social settings. Aligned with Marxist beliefs, activity theory first shows a link between the individual subject and objective societal structures, as a way for understanding and interpreting change. Building upon this, activity theory has its historical foundations in the sociocultural and social cognition work of Russian psychologists Vygotsky, Leont’ev, and Luria (Engeström, et al., 1999). Engeström (1999) describes the evolution of activity theory through several generations. The version drawn upon in this analytical review, referred to as the second generation, describes the social influences and interdependencies in a complex web of human activity. Activity theory includes recognition and understanding of the activity system as the unit of analysis, to understand complex interactions and relationships that evolve over time and produce goal-oriented actions. As depicted in the triangular model in Figure 1, an activity system is comprised of seven interacting elements, which include object, outcome, subject, tools, rules, community, and division of labor. The activity triangle signifies the collective activity system. This model depicts the many factors affecting an activity system. The outcomes of the activity cannot be analyzed separately from its mediating elements. To understand any one part of the activity system you must analyze all parts. Thus, the activity triangle provides structure for exposing the social and material resources that are available in activity (Engeström, 1999; Engeström, et al, 1999; Kaptelinin & Nardi, 2006; Jonassen, 2002; Scanlon & Issroff, 2005).
In an activity system, the aim is to reach an outcome, achieved only by co-constructing certain objects shaped by many tools. The subject is the individual or group aiming to achieve the object. Considering the object as the objective—that is, what is the subject trying to achieve? For example, if we consider a math teacher (subject) in a school setting, the tools would be the teacher’s instructional resources and the teacher’s objective focused on developing an innovative constructivist-based unit on fractions. When the subject engages in an activity, there exists a set of rules (implicit or explicit) that influence how the activity occurs. The activity is also influenced by the community influences which interacts with the subject. The community refers to a group of individuals or organization mediated by a general shared object. The division of labor, which determines how the workload is handled, also influences the subject and the activity. This division of labor refers to both the horizontal division of tasks among members of the community and to the vertical division of power and status. Continuing with the earlier example, the math teacher must mediate between resources available to her, be mindful of the district curriculum (rules), recognize the influence and demands of the school community regarding the appropriateness and support of developing the unit, and finally, decide the unit of
study being developed with grade or department level colleagues (division of labor). Rules, community, and division of labor are the social basis of the activity, which provide the context, influence the subject, and shape the activity (Engeström, 1999; Yamagata-Lynch, 2010). In the proposed study, this representation allowed a clear link between the subject (who is the teacher leader), the object, which is to build social capital, and the outcome, to enact leadership. Additionally, it is useful to analyze how the different components of the activity system (e.g. rules, community, division of labor, and tools) influence the teacher leaders’ understanding within educational settings (Israel & Duffy, 2009). For the purposes of this study, the definition of social context is the environment that enables a teacher leader to perform a task based on their specific situation and people available to them.

The arrows in activity theory model presented in Figure 1 capture the reciprocal relationships between these different concepts. These breakdowns known as “contradictions” are learning opportunities for the researcher to identify changes or shifts that are occurring in the activity system as mediated by the subject, object, and/or tools (Russell & Schneiderheinze, 2005). Engeström (1999) used the term “expansive learning” in relation to these contradictions to describe the connection between individual(s) learning processes and external development as a route towards extending (new) possibilities. Therefore, an examination of any phenomenon using activity theory as an analytical lens necessitates a diligent examination of the dynamic nature of and interrelations among these components.

I chose to use activity theory as an analytical frame because it allows me to examine the processes by which activities shape and are reshaped by their context. The primary focus of this conceptual framework is to analyze and interpret teacher leaders’ experiences with gaining and using social capital while engaged in leadership activities. Specifically, I seek to understand the
specific ways activity components: tools, rules, community, and division of labor, seem to influence the experiences and shape of how teacher leaders gain and use social capital. This analysis of interactions allows me to determine the mediating factors that contribute to a teacher leader's ability to influence instructional practice, the ultimate outcome. By identifying an activity context, the research can expand on the way infrastructure (rules, community, and division of labor) interacts with resources (tools).

Activity theory does not presuppose any teacher to be a teacher leader, but provides a way of analyzing activity from the perspective of a teacher designated as leader. When studying an activity at any point within the activity system, it is important to understand that analysis relies on the construction of the activity.

Activity theory is useful to understand and explain cooperative settings, such as those found within educational learning communities, where teacher leaders operate. This theory continues to emerge to analyze teacher learning and professional growth. The second-generation model is a useful method for exploring the role of teacher leaders through close examination of their beliefs regarding their work. Since the focus of activity theory is the social and historical elements in activity, as well as the emphasis on community, rules, and tools, I find activity theory to be particularly helpful in revealing the underlying factors that may affect the understanding of teacher leaders’ collaboration as they enact their role in influencing instructional practices.

Social capital directly relates to the concept of activity, since it is in the activities of individuals. In other words, the relationships and the activities performed within an activity triangle are more relevant than the process itself (Damasio et al., 2012). Aligning with Coleman’s conceptualization, Fukuyama (2001) added that social capital consists of instantiated
norms that promote activity between subjects and object. Social capital is instantiated in actual relationships - the trust, networks, rules and procedures (seen within the activity triangle) do not comprise the social capital but arise from it (Fukuyama, 2001). Social capital situates within the hierarchal social structure by embedding within relationships. As with the concepts of activity theory, the categories and classifications of social capital logically organize into concepts with spatial interpretation within different hierarchal structures (Bowen, 2009).

Both social capital theory and activity theory perceive the individual as the subject that with others, is acting in a context. Both theories address the mental, cognitive, structural and relational processes existing between organization members who are acting to achieve goals. Activity theory describes very specific components of this dynamic creation process from a goal-oriented perspective, while social capital theory describes similar components from a process perspective.

As seen in Figure 2, the focus of the activity triangle is the activity pathway. For this proposed study, the activity pathway will align with the novice teacher leader in the subject position, social capital as the object, with the intended outcome of enacting change. The activity pathway aligns directly to the teacher leadership activities identified in the overarching research question.
The key to understanding social capital theory as a framework embedded within activity theory is in recognizing that relationships have value; this value is capital. Through relationships, an individual, in this case the teacher leader, has the potential to gain access to the collective pool of wealth. By understanding the three dimensions of social capital; structural, relational, and cognitive, this study will provide context to the types of social capital that emerge as teacher leadership activity is negotiated through the activity triangle. Relational social capital, which encompasses trust, trustworthiness, norms and sanctions is influenced by interactions between the subject, rules and community of the activity system. Cognitive social capital which is measured by community cohesiveness and civic situations, where the community and the rules directly determine the social capital in the outcome by the rules and community. Structural social capital, encompasses most of the activity system, emerges from three situations: access to resources, place in network (where you occupy), and social interaction. Therefore, structural social capital relies on who you are and what you have access to. Figure 3 is a visual
representation of this combined conceptual model. Additionally, it is important to note whether social capital is being obtained on the micro-individual level or meso-community level.

**Figure 3**

*AT/SCT Conceptual Framework*

Furthermore, using a combined social capital and activity theory lens to guide this study will enable a detailed investigation of teacher leadership, viewing the activity from varied perspectives at different vantage points. By focusing on the emerging social capital present in the activity pathway, and by locating that activity within a social structure, in which the participants are working toward specific goals using tools specific to that community, I can study the relationship between teacher leadership activities and social capital.
CHAPTER TWO: LITERATURE REVIEW

This literature review section has three parts. The first part focuses on the conceptualization of teacher leadership since the turn of the 21st century. The second part focuses on the empirical research regarding collaborative relationships in teacher leadership. Finally, the third part presents the conceptual foundation for this study based on the conceptualization of social capital, a growing body of research on social capital, and an overview of social capital as it pertains to the field of education followed by the evolution to the development of teacher social capital within the classroom.

Conceptualizing Teacher Leadership

The notion of teacher leadership is difficult to articulate. Although many definitions have surfaced, the definition continues to evolve. The vague nature of the definition reflects the ways in which teacher leaders construct their role in response to their context. The existing literature characterizes teacher leadership in terms of the behaviors and personal qualities demonstrated by teacher leaders. These qualities vary among contexts and environments; therefore, many competing definitions of teacher leadership exist.

Formal and informal teacher leader roles

In schools, teacher leadership takes on many forms. This leadership involves teachers engaging in collaboration and school decision making processes, as well as demonstrating and sharing instructional expertise. For example, a teacher leader can be a formally recognized role or position at any level of the school structure (York-Barr & Duke, 2004), or an informal role where teachers are motivating and working with colleagues to improve classroom practice (Danielson, 2006).
Formal teacher leader positions choose teachers through a selection process, then train them for their responsibilities, and provide them with compensation (Danielson, 2006; Silva et al., 2000). The formal roles create positional relationships with principals and other administrators. The leadership hierarchy situates formal teacher leaders in a traditional top-down model, to relay initiatives and information to others (Danielson, 2006, Leithwood & Jantzi, 1997; Little, 1995; Poultney, 2007; The Center for Comprehensive School Reform, 2005). The intermediary nature of the formal teacher leader role causes an imbalance between management and leadership (Poultney, 2007). No matter their specific titles, formal teacher leaders perform a wide range of critical tasks.

Informal teacher leaders emerge spontaneously and organically from the teacher ranks. With no selection process, these teacher leaders take the initiative to address problems or institute new programs within the schools collaboratively with peers. They have no positional authority; their influence stems from the respect they elicit from their colleagues by means of their expertise and practice (Danielson, 2006; Katzenmeyer & Moller, 2001; Taylor et al., 2011). Informal teacher leaders focus on influencing instructional practice and demonstrating elevated levels of self-motivation, to initiate reform without formal recognition (Katzenmeyer & Moller, 2001). Additionally, they do not assume authorized or official roles, yet they embrace opportunities to influence change by accepting responsibility for future work. Ackerman and Mackenzie (2006) believed that more teachers lead informally than formally. They claim that formal roles still exist, but more teachers share their expertise and classroom practice, ask questions of colleagues, mentor new teachers, and know how to participate in a community of practice. Similarly, Patterson and Patterson (2004) described informal teacher leaders as those recognized by their colleagues for their credibility, expertise, or relationship-building skills.
Recently, the concept of hybrid teacher leader has emerged from the literature identifying those teachers whose responsibilities are two-fold; teaching in the classroom and leading other teachers in some capacity. Studies around this concept indicated that there are benefits to such a model, including the direct impact on leaders and increased understanding of reforms being implemented (Margolis, 2012; Margolis & Doring, 2012; Margolis & Huggins, 2012). There are also concerns with developing the leaders serving in the hybrid role described by Margolis and Huggins (2012), such as leaders focusing on one aspect of the role more than another, having the time to dedicate to both roles, and others within the organization being accepting of the hybrid role of a teacher leader.

In summary, the literature suggests the roles of teacher leadership are both formal and informal. The formal role is positional and recognized by the administration, while an informal role is organic in nature. Both roles aim to influence instructional practice, yet the formal role does so with greater organizational management responsibilities and assigned authority.

Leadership Structure

A prominent theme throughout the literature on teacher leadership is that current school reform initiatives have increased teacher leadership positions to sustain improvement within schools (Danielson, 2006; Mayo, 2002). These reforms have shifted leadership structures to one where teachers are part of a collective team. The norm no longer places the principal as lone instructional leader of the school (Danielson, 2006). Fullan (2005) supported a shift in leadership structure of schools as a means for school improvement and Lambert (2003) perceived teacher leaders as part of the organizational leadership structure.

In the past, teachers have served in appointed leadership roles, viewed as "representatives" rather than "leaders" who enact change (Copland, 2003; Livingston, 1992;
Building strong teacher leadership is not possible if decision-making is limited to a few individuals because of hierarchical issues (e.g., the principal and other administrators “telling” teacher leaders what their roles are and expectations within this role). This scenario often results in a top-down, directed approach where action is just doing what looks correct. In contrast, numerous benefits are associated with teacher leadership, including greater inclusivity in decision-making (Muijs & Harris, 2007), teachers feeling supported, effectiveness in achieving systemic reform, connecting teachers to networking opportunities (Taylor et al., 2011), and teacher empowerment that lead to greater motivation and retention (Muijs & Harris, 2006; Taylor et al., 2011). These benefits result in greater school effectiveness, yet successful teacher leadership depends on several preconditions, which paradoxically generates challenges for individual teachers and their institutions. Therefore, it is not yet widely established in schools (Anderson, 2008; Muijs & Harris, 2003; Poekert, 2012; Taylor et al., 2011).

The literature reveals how important it is for the principal to provide support and direction for teacher leadership in a school (Muijs & Harris, 2006). Teacher leadership has a greater chance of success when the principal integrates it into a larger vision of reform for the school, which may require them to “actively scaffold,” the teacher leader’s transition into his or her role, and “provide an overarching goal for their work” (Weiner, 2011, p. 28). Thus, for a shift in leadership structure to occur, it is essential to focus upon the interactions, rather than the actions, of those in leadership roles. It is primarily concerned with leadership practices of all
stakeholders and how leadership influences organizational and instructional improvement (Spillane, 2006). Leadership can no longer be viewed as a role or a set of actions directed by a single individual and carried out by others answerable to this leader. This in turn emphasizes the need to begin to look for a model of distributed leadership in an educational context, which focuses on the work of teachers, teacher leaders, administrators and others, to support a range of educational leadership types and school reform (Gronn, 2000; Harris, 2008; Harris, 2010, Harris et al. 2007; Mayrowetz, 2008; Spillane, 2005; Spillane et al., 2004).

**Distributed Leadership**

Leadership in schools is relational, fluid, and multidirectional action that empowers others. Distributed leadership addresses how multiple stakeholders in schools enact leadership practice. Gronn (2000) contended that “leadership needs to be distributed throughout the organization and not just assigned to fixed positions” (p. 333) like administrators. Spillane et al. (2001) argued that leadership happens in a variety of ways throughout a school and is centered on interactions between people “depending on the particular leadership task, school leaders’ knowledge and expertise may be best explored at the group or collective level rather than at the individual leader’s level” (p. 25). This involves recognizing how others, like teachers, contribute to leadership in addition to administrators (Spillane, 2006). However, the concept of distributed leadership shifts the focus from the individuals involved in leadership practice to the interactions between these individuals, to investigate the situation in which leadership is enacted (Gronn, 2000; Harris, 2010; Muijs & Harris, 2007; Spillane, 2006).

Scholars have established a relationship between teacher leadership and distributed leadership (Harris, 2003; Smylie et al., 2002; York-Barr & Duke, 2004). Teacher leadership is chiefly concerned with forms of empowerment and agency that are also at the core of distributed
leadership (Harris, 2003). The teacher leaders’ role often falls somewhere within the traditional leadership hierarchy, that is, the principal and other administrators “telling” teacher leaders their roles and expectations. In addition, leadership roles for teachers have traditionally lacked flexibility and required a lengthy, ongoing commitment of time and energy (Rutherford, 2006).

When viewing leadership from a distributed perspective, it is essential to acknowledge power, authority, and influence. The definition of leadership from a distributed perspective highlights the role these factors play in the leadership activity. Spillane (2005) defined leadership as:

> Activities tied to the core work of the organization that are designed by organizational members to influence the motivation, knowledge, affect and practices of other organizational members or that are understood by organizational members as intended to influence their motivation, knowledge, affect, or practices. (p. 384)

As discussed above, this notion circles back to using the distributed leadership concept to address authority and influence, by drawing on and critiquing the bureaucratic leadership structure where authority flows top-down from positions in an organizational hierarchy (Tillman & Scheurich, 2013). Teacher leadership, as described in the literature, is an aspect of distributed leadership, which allows different teachers to emerge as leaders at various times. This perspective of teacher leadership situates a teacher leader's role at the epicenter of improving teaching and learning. In contrast to the traditional leadership roles described above, teacher leaders should emerge spontaneously and organically from the teacher ranks. Instead of selected, these teacher leaders take the initiative to address a problem or institute a new program within their school, where they directly work with peers or colleagues. They have no positional
authority; their influence stems from the respect they elicit from their colleagues by means of their expertise and practice (Danielson, 2006; Katzenmeyer & Moller, 2001; Taylor et al., 2011).

Teacher leadership recognizes the leadership capability of all members and supports leadership as a form of agency that can be distributed (Harris, 2003). In the distributed leadership model, the extension of leadership opportunities to teachers is powerful, in that it acknowledges the diverse and important leadership roles that teachers undertake daily and how these tasks positively enhance the goal of influencing instructional practice (Harris & Lambert, 2003). Teacher leadership emphasizes collective action, empowerment, and shared agency.

Regardless of the teacher leadership structures established within their schools, teachers need to recognize their ability to bring about change. Katzenmeyer and Moller (2001) stated that the reality of teacher leadership is that it may not be for every teacher at all points in a career. There are times when participation may be inviting, and times when teachers may need to avoid extra responsibilities (Barth, 2001; Katzenmeyer & Moller 2001). Teacher leadership manifests itself in different forms depending on the actors and the current needs of the school.

Teacher Leaders in Collaborative Settings

A review of the studies in this category identifies how teacher leaders who are engaged in collaboration with peers enact leadership tasks. Three main findings emerge from the analysis: (a) teacher leaders report needing role clarification to cultivate teacher leadership; (b) teacher leaders report being “stuck in the middle;” and (c) teacher leaders identify intrapersonal factors and attitudes of resistance as the primary barriers to teacher leadership.

Teacher Leaders Need Role Clarification to Cultivate Teacher Leadership

In recent studies researchers report that teacher leaders need defined roles (Agnelle & Schmid, 2007; Du, 2007; Feeney, 2009; Firestone & Martinez, 2007; Gigante & Firestone, 2007;
Role Definition. Teacher leaders define their roles primarily around functions of helping and supporting their teaching colleagues to improve their practice (Smylie & Denny, 1990). However, the researchers discussed the lack of an apparent definition of the teacher leaders’ role. Although the teacher leaders made much effort to identify a job description or definition of their role, in each case the researchers reported that participants were not provided a clear description.
of the role (Agnelle & Schmid, 2007; Feeney, 2009; Gigante & Firestone, 2007; Mangin, 2005,
2007; Margolis, 2012; Margolis & Deuel, 2009; Margolis & Huggins, 2012; Portin et al. 2013;
Raffanti, 2008; Shillingstad et al. 2015). For example, Mangin (2005) examined how 12 teacher
leaders from five school districts negotiated access to classrooms and encouraged instructional
change in light of teacher resistance. Teacher leaders in this study stated, “in most cases,
administrative personnel failed to communicate to teachers the [teacher leaders] responsibilities
and how [they] would interact with teachers” (p. 472). One teacher leader said “[The
administrators] never once sat down with teachers and explained what our position was or
explained to [to teachers] how we can help them” (p. 472). The lack of foundational
understanding surrounding exactly how the teacher leader is supposed to collaborate with peers
to enact leadership creates unclear roles in terms of authority and purpose (Gigante & Firestone,
2007). For example, these unclear roles caused teacher leaders in Margolis’ (2012) study to be
targeted by colleagues as the “administrative others” (p. 307), which diminished their ability to
foster collaboration.

At the same time, some researchers suggest that if classroom teachers are unclear about
the non-evaluative nature of the teacher leaders’ position, then the teacher leaders themselves
become unclear of how their work will be meaningful (Firestone & Martinez 2007; Margolis,
2012; Portin et al., 2013; Raffanti, 2008). Firestone and Martinez (2007) highlighted an example
of this. Teachers from this study referenced the teacher leader as “someone who makes sure that
we’re basically up to date and that we are doing what we are supposed to be” (Firestone &
Martinez 2007, p. 17). One teacher leader in this case said, “I have to turn in my reports or my
logs, which may have notes and things that go on between the teacher and me. Then I feel that
this is a supervisory position and teachers interpret this as an informal evaluation” (Firestone &
Martinez 2007, p. 17). Therefore, teacher leaders tend to define their own roles. Margolis and Huggins (2012) captured the essence of this kind of de facto definition:

Teacher leaders defined their positions both narrowly and broadly depending on their own interpretations. Sometimes they self-defined as a lead teacher with broad influence, and other times as a teacher leader specialist with a narrow focus, and at other points as “just another teacher” choosing to focus on one’s own students. (p. 966)

The tensions between teacher leaders and collaborative peers reflect an inconsistency between teacher leaders’ and peers’ goals. The tension becomes apparent when teacher leaders cannot articulate their exact leadership goals. Raffanti (2008) explored the phenomenon of peer leadership by investigating the experiences of 10 teachers who engaged in leading colleagues in such roles as professional development coach, technology expert, department chair, and informal mentor. Specifically, one teacher leader stated, “I had no training at all in how to be a teacher leader. I muddled through and made a lot of mistakes” (p. 63). Another added the need for official explanations of parameters for formal teacher leadership: “My principal is supportive but doesn’t have a clear definition. I want a more defined role from him with guidance” (Raffanti, 2008, p. 65). Teacher leaders in Portin et al.’s (2013) study expressed that administrators have one goal for teacher leaders, which may or may not align with the teacher leaders’ goal. Some teacher leaders try to mediate this inconsistency by focusing on supporting teachers’ instruction, rather than on being quasi-administrators, nonetheless in this study they still find themselves participating in administrative meetings and performing duties that limit their time interacting with teachers (Margolis, 2012). This hazy view of teacher leadership identifies another contention between the teacher leaders and peers. With no structural model or administrative directives, teacher leaders’ self-construction of roles in the studies reviewed seem to remain
idiosyncratic, changeable, and amid the confusion, disconnected from the teachers whom they hope to serve.

One study, conducted by Margolis and Deuel (2009) which focused on the work of five teacher leaders within a grant designed to promote content area literacy teaching and learning, emphasized teacher leaders’ definitions of the activities of their leadership, learning, sharing, collaborating and teaching. Teacher leaders expressed that the above activities are more important than any terminology related to the role’s title. These teacher leaders highlighted “what they did as well as how they thought” (Margolis & Deuel, 2009, p. 278), rather than the title associated with the role. Specifically, one teacher leader from Margolis and Deuel’s (2009) study illustrated this point:

I think the role is more important than the title unless you are BEING a teacher leader, it does not matter what people call you. So, I think you must function in the role before anything else is designated. And I think people that you teach will recognize this. They understand that you are. (p. 276)

The evidence presented in these examples suggests that teacher leaders may begin enacting leadership when the role is clearly defined.

**Role Understanding.** When the teacher leaders’ role is clearly defined by the school and/or the administration, with expectations, qualifications, and set tasks, the researchers suggest that teachers still exhibit resistance towards working with the teacher leaders (Angelle & Schmid, 2007; Du, 2007; Feeney, 2009; Firestone & Martinez, 2007; Margolis & Doring, 2012; Mangin, 2005, 2007; Muijs & Harris, 2006). This resistance occurs when members of the school community (teachers and administrators) do not have a clear understanding of the teacher leaders’ role. Margolis and Doring (2012) focused on six teachers in four school districts
implementing a specific model of teacher leadership known as the studio classroom. They argued that across the sites, a diminished understanding and appreciation for teacher learning led to teacher leaders’ frustration with their role. Margolis and Doring (2012) pointed out “lack of direction from administrators on expectations related to the focus and frequency of teacher leader modeling was one major obstacle” (p. 874). A teacher leader in this study commented, “there would need to be a clearly identified need to make the minutes, expectations, reflections, and time of a true studio classroom palpably worth it for the teachers. However, these large structures were never set into place” (Margolis & Doring, 2012, p.875).

The lack of formal introduction for teacher leaders to the staff by a school administrator impacts classroom teachers’ understanding of teacher leaders’ role (Agnelle & Schmid, 2007; Mangin, 2005). In both studies, teacher leaders described this introduction as an important symbolic gesture that shows mutual support between teacher leader and administrator. Additionally, formal introductions provide an opportunity informing the school community regarding the purpose of leadership within the school organization, an essential component of role understanding (Feeney, 2009). When teacher leaders are not introduced properly, classroom teachers often misinterpret the teacher leader’s role as a supervisory position that may include monitoring or evaluations (Mangin, 2005), or even described in terms of managerial responsibilities (Feeney, 2009). This dominant belief suggests that leadership is a series of activities one does to accomplish set tasks. When teacher leaders understand their role in this dimension, the focus emphasizes what is done for teachers and administrators, rather than what is done with them (Feeney, 2009; Mangin, 2005, 2007; Margolis & Doring, 2012; Muijs & Harris, 2006).
Conversely, when administrators set clear guidelines for the role of teacher leader, including the expectation of collaboration, the teacher leader’s job becomes more purposeful at improving instructional practice (Mangin, 2005; Muijs & Harris, 2006). As Mangin (2005) wrote, “when principals are active in advocating instructional improvement, teachers are more likely to see the teacher leader as a useful resource” (p. 473). Some teacher leaders flourish in their role when the administrators provide guidance and support. One teacher leader Mangin (2005) included said:

Our principal is very hands-on, she follows through, she reads plans, and everything is black or white. So, we do not have the issue of people trying to skirt (teacher leader visits). They are gonna do it, it is the way it is, so we do not have to deal with that issue and I think that makes my life easier. The guidelines are clear, the expectations are clear, and there is follow through. (pp. 472-473)

This support is instrumental in ensuring awareness of staff to the importance of teacher leaders’ work (Muijs & Harris, 2006). Obvious teacher leader role understanding by classroom teachers limits their resistance to interaction. This example portrays how the collective work of all involved in the activity pathway support the accomplishment of an outcome.

A clear understanding of the role of teacher leaders in collaborative settings aimed at influencing instruction is not unique to classroom teachers, but equally as influential to building administrators. The administrators’ level of knowledge of teacher leaders’ roles is articulated in eight research studies based on three components: familiarity with teacher leader responsibility; knowledge of role enactment; and awareness of teacher leaders’ long and short-term goals. In Mangin’s (2007) study of principals’ knowledge of teacher leadership roles and their interaction with teacher leaders, she suggested principals with clear understanding of teacher leaders’ roles
used the teacher leaders as a resource for improvement, while those with limited understanding of the roles view teacher leaders as quasi-administrators.

**Role Acceptance.** When a role is clearly defined and articulated to all parties involved, the final obstacle becomes whether members of the school community accept such positions. Two studies reported that the principal or district level administrators’ involvement (Agnelle & Schmid, 2007; Mangin, 2005) influences role enactment. Mangin (2005) studied the support teachers and administrators give to teacher leaders. She found that the level of support teacher leaders receive directly influences the teacher leaders’ position. Role acceptance appears to diminish as time passes, and as teacher leaders, teachers, and administrators stay constant. Agnelle and Smith (2007) investigated the roles of teacher leaders, as voiced by those identified as leaders within the structure of their workplace. They claimed that changes in staff cause a need for teacher leaders to negotiate their role with new members of the school community. In this study, the constant change occurred in the school administrator position, which complicated the school’s micropolitics, resulting in further analysis to clarify teacher leadership (Agnelle & Schmid, 2007). The literature suggests that changing administration may result in a different focus or message to teachers regarding the role of the teacher leaders.

When focusing on role clarity, the tensions for teacher leaders exist between their actual leadership role and the expected leadership role and between their actual leadership role and their desired leadership role. Of the reviewed studies which identify role definition as impacting leadership enactment, the teacher leaders self-construct a role definition which does not align with that of the teachers in their school (Agnelle & Schmid, 2007; Feeney, 2009; Gigante & Firestone, 2007; Mangin, 2005, 2007; Margolis, 2012; Margolis & Deuel, 2009; Margolis & Huggins, 2012; Portin et al. 2013; Raffanti, 2008; Shillingstad et al. 2015). Most of the strategies
the teacher leaders employ target the personal focus, rather than the collective focus. This is exemplified in the work undertaken by Margolis and Deuel (2009) when they described the way a teacher leader understands her own leadership role, “more of an expert in literacy so that her own teaching practice could become firmly rooted in the best practices that help kids learn. One of the most effective ways to learn something is to teach it to others” (pp. 272-273). Teacher leaders are doing the best they can with what they know. However, there is an unfulfilled need for clarification to make teacher learning meaningful. The relationship between teacher leader and his or her understanding about role clarity is apparent in the collaborative peer interaction.

Overall, by holistically looking at the several studies that report issues around role acceptance, teacher leadership cannot be defined by a single role or narrow list of activities (Agnelle & Schmid, 2007; Du, 2007; Feeney, 2009; Firestone & Martinez, 2007; Gigante & Firestone, 2007; Hanuscin et al., 2012; Mangin, 2005, 2007; Margolis, 2012; Margolis & Deuel, 2009; Margolis & Doring, 2012; Margolis & Huggins, 2012; Portin et al. 2013; Raffanti, 2008; Shillingstad et al. 2015). These studies suggest that when teacher leaders create their own definitions of their role, that definition is a list of traits, a description of teacher excellence, a positional view of an administrator and a picture of ideal reformer. This finding defines teacher leadership in terms of how it is lived in the context of the individual, in terms of the person. This echoes that teachers and administrators fail to distinguish between the role of the teacher leader and the practice of leadership.

Teacher Leaders Are “Stuck in the Middle”: Negotiating Relationships

Teacher leaders describe a shift in the relationships they have with members in the school communities in which they work, as they enact their leadership roles. When teachers take on leadership roles, they position themselves in complex ways between their own beliefs and the
instructional framework of administrators and teachers. This “role of teacher leader” challenges the norms of traditional school life, such as privacy and noninterference (Murphy, 2005), which may result in tensions with classroom-based colleagues. For the collective system to be flawless, teacher leaders need to build relationships to enact their roles. These relationships hinge on respect and trust, which are the norms established by all members involved. The “in-between” positioning of teacher leaders is complicated, involving them in two sets of mediating positions: (a) with colleagues, and (b) with administrators.

Teacher leaders in several studies described their roles as a middle position of isolation, where they negotiate relationships (Agnelle & Schmid, 2007; Fairman & Mackenzie, 2012, 2014; Feeney, 2009; Firestone & Martinez, 2007; Hanuscin et al., 2012; Hunzicker, 2013; Lai & Cheung; 2015; Mangin, 2007; Margolis, 2012; Margolis & Deuel, 2009; Muijs & Harris, 2006; Portin et al., 2013; Raffanti, 2008; Shillingstad et al., 2015; Struyve et al., 2014). Raffanti (2008) discussed how the participants in his study on peer leadership depend on peer-to-peer relationships to establish informal authority. Specifically, teacher leaders “were vigilant about looking too competent among peers and being ostracized for not adhering to cultural norms” (p. 66). These descriptions are typically based on both positive and negative relations with teachers and administrators. Teacher leaders in these studies report that the relationships they have with colleagues and with administrators are artificial. I argue that when working with colleagues and administrators, teacher leaders identify as peers who hold no authority or power. Teachers and administrators do not share the same definitions of the relationships that teacher leaders have with their peers. Teachers and administrators see their relationship with teacher leaders differently. Administrators automatically place teacher leaders in positions of authority.
Relationships with Colleagues. The literature identifies the importance of relationships in nurturing the role of teacher leaders within schools. The teacher leaders within the analyzed studies emphasize the need to nurture relationships to lessen the middle manager position (Agnelle & Schmid, 2007; Lai & Cheung, 2015; Mangin, 2007; Margolis, 2012; Margolis & Huggins, 2012; Portin et al.; 2013; Shillingstad et al., 2015; Struyve et al., 2014). The educational organization does not always account for how difficult it is for adults to be part of interactions that work toward change processes (Margolis & Huggins, 2012), and specifically towards improved instructional practice. The interactions between needed individuals to support such change do not necessarily occur in an idealistic manner, hence the feeling of isolation by the teacher leaders.

Lai and Cheung (2015) provided an in-depth discussion of how a teacher leader participant, who expects that her role will gain her credibility among her colleagues, experiences isolation from them instead. Their study aims to examine teacher leaders’ interactions with other teachers specifically around curricular and pedagogical problems, through interviewing teachers in nine schools in Hong Kong. Similarly, Struve et al. (2014) performed an exploratory study on the perceptions of teacher leaders in Flemish schools. The teacher leaders in this study described why events with colleagues become difficult at times because they are not part of the teacher zone. Specifically, “the teacher leaders indicate how they are now positioned by all other teachers in a higher hierarchical position because . . . they interact more frequently with school leaders (Struvye et al. 2014, p. 219). Teacher leaders expect that their role will gain them integrity, but instead leave with a feeling of loneliness. As a result, teacher leaders tend to have a sense of not belonging somewhere in particular, which becomes a drawback to their role. This suggests that teacher leaders who exemplify good leadership skills and display rich practical
knowledge need acknowledgement. Furthermore, not doing so may result in decreased teacher confidence and a feeling of marginalization or insignificance within their leadership role, breaking down the activity pathway.

When teacher leaders have a sense of isolation, their investment in the leadership process diminishes. As Margolis and Huggins (2012) revealed in their study of teacher leader roles in a distributed leadership setting, the teacher leaders’ interaction with colleagues are “helter skelter” (p. 976) because of the lack of guidelines or expectations laid out by administrators. This “ad hoc” undefined role, as discussed in the previous finding, diminishes teacher leaders’ experience, resulting in the middle zone of isolation.

Another example portrayed teacher leaders as individuals who openly talk about their own teaching and learning by sharing teaching experiences with their counterparts, yet experience tensions because they are “targeted by colleagues as administrative ‘others,’ rather than ‘one of us’ supporters” (Margolis, 2012, p. 307). Collaboration within a school that supports teacher leadership enhances teacher learning and conversely, the absence of opportunities for collaboration leads to feelings of isolation, lack of power and frustration. Furthermore, the literature suggests that professional learning opportunities provide essential support to teacher leaders as they continue to develop their knowledge base and theorize practice, which is particularly necessary for more informal teacher leaders. Finally, professional learning requires support from school administrators and others that affect decision making relating to teacher learning.

These studies have demonstrated that teacher leaders attempt to have productive collaborative sessions, but after reflecting on these experiences, conclude that it is difficult to carry out. Two key breakdowns in this relationship occur: (a) teachers are not always aware of
the leadership role; and (b) teachers are resistant to change. As noted above, teacher leaders find it difficult to engage other teachers in collaborative tasks because of blurred expectations. This causes teachers to question the motive and in turn disengage from the activity. There are ways to promote teacher leader collaboration at this level to ensure teacher engagement in the task at hand; however, this is associated with challenges. As teacher leaders navigate these challenges and reconceptualize their knowledge for this context, they need opportunities to reflect and problematize their situations to develop effective solutions.

Teacher leaders emphasize that they do not wish to be placed higher in the hierarchy, but instead want to continue their relationships with their teacher colleagues from the perspective of the teacher zone (Lai & Cheung, 2015). For example, in Struyve et al.’s (2014) study, one teacher reflected: “I do not see myself higher in the hierarchy as we do not have any privileges, we do not get paid better. It is just that some part of my time I spend on facilitating others” (p. 219). Teacher leaders continually struggle between the perception and reality of their role in schools. This tension between subject and division of labor influences the subject’s work with the community. When these opportunities are not collective and do not focus on the same activity pathway, the system again halts, and the teacher leaders are unable reach their outcome successfully.

Some teacher leaders view their role as intermediary. Agnelle and Schmid (2007) examined the concept of teacher leadership from the perspective of those identified as leaders within the structure of their workplace. They report leaders perceiving themselves as serving the teachers in their role as “middlemen.” One teacher leader described this responsibility:

A teacher sometimes does not feel comfortable going to an administrator, like, I’ve had people come to me to get me to be the go-between to the principal. . . Sometimes, they
just want advice. Sometimes, they just need help and maybe are afraid to ask. (Agnelle & Schmid, 2007, p. 788)

This view of teacher leader is not one that denotes power or authority, but fosters relationships to represent schoolwide leadership. A more hierarchal view is when teacher leaders are the people who “make sure everyone is involved” (Agnelle & Schmid, 2007, p. 788). This example shows that administrators place teacher leaders at a higher position in the school leadership structure. Teacher leaders in this position obtain information from the administrator and disseminate it to others for the best interest of the school.

Other teacher leaders view being the “middleman” as fostering positive relationships with colleagues, which allows for the teacher leaders to have an impact on teacher learning. The teacher leaders portrayed in Portin et al.’s (2013) and in Shillingstad et al.’s (2015) studies exhibited positive interactions between teacher leaders and teachers. For example, Portin et al. (2013) found the teacher leader's role as one where he or she can conduct one-on-one instructional coaching, in a non-formal evaluative manner. Furthermore, the teacher leader in this study rarely worked in isolation, but with a schoolwide instructional leadership team. As such these teacher leaders, “helped develop and jointly pursue a schoolwide strategy for improving teaching and learning and they engaged teachers in professional development work for the school (Portin et al., 2013, p. 232). This type of teacher leadership invests in building relationships and communication among teachers and working collectively towards instructional improvement. Similarly, Fairman and Mackenzie (2012) studied how teachers influence improvement of student learning both within and beyond their classroom. The study had a total of seven schools with 40 teachers spanning all grade levels. They reported that teacher leaders appreciate having the support of other colleagues to engage in professional learning, curriculum
development, or experimentation of new initiatives. Additionally, their participant teachers valued the different skills and expertise that their colleagues share, and in turn see teacher leadership as something that emerges naturally from these organic relationships, rather than in response to a formal request (Fairman & MacKenzie, 2012).

**Relationships with Administrators.** Teacher leaders interact with administrators within their district to work toward sustained leadership activities to influence instructional practice. Some studies highlight such relationships, which again position teacher leaders in the middle (Agnelle & Schmid, 2007; Margolis, 2012; Mangin, 2007; Portin et al.; 2013; Shillingstad et al., 2015). Mangin’s (2007) research provided an example of how principals influence teacher leadership. This study was an exploratory, comparative case study of 12 teacher leaders, 12 principals, and six supervisors from five different districts, four of which were low socio-economic in status. Mangin found that if principals support their teacher leaders and their associated roles and functions, then teacher leadership could more easily develop. While this study points out that hierarchical leadership (i.e., the principal) puts his/her “blessing” on a teacher leader through their understanding and support, it shows that teacher leadership is fluid and is inclusive of multiple players within the system.

Similarly, Portin et al. (2013) described most teacher leaders working alongside principals as members of a leadership team. As this position allows access to the needs of the teachers, it positions the teacher leaders as part of the hierarchy. Administrators in this study have one goal for teacher leaders, which may or may not align with the teacher leaders’ goal. Some teacher leaders try to mediate this inconsistency by focusing on supporting teacher instruction rather than being quasi-administrators, yet still find themselves participating in administrative meetings and performing duties which take time and trust away from the teachers
Overall, the uneven view of the teacher leader/administrator relationship limits the instructional impact teacher leaders have with their leadership positions. In a study investigating whether teacher leaders can work collectively with principals, Agnelle and Schmid (2007) indicated that principals view effective instruction as the job of teachers, and therefore it is a principal’s responsibility to develop a cadre of teacher leaders. In turn, these teacher leaders can act as liaisons to administrators to form a culture of effective communication and empowerment. One principal stated, “The mindset in this district is still labor versus management. Change is constantly met with resistance” (p. 783). I contend that the positive relationships between teacher leaders and administrators must be reciprocal for teacher leaders to be change agents (Agnelle & Schmid, 2007; Fairman & Mackenzie, 2012; Margolis, 2012; Portin et al., 2013; Shillingstad et al., 2015; Struyve et al., 2015).

When exploring the different contexts in which teacher leadership activity emerges, principal involvement varies. Through an examination of these research studies, I found some principal involvement is crucial, because of a vision related to school improvement, while other principals are not engaged in supporting teachers’ efforts because of the emphasis of their day-to-day responsibilities (Fairman & Mackenzie, 2012, 2014; Margolis 2012, Portin et al., 2013). Fairman and Mackenzie (2012, 2014) reported the lack of communication and interaction with administration as a factor impeding the activity system pathway. Specifically, one teacher discusses her experience in a teacher leadership role, emphasizes the absence of recognition of her expertise by school administrators as impeding her ability to act as a resource and lead improvement (Fairman & McKenzie, 2012). This finding highlighted a secondary contradiction where tensions arise between the subject and division of labor, mediated by the rules and objects of the system.
Several studies discussed how teacher leaders report having little or nothing to do with overall structure or focus of the teacher leadership program in their district (Fairman & Mackenzie, 2012, 2014; Margolis 2012; Portin et al., 2013). As they begin in this new leadership position, teachers have undefined roles or managerial tasks to reduce the administrators’ workload. Some teacher leaders take advantage of the lack of clarity and rules to customize their own leadership roles; others allow the position to be part of the leadership hierarchy. The tension arises when the administrators directing the leadership tasks fail to address the goal or do not relay clarifying information to the teacher leaders and/or teachers. I maintain that when teacher leaders are not involved in the decision-making process, they do not benefit in working with teachers to influence teaching and learning. The processes, when not transparent, foster tensions in the division of labor component of the activity system. As with many tensions, those related to decision making can be targeted by restricting leadership hierarchy in schools and moving toward a distributed leadership perspective. Spillane et al. (2001) argued that leadership happens in a variety of ways throughout the school and centers on interactions between people. This involves recognizing how others, like teacher leaders, contribute to leadership beyond administrators (Spillane, 2006). Therefore, the concept of distributed leadership shifts the focus from the individuals involved in leadership practice to the interactions between these individuals to investigate the situation in which leadership is enacted (Gronn, 2000; Harris, 2010; Spillane, 2006).

Overall, teacher leaders show significant capacity to serve as the bridge between multiple subgroups within the larger educational system. This potentially makes the teacher leader a powerful resource within the school environment. The interactions between the teacher leader and the administrator reinforce the need for teacher leaders to exhibit a socio-political savvy that
leverages their knowledge of the multiple perspectives within the educational hierarchies. For teacher leaders to be successful, school principals must take advantage of the intellectual strengths of these leaders. Utilizing this strength is important in assisting administrators in the nurturing of leadership skills in teachers, as well as increasing opportunities for collaboration, an essential function of teacher leadership. Understanding the value of relationships between teacher leaders, colleagues, and administrators portrays the full potential of the teacher leadership role.

*Teacher Leaders Describe Intraperonal Factors and Attitudes of Resistance as Primary Barriers*

Based on the reviewed studies, several presented findings on the barriers teacher leaders encounter when trying to enact their leadership roles (Agnelle & Schmid, 2007; Brooks et al. 2004; Charteris & Smardon, 2014; Fairman & Mackenzie, 2012,2014; Feeney, 2009; Gigante & Firestone, 2007; Hunzicker, 2014; Mangin, 2005; Margolis, 2012; Margolis & Deuel, 2009; Margolis & Huggins, 2012; Portin et al. 2013; Raffanti, 2008; Shillingstad et al. 2015; Stephenson et al. 2012; Struyve et al. 2014). These barriers to teacher leadership encompass two overarching concepts: (a) intraperonal factors, and (b) attitudes of resistance.

Each concept (intrapersonal factors and attitudes of resistance) which emerges from the literature portrays that enacting teacher leadership, which challenges the traditional norms of teaching – privacy and autonomy (Feiman-Nemser & Floden, 1986; Lortie, 1975), are dependent upon contextual interactions, specifically the relationship between tools, subject, rules, and community. Such interactions or lack thereof are likely to shape tensions between the teacher leaders and those they influence.
**Intrapersonal Factors.** Internal psychological factors play a pivotal role in how teacher leaders enact teacher leadership. These factors may provide a teacher with the beliefs, value system, desire to learn and change, and confidence to engage in a leadership capacity, yet at the same time they often tend to interfere with teachers enacting leadership with their colleagues. Teacher leaders are less likely to flourish in a leadership capacity when they feel insecure, discouraged, frustrated, or risk-averse.

Teacher leaders discuss internal struggles, such as being uncomfortable with leadership, the constant feeling of frustration, and added stress of the position, as a barrier to peer collaboration aiming to improve instructional practice in the majority of studies reviewed (Agnelle & Schmid, 2007; Charteris & Smardon, 2014; Fairman & Mackenzie, 2012, 2014; Feeney, 2009; Gigante & Firestone, 2007; Harris &Muijs, 2006; Hunzicker, 2014; Mangin, 2005; Margolis, 2012; Margolis & Deuel, 2009; Margolis & Huggins, 2012; Portin et al. 2013; Raffanti, 2008; Shillingstad et al. 2015; Stephenson et al. 2012; Struyve et al. 2014). The most prominent internal barrier for teacher leaders is the discomfort with the leadership role, specifically with colleagues classifying them as the boss (Feeney, 2009; Margolis, 2012; Margolis & Huggins, 2012; Struyve et al. 2014). Margolis (2012) describes this attitude of resistance as being when one peer appears to hold greater responsibility over another. Specifically, one teacher leader discusses his struggles with the leadership position “What does everyone think I am? I am a guide, not the boss. My purpose is to guide you with side-by-side coaching” (Margolis, 2012, p. 302). This comparison of teachers’ definitions of the title “peer coach” versus “colleague guide” suggests semantics may play a part in the leadership role. There is an assumption that a peer coach holds more responsibility and power in a relationship as compared to an individual who guides and develops. This sense of leadership hierarchy interferes
with the goal of improving teacher practice (Feeney, 2009; Struyve et al. 2014). Mangin (2005) reports that all teacher leaders participating in the study “had doors slammed in their faces, both literally and figuratively” (p. 464). The level of resistance that teacher leaders face ranges from acute, vocal opposition to more passive resistance, related to the view of the term “leadership” as denoting a power base and hierarchical structure, where one leads and one follows.

The reimaging of teacher leadership to a distributed approach is an overwhelming task. The reconceptualization of roles in the context of teacher leadership challenges the ingrained values of individuals and stakeholders toward their expectation of teacher leadership. In addition, the time associated with preparing, implementing efforts related to promoting distributed leaders, and incorporating these efforts into sustainable contributions to teacher leadership may stand out as a challenge that needs to be resolved. Such a shift has tremendous potential for teacher leadership in schools.

Teacher leaders experience frustration because of the context of their leadership role. This barrier, expressed as discouragement, leads teacher leaders to question whether leaving the familiarity of the classroom is better than the sense of not being valued or supported. In a study aimed to explore how teacher leaders help improve science and mathematics teaching, Gigante and Firestone (2007) discuss a common feeling among teacher leaders as articulated by one who states, “Everyone doesn’t always get along or is in favor of the new program or leadership thing, and they end up taking it out on me. This makes me wonder if this leadership is even worth it” (pp. 320–321). Making the shift from beloved classroom teacher, where students and parents praise your work, to assisting teachers who resist help, highlights the frustration.

Teacher leaders also express their collective sense of sadness, disappointment, and frustration, because of school dynamics and imposed policies (Agnelle & Schmid, 2007; Gigante
& Firestone, 2007; Shillingstad et al., 2015). Despite efforts in these studies, some teacher leaders still feel ignored. According to Angelle and Schmid (2007), teacher leaders have little input regarding curriculum. Additionally, Gigante and Firestone (2007) suggested that too many policies and procedures block the most diligent and energetic teacher leaders from being successful.

**Attitudes of Resistance.** Attitudes toward change are another factor affecting teacher acceptance of teacher leadership. Teacher leaders encounter resistance when peers (colleagues and administrators) fail to recognize the need for instructional improvement. When teachers do not understand and appreciate the purpose of instructional improvement in their schools, their interest in maintaining the status quo will undoubtedly take precedence over their willingness to engage in activities that support change (Elmore, 2004).

Some studies revealed that the attitudes of resistance toward teacher leaders from teachers was a result of the ambiguity of the teacher leaders’ position, like the perceived roles discussed above (Charteris & Smardon, 2014; Fairman & Mackenzie, 2012, 2014; Gigante & Firestone, 2007; Harris & Muijs, 2006; Hunzicker, 2013; Mangin, 2005; Margolis, 2012; Margolis & Deuel, 2009; Margolis & Huggins, 2012; Portin et al. 2013; Raffanti, 2008; Shillingstad et al. 2015; Struyve et al. 2014). These studies emphasized that teacher leaders experience resistance from their teacher colleagues because of their lack of understanding of the position which corresponds to the earlier finding of role clarity (Charteris & Smardon, 2014; Gigante & Firestone, 2007; Margolis, 2012; Margolis & Deuel, 2009; Margolis & Huggins, 2012; Portin et al. 2013; Shillingstad et al. 2015; Struyve et al. 2014), while others discussed resistance in the form of collegial expectations or collegial dispositions and discourse (Fairman

Margolis, (2012), Margolis and Deuel (2009), and Margolis and Huggins (2012) found that the resistance felt by teacher leaders from their teacher colleagues is a result of the “hybrid” nature of teacher leadership. In these studies, the teacher leader participants occupied a hybrid role, spending part of their time as a classroom teacher and the other time in a leadership capacity. All three studies described the relative push back or resistance from teachers because of teacher leaders not being an administrator, but not necessarily being a teacher. This ambiguity and misunderstanding are accepted as an unfortunate but inevitable reality for the teacher leaders. The notion of “where do I belong?” (Charteris & Smardon, 2014, p. 117) created a feeling of isolation and a view of resistance among the teacher leaders. Teachers in one study (Raffanti, 2008) referred to the teacher leaders in their district as “wannabe administrators” (p. 68) whose main goal was to “show people up” (p. 68), rather than create an environment of receptivity. Additionally, the prevailing school culture of egalitarianism, accompanied by teacher leaders feeling ostracized, was apparent (Mangin, 2005; Muijs & Harris, 2006; Raffanti, 2008). This feeling of not belonging by the teacher leaders creates tensions for them to enact their role. The teacher leader, who is attempting to use the rules of teacher leadership to support collaboration, cannot do so successfully without the collaboration of the other teachers.

Similarly, unclear collegial expectations are another type of resistance teacher leaders experience (Fairman & Mackenzie, 2012, 2014; Mangin, 2005; Margolis, 2012; Margolis & Deuel, 2009). Teacher leaders find that the colleagues they engage with often become too dependent on the teacher leaders modeling within their classrooms, or they misuse the modeling sessions. Specifically, Margolis and Doring (2012) reported several instances where teachers rely
on teacher leaders to “come in and teach for me” (p. 872). The teacher leader in this instance was concerned that the purpose of this lesson modeling was not clear because they were the “perceived expert in instruction” (p. 872). As teacher leaders in these studies discussed such interactions, teachers became offended and often shut down sessions intended to influence practice. The belief that these concerns created dependency among teachers and yield only superficial teacher learning are common among teacher leaders in most of these studies (Mangin, 2005; Margolis, 2012; Margolis & Deuel, 2009).

The notion of collegial dispositions and discourse also creates resistance between teacher leaders and the teachers they work alongside (Fairman & MacKenzie, 2012, 2014; Mangin, 2005; and Margolis, 2012). Teacher leaders encounter obstacles in their role if the coaching sessions are labeled observations rather than visitations. Margolis (2012) added that the term observation holds an evaluative connotation, which creates unwanted stress and tension between teacher leaders and their peers. To overcome such tension, teacher leaders make a concerted effort to change teachers’ beliefs that teacher leadership positions are supervisory and evaluative (Mangin, 2005; Margolis, 2012). Such efforts include reinforcing the peer status of teacher leaders, providing nonintrusive assistance geared at helping teachers rather than changing them, and assisting with difficult lessons that require “an extra pair of hands” (Mangin, 2005, p. 13).

When dealing with a primary contradiction in the rules, teacher leaders attempt to articulate the rules regarding collaborative classroom events to gain credibility among the community. The degree to which teacher leaders adhere to these rules is dependent upon how the district distributes power throughout the system. These efforts slowly allow teacher leaders to gain access to classrooms, build relationships and dismantle the resistance. Overall, teacher leaders prefer to participate in teacher leadership roles where they feel equal to their peers, not one
where their colleagues may have a professional relationship that places them closer to administrator (Fairman & MacKenzie, 2012, 2014; Mangin, 2005; Margolis, 2012).

In conclusion, the literature suggests structural and emotional barriers that infringe on teacher leaders’ ability to work in a leadership capacity and influencing their instructional practice. Teacher leadership must be recognized and studied as a complex phenomenon. Overall, this set of studies suggests that teacher leaders need a clearly defined role, a positive working relationship with colleagues and administrators, and a breakdown of organizational barriers to implement teacher leadership that influences instructional practice successfully.

**Reflective Thinking**

Reflective thinking is not a new topic of investigation for teacher or teacher leaders. Springing from Dewey’s early work, reflective practice has been identified as an important means by which to improve teacher practice.

In every case of reflective activity, a person finds himself confronted with a given, present situation from which he has to arrive at, or conclude to, something that is not present. This process of arriving at an idea of what is absent on the basis of what is at hand is inference. What is present carries or bears the mind over to the idea and ultimately the acceptance of something else. (Dewey, 1938, p. 190)

Several major influences in teacher professional development point clearly to the need for teachers and teacher leaders to reflect on their practice as a means by which to improve their craft. The Learning Forward Standards for Professional Learning (2011), the National Board for Professional Teaching Standards (NBPTS, 2010), and the Teacher Leader Model Standards (2011) all promote the value of teacher reflection on their instructional practices.
However, this interest in the role of teacher reflective practice is not a new area of focus. Dewey investigated the element of reflective thought including an examination of the ways in which people understand concepts and generate new ideas. Conway (2001) asserted that despite Dewey’s clear focus on the need for reflective thinking, it was not until the 1980s that the role of reflective thinking became a “guiding beacon” for teacher professional growth (p. 90).

**Defining Reflection and Reflective Practice**

Rodgers (2002) argued that Dewey’s original definition and descriptions of reflection and reflective thought have been muddied over the years. She further asserted that the many definitions that exist today make it a greater challenge to understand reflection and argues that due to the varying uses of the word reflection, it “has suffered from a loss of meaning. In becoming everything to everybody, it has lost its ability to be seen” (p. 843).

Rodgers (2002) postulated that without a clear understanding of what is meant by reflection, it is difficult to discern reflective thought from other forms of thought, assess a skill that is only vaguely defined, discuss an issue void of a common language, and conduct research on the effects of reflection within teachers’ practice or professional growth. Conway (2001) pushed this idea even further and stated that the term reflection is used so “glibly that it can be a vacuous and meaningless concept, prey to changing political ideologies and a handmaiden to the latest fad or whimsical notion of teacher education” (p. 91). Looking back even further in the literature, I found find that Bauer (1991) shared this concern and added that since reflective thought is a concept discussed frequently and across a broad range of contexts, the term has “failed to generate the power and respect it ought to have,” due to the lack of a clear frame or “parameters of understanding” (p. 25).
Rodgers (2002) looked back to Dewey’s work as she wrestled to define clearly the notion of reflective thinking. She concluded that reflection is a rigorous, time-consuming “tool or vehicle used in transformation of raw experience, informed by existing theory, and serves the larger purpose of moral growth of the individual and society.” (p. 863). The emphasis on growth and improvement is clear, and Osterman and Kottkamp (2004) extended that idea when they stated that reflective practice is a process of learning that “builds on and draws from experiential learning, constructivism, situated cognition, and metacognition” and is “rooted in the notion of intentional action” (p. xii). They further asserted that reflection is the road not only to personal development and growth but that it is also the root to transforming an educational organization.

The idea of being a reflective practitioner is often credited originally to Schön (1983, 1987), who pioneered the ideas of “reflection-in-action” and “reflection-on-action” as part of professional development towards a more flexible way of addressing practice situations. Subsequently, the idea of being reflective in professional work has been incorporated into many different areas of professional education and development including teaching, nursing, social work, and various areas of practice with children and families. In a recent review of the literature on reflective practice, Finlay (2008) described the absence of consensus on a definition, including whether reflective practice is done “in solitary introspection” or “in critical dialogue with others” (p. 2). Finlay noted the growing ubiquity of the term and warned of the potential danger in assuming practitioners, programs, and researchers all share the same understanding. Boud (2010) also found that there has been a paucity of research defining reflection and describing how one learns or teaches others to reflect. Finlay (2008) further noted that the terms “reflection,” “critical reflection” and “reflexivity” are often used interchangeably in literature and practice without a clear understanding of differences (p. 6).
Grimmett and Erickson (1998) followed that theme of application and action as they described reflective practice as “how educators make sense of the phenomena of experiences that puzzle or perplex them” (p. 11). While definitions vary within contemporary research, reflection commonly is described with the focus of understanding an experience or situation more fully and using that understanding to enact change. Essentially, it is looking back with the purpose of changing the future.

**Introspection**

The idea of “looking back” is not always interpreted literally, as in looking to a former point in time or a prior circumstance. Looking back, according to Conway (2001), can also mean “turning inward,” which can mean both looking back in time or looking within oneself and projecting an anticipated experience in a time yet to come. Introspection is the process of turning one’s focus inward, toward one’s mental contents and processes. The term introspection and its use became controversial over a century ago when psychology broke away from and maintained its independence from philosophy (Hoor, 1931).

The bulk of the literature on introspection debates the terms and its methodology, not its practical application, nor does it appear to be linked with leadership. Titchener (1912) stated, “The procedure which connotes introspection maybe scientifically illegitimate or even wholly imaginary” (p. 485). A reoccurring theme is the debate that introspection cannot be “consensually validated” because other people cannot observe anyone’s consciousness but their own (Locke, 2009).

Locke (2009) proposed that the activity of introspection is a reconstruction or replay of our behaviors, thoughts, feelings, and experiences. This replay is carried out by perceptual memory and imagination; and by using it, we fashion accounts of our behaviors, thoughts,
feelings, and experiences. These accounts serve as models for the hidden, cognitive levels of our brain. We have no direct access to these hidden levels; therefore, we must model and account for behaviors using the only tools we know.

Locke (2009) reported that failing to take introspection seriously can handicap one’s understanding and perceptions of personal behaviors and relationships with others. For example, Emotions entail automatic, subconscious appraisals based on subconsciously held ideas, yet few discussions on emotions acknowledge this. To understand emotions one must introspect backward in time to identify the roots of our emotions. Learning how to analyze and explain emotions is especially critical. (p. 25)

By resurrecting introspection (conscious awareness of self-examination) as a systematic technique, individuals will learn to examine their emotions as products of their brain processes toward meaning as well as their socially shared cogitations (Ellis, 1991).

**Introspection vs. Reflection**

When someone reflects, they think about themselves, their actions, the way they behave; when someone introspects, they go deeper into their own awareness of their actions. The term reflection technically means the act or state of being reflected. In the sense of reflecting on practice, it implies a fixing of thoughts on something or a thought which comes to mind during the act of consideration (Rodgers, 2002).

Introspection on the other hand has to do with the observation or examination of one’s own mental and emotional state of mind or the process of looking within. The whole tendency to self-evaluate and measure is introspection. Soul-searching is what sums up the essence of this term. In essence, introspection is a deeper and more personal form of reflection. When someone reflects, she carefully examines the facts as they are available to her from the environment and
try and understand why things pan out in a certain way. Introspection on the other hand is a personal and philosophical self-analysis wherein we put to test our own predilections and predispositions and how these influence the way that we act (Locke 2009).

Introspection differs from Schön’s (1987) reflective practitioner model in which reflective practices are acquired with high quality supervision and facilitating, and reflection on previous personal organizational experiences. Schön’s approach differentiates knowledge taught in universities from knowledge gained by hands-on practical experiences of professional practitioners. He called for the use of a practicum involving real-life professional experiences to provide the opportunity for reflection on these experiences. Introspection goes beyond Schön’s model, providing depth to the practice of reflection; it looks outside the work environment into one’s personal life in order to understand how these life experiences may impact thoughts and perceptions. Introspection allows individuals to replay their behaviors, thoughts, feelings, and experiences. Through introspective self-analysis, leaders can begin to understand their life stories and the effect their experiences have on their abilities to work with others; furthermore, introspection allows leaders to question preconceived notions, assumptions, and motives driving their behaviors.

**Conceptualizing Social Capital**

The principle theorists of social capital and its effects are Bourdieu (1986), Coleman (1988), and Putnam (2000). A focus on the resources accessible via social relationships is evident in the work of all three, though each conceptualizes social capital slightly differently. The explanation of social capital as access to the institutional resources has its roots in the work of Bourdieu. Bourdieu (1986) defined social capital as, “the aggregate of the actual or potential resources which are linked to possession of a durable network of institutionalized relationships
Bourdieu (1986) viewed social capital as the value and access to resources available. According to Coleman (1988) who further developed the concept, social capital is defined by its function, “it’s not a single entity but a variety of different entities with two elements in common: they all consist of some aspect of social structure and they facilitate certain action of actors” (p. 98). In other words, social capital is inherent in the relationships between and among people and it facilitates productive activity. Additionally, Coleman (1988) proposed that social capital is intangible and has three forms: (a) level of trust; (b) information channels; and (c) norms and sanctions that promote the common goal.

Following Coleman, Putnam (2000) defined social capital as “connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them” (p. 19). Putnam focused on social engagement and community involvement, two aspects that arise from participation in the activities and relationships that hold society together. When individuals interact regularly and trust one another, social interactions are more efficient. Although Putnam’s conceptualization of social capital situates it within a community context, it does however suggest benefits to individuals (Fox & Wilson, 2015; Jarrett et al., 2005; Putnam 2000).

Lin (2001) conceptualized the most comprehensive theory of social capital to date. Lin’s definition incorporates four major components (resources, social network, social structure, and activation process) to define social capital as the “resources embedded in a social structure that are accessed and/or mobilized in purposive actions” (p. 29). Regardless of varied emphases, most social capital researchers either recognize or imply these four elements.
These four perspectives on social capital differ with respect to their central focus; individuals, groups, and communities. The crucial point to note is that the definition of social capital focuses on the individual and the collective (Villalonga-Olives & Kawachi, 2014). However, at the core of all four concepts is the idea of social capital as social relationships that entail the transfer of resources and provide positive benefits (Portes, 1998).

Scope and Dimensions of Social Capital

Social capital can be broken down and operationalized in many dimensions. Halpern (2005) identifies three “major cross-cutting dimensions” to illustrate the complexities of social capital: components, levels of analysis, and function, while Uphoff (2000) used forms and channels as a way of classifying social capital. Even with describing the dimensions independently, the overall concept of social capital presents a fluid dynamic interaction of all dimensions.

The three components of social capital identified by Halpern (2005) are networks (the interconnecting relationships between people), norms (the rules, values and expectancies that govern social interaction), and sanctions (the punishments and rewards that enforce the norms). These components, though distinct, connect to one another. For example, norms shape networks, which enforce sanctions. Thus, the components interact, influence and reinforce each other.

A second classification of social capital into levels (micro –individual, meso –group, and macro –societal) has deemed useful to its analysis (Brewer, 2003; Halpern, 2005; Newton, 2001). At the micro-level, social capital can be viewed in the form of horizontal networks of individuals and the associated norms and values that underlie these networks (Halpern, 2005; Onyx & Bullen, 2000; Sabatini, 2008). The micro-level is contained to members of a group and social capital gains do not extend to nonmembers. The meso-level characterizes communities
and membership organizations. In turn, this captures the horizontal and vertical relationships among groups and situates it between the individual and societal level. The vertical associations are characterized by hierarchical relationships and an unequal power distribution among members (Brewer, 2003; Grootaert & van Bastelaer, 2001; Halpern, 2005). Finally, the macro-level of social capital refers to relations of social and political environments that shape societal structure and enables the development of norms (Halpern, 2008; Newton, 2001; Sabatini, 2008). According to Halpern (2005), there is “some functional equivalence between the different levels” (p.19) and declining social capital on one level may result in increases at another level.

Finally, there are three primary functions of social capital: bonding, bridging, and linking (Halpern, 2005; Onyx & Bullen, 2000; Sabatini, 2008). The bonding social capital involves connections between individuals in the same position, within homogenous groups (Adler & Kwon, 2002; Halpern, 2005). This type of social capital, which Putnam (1993) referred to as the sociological “superglue”, exists at the micro-level of analysis and is characterized by strong relations and trust and strengthens the horizontal networks (Onyx & Bullen, 2000). In other words, bonding social capital is associated with individuals working collaboratively, leading to a sense of affiliation with each other. This requires time, trust, and motivation (Adler & Kwon, 2002; Halpern, 2005; Sabatini, 2008). Bridging social capital refers to cross-organization partnerships or networks that connect to each other to gain access to information or support. Since this takes place between heterogeneous groups, it allows these groups to share and exchange information and ideas from differing perspectives. This increases the range of trust and in turn can help create an instructional structure that is more democratic in nature. Moreover, bridging social capital serves to expand the skills and network resources that would not be accessible to the individual in other ways (Sabatini, 2008). Finally, linking social capital refers to
“relationships between individuals and groups in different social strata in a hierarchy where separate groups access power and social status” (Cote & Healy, 2001, p. 41). The three functionalities tend to exist simultaneously in varying degrees.

Another categorization of social capital is to divide it into two categories of internal social capital and external social capital based on where actors obtain their social capital resources. Internal social capital comes from social network structures and connections or ties among individual members of an organization or a community (Acquaah, 2007; Adler & Kwon, 2002; Leana & Pil, 2006). External social capital, on the other hand, derives from the social network structures and connections between an actor, organization, or a community and its important external stakeholders (Adler & Kwon, 2002). There is also consensus that internal and external social capital exists in three forms: structural, relational, and cognitive (Andrews, 2010; Nahapiet & Ghoshal, 1998; Uphoff, 2000). According to Nahapiet and Ghoshal (1998), structural social capital refers to the connections among actors, relational social capital refers to trust among actors, and cognitive social capital refers to the level of shared goals and values among actors. Each form of social capital serves as a separate construct, and while the characteristics are similar and interrelated, each has a set of unique qualities. These three forms can influence each other and can exist at the micro-, meso-, or macro-level.

Structural social capital facilitates information sharing, and collective action and decision making through established roles, social networks and other structures supplemented by rules and procedures, making it objective and externally observable (Uphoff, 2000). According to Andrews (2011), important components of structural social capital are network ties that provide access to resources and information. In simpler terms, structural social capital refers to the place a person occupies in a network, the access that person must information, and the social
interactions of that person. Furthermore, structural social capital functions as bonding, bridging, or linking.

Relational social capital refers to the level of trust and reciprocity between individuals within an organization and is dependent upon the characteristics of the social relationships between the individuals (Nahapiet & Ghoshal, 1998). Individuals who trust one another are more likely to exchange information that is not readily available outside the circle of trust (Leana & Pil, 2006). Relational social capital tends to encompass norms and sanctions, respect, obligations, and friendships.

Cognitive social capital refers to the capacity of a group or organization to share the same vision, mission and goals (Chow & Chen, 2008; Nahapiet & Ghoshal, 1998). Cognitive social capital also encompasses community cohesiveness (Uphoff, 2000) and recognizes that exchange occurs within a social context, both created and sustained through relationships (Nahapiet & Ghoshal, 1998). Simply stated, cognitive social capital refers to the shared meaning created through discussions and interactions within a specific, often defined group.

Social Capital and Education

In education research, early studies primarily focused on social capital available to students via their relationships with their parents, reflecting a reliance on Coleman’s conceptualization of social capital. Social capital was used to explain differences in student achievement (Croniger & Lee, 2001; Israel et al., 2001; Kao, 2004), parental influence (Brown, 2012; Horvat et al., 2003; Muller & Ellison, 2001; Perna & Titus, 2005); parent and community (Coleman & Hoffer, 1987); and family structure (Dika & Singh, 2002).

Social Capital in Schools. Studies of social capital in schools have mostly centered around parental networks and their impact on the schooling of children, (Gaitan, 2004)
immigrant and ethnic networks, and schools (Jasis & Ordonez-Jasis, 2012; Trainor, 2010),
adolescents and social capital (Boyd, 2007; Stanton-Salazar & Spina, 2003) or faculty networks
(Bryk & Schneider, 2003).

Among the studies that address social capital within schools, the majority are concerned
with the student-teacher relationship as social capital that contributes to a student’s success in
school. Stanton-Salazar (2004) noted that social networks in schools certainly offer the needed
connections for individuals to access “resources and forms of support” (p. 18). Ryan (2004)
addressed the need for schools to create human capital, specifically fostering social capital
among the students and teachers. A few studies addressed supportive relationships outside
(parents) and inside (teachers and/or peers) school as influencing social capital (Carbonaro,
2004; Garcia-Reid, 2007; Schlee et al., 2009). For example, Garcia-Reid (2007) found positive
and direct effect of teacher support, friend support, and parent support on school engagement,
resulting in enhanced social capital. Carbonaro (2004) specifically examined the relationship
between students’ effort in school and parent, peer, and teacher social capital. The rationale
behind this study was that effort would be strongly linked to social norms, information channels,
and/or expectations. The researcher found that both parent and peer social capital and behaviors
are related to student effort, but teacher social capital is not.

Croniger and Lee (2001) examined whether social capital reduces the likelihood of
students dropping out of high school. The researchers used teacher support of student efforts as
an indicator of social capital and measured this indicator in two ways: (a) students’ perception of
teacher support of their efforts to succeed; and (b) teachers’ own perceptions of the support they
provide to their students. Note that Carbonaro (2004) and Croniger and Lee (2001) viewed
teacher social capital as a function of student-teacher relationships.
More recent work by Prell (2009) examined characteristics of organizations that either constrain or enhance social capital. Since schools vary in structure, (i.e. norms, rules, policies, and practices), all interactions among teachers, administrators, and other stakeholders also are unique to each organization. The structure, routine and/or culture supported by the school leader constitutes the organizational characteristics that influence the relationships among teachers, hence the ability to build social capital.

**Teacher Social Capital.** While the study of social capital began with a focus on students’ social capital as cited above, more recent work shifted attention to teachers (Bryk & Schneider, 2003; Coburn & Russell, 2008; Youngs & King, 2002). Research on teachers’ social capital suggested that social connections and relations can provide access to expertise (Frank et al., 2004; Penuel et al., 2009); expand networks of trust and collegial interactions (Bryk & Schneider, 2003; Coburn & Russell, 2008); and identify and activate essential instructional resources (Spillane et al., 2001).

School leaders can influence teachers’ social capital by establishing structural conditions, such as common planning time and focused professional development opportunities that are conducive to the development of supportive peer relationships (Coburn & Russell, 2008; Penuel et al. 2009; Youngs & King, 2002). Teachers are more likely to interact and develop relationships with their peers when principals implement regularly scheduled meetings, on-site professional development and common planning time (Cosner, 2009).

**Social Capital and Teacher Learning.** Professional development has been viewed to increase the availability of teacher social capital (Johnson et al., 2011). This can be done in two ways, by introducing additional resources into a teachers’ social network or by improving the teachers’ access to the resources that already exist in the network. Recently, education
researchers have described the effects of schoolwide teacher professional development programs on teacher social capital and have shown that an analysis of teachers’ social capital can help explain the success or failure of reform initiatives (Penuel et al., 2009). Coburn and Russell (2008) demonstrated ways in which administration policies are and are not able to increase teacher social capital. Baker-Doyle and Yoon (2011) added another level of complexity as they argued that social networks with the most social capital contain “a delicate balance of knowledge experts, open-minded novices and bridge builders” (p. 90). That is the strength of a school’s professional learning is not only a function of the expertise but the collaboration and sharing of such expertise. The way districts and schools structure routines for professional learning may also influence access to social capital in that some routines and facilitative roles, such as having instructional coaches, may influence the depth and strength of teachers’ interactions (Coburn & Russell, 2008).

**Teacher Social Capital and Reform Efforts.** Some educational researchers have investigated the role of social capital in individual teacher and organizational performance with respect to reform-oriented projects. In the areas of literacy, teachers’ instructional practices were positively influenced through collegial interactions with other teachers whose practices have also changed, as well as through extensive expert-novice interactions (Penuel et al. 2009; Peneul et al., 2012). Frank et al. (2004) found that social capital measures of perceived social pressure and access to expertise had considerable influence on a teacher’s use of computers as instructional resources to their teaching. From this brief review of recent studies, the evidence suggests that teachers’ access to social capital influences how reform plays out in practice.

Leana and Pil (2006) anticipated that teacher external (bridging) social capital would enhance student achievement because through external relationships, more information and
resources are made available to schools. Bridging social capital was measured by the principal’s interaction with external groups. In their findings, Leana and Pil (2006) concluded, “internal and external social capital are determinates of student achievement test scores in both reading and math and are also important predictors of instructional quality” (p. 362). Uekawa, Aladjem, and Zhang (2006) analyzed data to study the effects of teacher social capital on school reform efforts, specifically comprehensive school reform programs. The study results indicated, “some programs were more effective than others at increasing teacher social capital” (Uekawa et al. 2006, p. 305). The programs that explicitly emphasized shared vision and goals among the stakeholders reported elevated levels of social capital. The researchers found that teacher social capital mediated program implementation, which in turn had a strong effect on pedagogical change. In a different approach, Penuel et al. (2009) conducted a comparative case study of two elementary schools undertaking reform efforts. The focus of the researchers was how the resources and expertise residing in the teacher social network were accessed and distributed to accomplish change. Analysis of the structure and content of relationships among teachers in the school indicated a difference in levels of teacher social capital. The results of these studies indicate that teacher social capital, the value residing in teachers’ working relationships, contributes positively to school reform efforts and to student achievement.

The available literature seems thin regarding teachers as building agents of social capital, and nonexistent in terms of teacher leaders’ social capital. Spillane et al. (2012) found that teachers with formally designated leadership positions, such as assistant principals, coach, subject coordinator, or mentor, were much more likely to forge ties with colleagues, build relationships, and foster trust. Thus, the proposed study will look at teacher leader relationships and interactions during leadership tasks as a means of building or gaining social capital.
Understanding how teacher leaders gain social capital can be beneficial for educators as they develop new strategies and plans for better educational success.
CHAPTER THREE: METHODOLOGY

The purpose of this dissertation was to examine how teacher leadership activities contribute to the “social capital” of the activity and to the resources and information teacher leaders' access through their interactions in the social networks of the leadership activities. This study examine the teacher leadership activities and how a teacher leader used social capital to enact change.

Qualitative research can add to the body of knowledge coupling teacher leadership and social capital, by providing deep, rich descriptions of teacher leadership activities (Creswell, 2003). Per Merriam (2009), in fields such as education the basic interpretative type of qualitative research is most common. This basic research style was used to address the gap in literature by the researcher focusing on the actions and experiences of teacher leaders as they enact leadership and use social capital within their academic and educational community. Findings from this study serve as a starting point for how to best support teacher leaders as they move into their new roles.

Methodological Approach

The study of teacher leadership was a study of relationships and interactions as they were lived and conceptualized. This employed qualitative case study research as defined by Merriam (2009), “A qualitative case study is an intensive, holistic description and analysis of a bounded phenomenon” (p. xiii); and Yin (2003) who provided more specific boundaries for case study. It is an empirical inquiry that,

1. Investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident.
2. Copes with the technically distinctive situation in which there will be many more 
variables of interest than data points; and as one result relies on multiple sources of 
evidence, with data needing to converge in a triangulating fashion; and as another result, 
benefits from the prior development of theoretical propositions to guide data collection 
and analysis. (pp. 13–14)

Several contexts bound this case study, including the activity of teacher leadership within the 
cases, the role of various stakeholders within each group, and the emergence of social capital in 
the leadership activity. The study was situated within these interlocking contexts. Through 
qualitative research techniques, the relationships and resulting interactions between these 
contexts, social capital and activity theory principals, and teacher leaders enacting change were 
uncovered.

More specifically than general case study, this study used multiple case study (Merriam 
2009; Yin 2015) as there were two novice teacher leaders participating in the research. The case 
study is written in narrative form and is primarily concerned with providing the reader with insight and understanding of the unique case or situation according to Stake (1995), “Qualitative research tries to establish an empathetic understanding from the reader, through description, sometimes thick description, conveying to the reader what the experience itself would convey” (p. 39). The outcome of a rich narrative text describing the experience of teachers in teacher leadership activities using social capital to enact change is dependent upon organized, flexible, and careful data collection.

Qualitative studies, although found in all disciplines, are “the most common form of qualitative research found in education” (Merriam, 2009, p. 23). This is understandable given that educational research often seeks to improve and/or understand how to improve the practice
of education. Qualitative case study design allowed for the researcher to obtain an in-depth understanding of effective educational processes (Merriam, 2009). For example, the case studied revealed strategies, techniques and practices of teacher leaders and their colleagues. Such insight was not possible with quantitative approaches.

Lodico et al. (2010) pointed out that qualitative research such as qualitative case study is also called interpretative research or field research. The interpretative approach required the researcher to focus on understanding the meaning the participants in the study gave to the events, situations and actions they were involved with, and of the accounts they gave their lived experiences (Maxwell, 2008), providing another rationale for selecting the basic qualitative methodology.

Qualitative research has a specific focus, is emergent, and changes during the process (Creswell, 2009; Leedy & Ormrod, 2005). Qualitative researchers immerse themselves in the complex phenomena they are researching by interacting with their participants. These researchers must be open-minded as they collect their data. Qualitative researchers categorize the data they collect and determine patterns or theories that emerge from the data (Leedy & Ormrod, 2005). These patterns or theories often helped to explain the phenomenon. Qualitative researchers tend to use a small sample from which to collect data from either verbal or nonverbal sources. The qualitative researcher used inductive reasoning from the collected data and drew inferences about the phenomenon (Leedy & Ormrod, 2005).

**Context and Settings**

The study focused on novice teacher leaders enrolled in Phase 2 of the Wipro Science Education Fellowship grant program. The Wipro Science Education Fellowship (SEF) program is a teacher leadership program designed to support experienced K-12 science teachers to
improve their teaching practice and develop into teacher leaders as they continue to work within their districts. This program currently occurs at four locations: University of Massachusetts Boston, Montclair State University, Mercy College, and University of North Texas. Each site’s university partner selected five high-needs school districts, and teachers of varying disciplines and grade levels apply to become fellows. The five-year program is funded by Wipro Limited, a global information technology and consulting corporation with a vested interest in public education, in both India and the US. The program was developed by UMass Boston and is implemented in similar ways across the four universities, with slight variations that accommodate differences in settings.

At all locations fellows apply to the program and are accepted in a cohort model that spans two years. During their two years in the program, the fellows are provided opportunities to grow into teacher leaders, to improve their instruction, to give feedback to other fellows and complete a project that aligns with district priorities. Through these means, Wipro SEF creates sustainable teacher-driven change in the school districts.

At Montclair State University, four faculty members from the College of Science and Mathematics and College of Education, a project manager and doctoral students, coordinate the Wipro SEF program. The faculty members include two professors with expertise in teacher leadership, a mathematics educator who works in STEM education, and the director of a STEM professional development center. Montclair State’s goal is to promote teacher leadership and improve teachers’ instructional practice in schools, with the potential to influence student learning (Crowther et al., 2002). Further, fellows are encouraged to lead within and beyond the classroom, identify with and contribute to a community of teachers, learners, and leaders, and influence others (Katzenmeyer & Moller, 2001). It is the hope of the university faculty that the
fellows will view themselves as teachers of both students and peers and be driven by the desire to influence instructional practice (Danielson, 2006).

Montclair State University completed the initial five-year Wipro SEF program in June 2017 with 60 fellows from the following five northern New Jersey school districts: Clifton, Kearny, Montclair, Orange, and Paramus. The Wipro SEF program was awarded an extension (Phase 2) to foster implementation of teacher leadership within these districts by trained fellows.

The main goal of Wipro SEF Phase 2 was to allow fellows the opportunity to work collaboratively with building principals and/or administrators on projects that will continue to support science teacher leadership in their respective buildings and districts. Fellows who applied for the extension phase had two options from which to choose: (a) To develop a project individually or with a group of fellows or new teachers related to science teacher leadership within their district or across districts; or (b) to facilitate a collaborative group project and lead a community of inquiry in vertical and horizontal groups. Interested fellows completed a Google form expressing interest and intent. A formal information session was held on September 14, 2017 for interested fellows to review the application process. Applicants were notified in October 2017 if they were accepted into Phase 2 which ran from November 2017 to June 2018.

Participants

This study used purposeful sampling to “discover, understand, and gain insight” (Merriam, 2009, p. 77) into a phenomenon. A purposeful sample was defined as a non-random method of sampling where the researcher selects “information-rich” participants (Patton, 2002, p. 230). Patton (2002) argued “the logic and power of purposeful sampling lies in selecting information-rich cases for in depth study” (p. 230). The goal of this study was to find two to four fellows who completed Phase 1 Wipro SEF and were accepted to Phase 2. I conducted a search
for possible participants by reviewing fellows’ leadership plans identified in their application. From the pool of fellows, four potential participants were contacted, based on their project proposals submitted to the University faculty. The four fellows initially identified were from the same school district, which limited the variables in the study. Additionally, these initial chosen fellows represented both middle school and high school academic levels. A recruitment email (Appendix A) was sent to each of the four participants identified. Three fellows agreed to be part of the study, but one backed out prior to the first interview. The two fellows who agreed to be part of the study signed an informed consent form required by IRB (Appendix B). Both participants were female science teachers, one from the middle school and one from the high school. Their years of experience varied.

**Ethical Consideration**

The participants’ rights, interests, and sensitivities of this study were considered first. Participation was voluntary and the participants were allowed to discontinue participation in the study at any time without reprimand. Participants remained anonymous by the use of pseudonyms and access to data was confidential only to the researcher and each individual participant. Data collected from one participant were not available to the other participant. I thoroughly explained my research design to each participant and sought out and prioritized participants’ views, beliefs, and ideas throughout the study. Reciprocity was used with participants. This meant that each participant collaborated with and responded to the researcher’s collection of data and its interpretations through “member checks” (Creswell & Miller, 1994) and had opportunities to provide feedback and disconfirming evidence of my description and interpretation at all phases of the study. I did not receive any disconfirming feedback from any of the member checks.
Participation in the study could help the profession understand better how teacher leaders utilize social capital when engaging in teacher leadership activities and could help participants learn more thoroughly about their own practice. I obtained IRB approval from the necessary review board before contact occurred with participants. The participants were selected for their continued efforts in the Wipro SEF program and their potential to provide knowledge of novice teacher leaders engaging in leadership activities.

Data Collection

Data collection occurred during the 2017-2018 school year. All data gathered from participant resources was collected with explicit permission from the participants and in full compliance with the Institutional Review Board (IRB) guidelines.

In accordance with qualitative research tradition (Denzin & Lincoln, 2005; McMillian 2000; Merriam, 2009, Yin 2003), multiple data sources were collected. Marshall and Rossman (1999) noted, “Qualitative researchers typically rely on four methods for gathering information: (a) participation in the setting, (b) direct observation, (c) in depth interviewing, and (d) analyzing documents and material culture” (p. 105). Consistent with qualitative methods for gathering data, I used interviewing, observations, and document analysis of participant reflections. The qualitative case study design enables the collection of data through interviews, observations, and document analysis of participant reflections (Merriam, 2009). Through open-ended questioning in semi-structured interviews, study participants articulated individual experiences and the researcher was able to seek clarification on statements that otherwise might be misunderstood or taken out of context. In addition, the interview process allowed the researcher to compare participant responses to identify emerging themes from responses. The use of observations is a common place in qualitative case study research, (Denzin & Lincoln, 2005;
Merriam 2009, Stake, 2005; Yin, 2003). They are one manner of obtaining an insider or *emic*, perspective regarding the activity being studied. Furthermore, journal reflections "provide the advantage of being in the language and words of the participants, who have usually given thoughtful attention to them" (Creswell, 2008, p. 231).

The interview process allowed me as the researcher to obtain greater depth of the information gathered from the participants. This study used the semi-structured interview design. In-depth interviewing is used extensively in qualitative research. The technique requires the researcher to explore a few broad topics to help reveal the participant’s views. The researcher remains neutral and allows the participants to frame their responses upon their understanding of the phenomena being examined (Marshall & Rossman, 1999).

**Interviews**

The participants were interviewed two times during the study using a semi-structured interview approach. Semi-structured interviews consist of several key questions that help define the areas to be explored (Gill et al., 2008), but also allowed the interviewer and interviewee to diverge in order to pursue and idea or response in more detail (Merriam, 2009). Each interview lasted between 30-45 minutes. The first interview (Appendix C) took place between November and December 2017, once the fellows embarked on Phase 2 of the program. The goal of this interview was to gain understanding of the participants’ rationale for continuing with the program. In this interview, participants defined teacher leadership and described what they understand to be the role of a teacher leader. Additionally, participants described the leadership project they set forth to complete during the extension year and the rationale or motivation behind this project. Finally, the participant answered questions about resources they believed they would need to complete this task and/or obstacles they feel may potentially get in their way.
The second interview (Appendix D) took place during the summer of 2018 at the completion of the extension year. This semi-structured interview also lasted between 30-45 minutes. Participants again shared their definition of a teacher leader and described any changes they found to their definition based on their leadership experience. Questions also related to the implementation of their task, the struggles they encountered, the resources they utilized, and obstacles they overcame. The purpose of using in-depth interviews was to explore the details of problems, events, and experiences of people and gain unfound knowledge from them (Rubin & Rubin, 2012). This was not to say that structured and unstructured interviews would not provide valid data, but semi-structured interviews allowed the researcher to elicit more information without needing to ask more questions. According Rubin and Rubin (2012) semi-structured, in-depth interviews are designed to elicit more valid data by the participants, providing the researcher with explicit descriptions of their experiences. This interview allowed the interviewer to delve deeply into the social and personal matters and promotes a dialogue between the interviewer and interviewee(s) (DiCicco-Bloom & Crabtree, 2006). The interviews were recorded and later transcribed by the researcher.

Observations

Like interviews, observations must be conducted carefully with strict consideration for the research participants as observations represent a “firsthand encounter with the phenomena of interest” (Merriam, 2009, p. 94). The intention was for all leadership meetings to be videotaped and reordered for the researcher to use as observations. One fellow’s group did not consent to being videotaped, but a draft of minutes and reflections from the meetings were provided to the researcher. The other fellow did video the meetings and these videos were transcribed for data analysis.
Document Analysis

Review of documents is another technique that is consistent with a qualitative mode of inquiry. The researcher interpreted documents to give voice and meaning around a concept or topic. Document analysis incorporated coding content into themes such as how interview transcripts were analyzed (Bowen, 2009). As Marshall and Rossman (1999) stated, “researchers supplement participant observation, interviewing and observation with gathering and analyzing documents produced during every day events or constructed specifically for the research at hand” (p. 116).

The extensive review of documents I performed was “a particularly rich source of information about organizations and programs” (Patton, 2002, p. 293). These documents include: (a) phase 2 application (Appendix E); (b) action plan; and, (c) journal reflections. The rationale for gathering data through document analysis was to provide a comprehensive view of the participants’ social capital as novice teacher leaders. Specifically, the choices of using the leadership task proposal and action plan were to provide a context within which the participant views teacher leadership.

I used the journal reflections to obtain detailed information from the participants as they engaged in the practice of teacher leadership during Phase 2 of Wipro SEF. As Merriam (2009) wrote, “Documents are like observations in that documents give us a snapshot into what the author thinks is important, that is, their personal perspective” (p. 142). This study focused on ways that teacher leaders use the professional development from Wipro SEF Phase 1 to engage in leadership practices and gain social capital, which was why the use of journal reflections helped the researcher to understand the ways different leaders obtain and/or use social capital during leadership enactment. According to Merriam (2009), personal documents, such as
journals, “are reliable source of data concerning a person’s attitudes, beliefs, and view of the world . . . (that) reflect the participant’s perspective, which is what most qualitative research is seeking” (p. 143). In this study, the journal entries helped to guide the researcher in the second interview and provide meaningful details to explore. Additionally, these reflections were used as a means of tracking change and development. Specifically, the reflections allowed me access to the participants’ interpretation or perception of engaging in teacher leadership while immersed in Phase 2 of the project. The participants are familiar with the reflective journaling process from Phase 1 of the Wipro SEF program, so I believed that the information obtained provided context and explanation to the information participants share during the interviews.

**Phase 1 Artifacts**

The researcher had IRB approval and access to all data collected during Wipro SEF Phase 1, from June 2013-present. Once all data for this study were collected, the researcher used Phase 1 interview data, CCLS reflections, and GPS proposals and reports. The use of this data was specifically to provide a contextual background in building the “cases” for each participant.

Looking at several types of data allows comparison and verification of findings (triangulation). Glaser and Strauss (1967) described these several types of data as “data slices” (p.65) each “slice” being another way of knowing about novice teacher leaders access to social capital. Marshall and Rossman (1999) wrote that the use of varied data collection methods, in addition to providing verification, also allows for sensitivity to unexpected findings which might not be uncovered by a single type of datum (e.g., interviewing alone).

**Data Analysis**

As Yin (2012) explained, “In case studies, data collection and analysis are likely to occur in an intermingled fashion. This is because newly collected filed evidence may pose immediate
challenges to any tentative interpretations made on the basis of earlier evidence” (p. 177). When case study data have been structured and coded, a researcher then implements a number of analytic analysis strategies. Yin (2008) referred to this analytical process as a way of systematizing the data. According to Merriam (2009), on the other hand, “Data analysis is a complex process that involves moving back and forth between concrete bits of data and abstract concepts, between inductive and deductive reasoning, between description and interpretation” (p. 176). It is the role of the researcher to make sense out of the data by consolidating, reducing, and interpreting data (Merriam, 2009). The overall process of data analysis should align your data with your research questions. Additionally, in qualitative research, data collection and data analysis were a simultaneous process (Merriam, 2009; Marshall & Rossman, 2011; Rubin & Rubin, 2005). As the researcher, I used the constant comparative strategy for data analysis to continuously review data as it was collected and compare data from journal reflections and interviews to guide additional data inquiry. According to Creswell (2008), the constant comparative strategy for data collection reflects aspects of grounded theory research. As the researcher, I continuously reviewed the purpose of the study and make notes on journal reflections that helped make connections to the research question. Merriam (2009) suggested that the researcher should “read and reread data” and write memos to capture “reflections, tentative themes, hunches, ideas, and things to pursue” (p. 170). This data analysis strategy was used for both the interviews and document analysis.

Qualitative data analysis used in this research study involved coding (open, axial, and selective), categorizing, and making sense of essential meanings of the phenomenon. As Merriam (2009) wrote: “Coding is nothing more than assigning some sort of shorthand
I began data analysis as soon as the first interview was conducted and continued this iterative data collection and analysis process using a constant comparison approach, meaning I compared emerging themes with new data, looking for similarities and differences (Corbin & Strauss 2008; Creswell 2013). I noted initial emerging themes and then compared and grouped them with newly gathered data. These comparisons helped to identify themes and concepts that were most prevalent in the data and helped guide against bias by noting consistencies and repetitions (as well as inconsistencies and anomalies) emerging over time (Corbin & Strauss, 2008). I also used memoing during data collection and analysis to help clarify, interpret, categorize and connect emerging concepts, categories, and themes (Corbin & Strauss, 2008).

Coding

I began data analysis with the initial interviews. The transcripts were read one time through and then a second time to identify open codes in the margins. Initial categories of information were supported with quotes from participants and researcher memos (Creswell, 2013). During open coding, I analyzed data, compared these concepts with newer data, and grouped concepts together to form initial subcategories and categories (Corbin & Strauss, 2009). Data were collected until categories were saturated, meaning no additional categories were found and the researcher repeatedly identified common conceptual themes in the data (Corbin & Strauss, 2009; Creswell, 2013). Categories were broader, deeper, and more abstract than the concepts they held. The development of categories was critical to emerging events, and each category must be considered in terms of which aspects of the phenomenon it represents.
During axial coding, I drew connections between categories and subcategories, considering conditions and context that might help to develop or explain the phenomenon studied. All conceptual relationships that surfaced during axial coding were considered provisions until found repeatedly in the data. This same process of open and axial coding was performed with the transcribed observation, reflections, and phase 1 documents.

As I worked/lived with the rich descriptive data, common themes began to emerge. This stage of analysis involved total immersion for as long as it is needed to ensure both a pure and thorough description of the phenomenon (Merriam, 2009; Marshall & Rossman, 2011; Rubin & Rubin, 2005).

I wrote up each case individually, using a similar outline for each case. This process was followed by a comparison across cases using cross-case analysis. I examined all of the data, looking for similarities and differences. The collective cases are described with numerous narrative passages, providing a rich account of the data to allow the teacher leaders’ stories of enacting teacher leadership and using social capital to be fully conceptualized and interpreted by those who did not have the opportunity to engage in structured dialogue. Pseudonyms were used for the districts, schools and individuals that participated in this study.

**From Themes to Cases**

Qualitative research methods were used given the study's focus on process rather than outcome. I adopted a case study design so that I could use multiple sources of data to construct a descriptive narrative story of individual experiences within a real-life context (Yin, 2003). I used a comparative case study design to draw out commonalities as well as contrasts between the experiences of the teacher participants in the study (Maxwell, 1996). The analysis of data produced two case studies of novice teacher leaders who engaged in teacher leadership activities
within their schools during the 2017-2018 school year. The cases were designed to provide a contextual basis for the teacher leaders from their initial inception in the Wipro SEF program in Phase 1 to their completion of the inaugural year in Phase 2.

The Wipro Science Education Fellowship (SEF) is a two-year program for experienced teachers sponsored by Wipro (www.wipro.com) and based upon the success of the Boston Science Partnership’s Science Education Fellowship, which was supported through the National Science Foundation Math Science Partnership Program from 2009 to 2012. Our university in Northern NJ, partnered with UMass Boston and Wipro SEF, to begin this program in June 2013. A total of 60 teachers in three cohorts completed the program. These teachers were from five different districts in Northern New Jersey. The program used a model of teacher support and development to increase the quality of teaching and leadership in science throughout several districts in several states. This model includes a comprehensive set of activities designed to improve teacher practice, focusing on the outcome of increased achievement in science for all students. The goals of the program were threefold: (a) to create and support a corps of teachers and leaders, (b) to institute a culture of active and reflective instruction, and (c) to improve teacher quality through vertical alignment within content and horizontal alignment within grade bands, meeting in small groups, and professional development to increase student achievement. These goals were met by focusing sustained professional development in three targeted areas:

- **Thinking about teaching**: Teachers were involved in structured inquiry into their own teaching and growth utilizing educationally researched tools. Through a cohort model, teachers met regularly to engage in discussion around core topics focused on teaching and learning. Fellows videotaped their teaching as part of the process. Monthly meetings supported the fellow’s work in the CCLS groups and with individual growth.
• Leadership with Peers: The fellows took individual leadership roles within their districts. These teacher leadership roles were facilitated by work with experts in adult learning and leadership (university faculty). Skills obtained included being able to motivate other teachers, and to bring other teachers along the professional continuum.

• Individual Growth Opportunities: Each fellow identified and pursued opportunities for their professional growth plans (GPS).

The Wipro SEF program sought to develop fellows to be teacher leaders by focusing on classroom instruction, adult learning, reflective practices, and leadership through monthly meetings, collaborative coaching and learning in science (CCLS) cycles, carrying out self-designed professional development plans, and receiving guidance from advisors. The 250-hour requirement was a mix of collaborative work and individual work. Collaborative work focused on:

• Developing relationships with teachers across content areas and levels;
• Videotaping personal classroom instruction;
• Participating in the SEF adapted CCLS model;
• Observing other teachers’ lessons and providing feedback;
• Receiving and anchoring feedback and reflections in educational research.

The individual work focused on:

• Developing and carrying out an individual growth plan that has a clear vision and identifiable benchmarks;
• Meeting regularly with an advisor;
• Reflecting weekly;
• Completing monthly assignments for each fellows’ meeting;
TEACHER LEADER SOCIAL CAPITAL

- Videotaping personal classroom instruction;
- Presenting and disseminating findings; and
- Leading and videotaping a professional development opportunity.

Year 1 of the program relied on fellows meeting monthly as a group to engage in deep, meaningful professional development in the areas of instruction, reflective practice, adult learning, and leadership. The meetings set the framework as fellows developed the skills needed to engage in a teacher leadership capacity. The second highlight of year 1 were the CCLS groups. Each fellow was part of a vertical CCLS (content driven from grades K-12) and a horizontal CCLS with similar grade band teachers (elementary, middle, or high school).

The Vertical Collaborative Coaching and Learning in Science (V-CCLS) model is a variation of the traditional CCLS model utilized by Wipro SEF, where teachers in various grade levels (K-12) met to focus on similar content. The V-CCLS groups consisted of SEF fellows who were within the same content strand of biology, chemistry, physics, or environmental science. The structure of the meetings began with norming and goals. The teams then agreed upon a research article highlighting an instructional practice on which the team would focus during their lesson debriefs and analysis. The remaining time in the V-CCLS consisted of the group debriefing one videotaped lesson from each member and concluding with a synthesis meeting where the entire group determined outcomes of their time together. The lesson debriefs were centered around the instructional practice from the chosen research articles. Fellows gained practice in providing different types of feedback to teachers, while critically analyzing instructional practices through the lens of research. Group members used time outside of the SEF meeting time to discuss the chosen research article, videotape individual lesson lessons, view observation videos, debrief the
observation videos, look at student work, and prepare for a presentation. Groups then presented findings to the whole SEF cohort in January of the initial year.

The Horizontal Collaborative Coaching and Learning in Science (H-CCLS) model was also a modified version of the traditional CCLS model. The H-CCLS groups consisted of Wipro SEF Fellows within the same grade level to form teams of 3 to 4 members. Groups met twice per month from January through May during their first cohort year.

The first step was for the H-CCLS group to determine a Course of Study and theme for their lessons. The group needs determined one research article that anchored their feedback and discourse. Like the V-CCLS, norms were developed at the onset of each group. Then, the group members viewed lessons and participated in debriefs to help support the increased learning within one another. Lastly, the group had meetings to produce a larger group presentation.

The culmination of year 1 was the development of individuated growth plans (GPS) by each fellow. The plans consisted of a clear vision, which guided them through the Year 2 of the program. The philosophy behind the GPS was that fellows needed to engage in work that they would not have the opportunity to do without the program. The plans focused on ways to improve their own instruction and leadership skills. Fellows worked directly with a university advisor who helped them hone their own growth plan as well as act as a liaison between the program and the school district administrator. Each fellow had a small fund to use within the GPS and all GPS projects were presented at a culminating Year 2 event.

Teachers who completed the two-year program within the cohorts had the opportunity to apply for a mini-grant and Phase 2 of the program. In Phase 2 fellows could choose from two options, leading a CCLS or Develop a Mini-Grant (GPS proposal) to facilitate projects that supported science teacher leadership within their buildings or districts.
For the first option, fellows led a CCLS of their own design at the school, district, or multidistrict level. Additionally, fellows had the choice of making this group horizontal or vertical. Fellows were encouraged to include a principal or other administrator to participate in the CCLS as a way of making a greater impact. The objectives of the CCLS experience were to:

1. Engage as a teacher leader by facilitating a CCLS experience for your peers;
2. Disseminate the CCLS model to teachers who are not fellows within and outside of your district;
3. Include building administrators (i.e., principals) in the experience as a means of making greater impact;
4. Think of ways in which the CCLS model could be adapted for different situations (e.g., including support teachers, principals, etc.); and
5. Report out on the experience of being a CCLS facilitator to the Wipro SEF community.

Fellows who chose the second option had the opportunity to develop a new GPS proposal. This was either an extension of Phase 1 GPS or a new one that built on interests and district needs. Fellows were reminded that their work had to extend beyond the classroom and involve other teachers either within your school, district or across districts.

Two teacher leaders who taught in the same school district in Northern New Jersey participated in this study. Their names and the school names were changed to provide anonymity. In addition, to protect the district’s identity, the location was referred to as “Northern New Jersey” rather than citing the specific town. The teacher leaders were “Lauren”, a middle school science teacher with over 18 years of experience and “Jill”, a high school science teacher with over 25 years of experience. Both teacher leaders completed Phase 1 of the Wipro SEF program in separate cohorts and were engaged in Phase 2 during the study.
Trustworthiness

Qualitative research seeks to discover and understand the meaning of events by those who have participated in the experience. I had a philosophical understanding of the phenomenon and determined the amount or method in which his or her personal understandings were introduced into the study (Creswell, 2009). The challenge for me was to be cognizant of any previously understood meaning of the phenomenon through personal or literature examination, while separating this knowledge from the meanings made by the participants. Credibility is the match between the research findings and what was found in reality at that time (Merriam, 2009). To elaborate, the need for creditability was directly related to the trustworthiness of the findings and the bias of the researcher. During the study, my bias was constantly in check through self-reflection when analyzing and reporting findings from the data, however, the reader must be made aware of the background that shapes my character thus being transparent when reporting data.

Creswell (2009) summarized that qualitative validity and reliability are a combination of following a specific protocol through the research design and reporting accurate findings with reasonable interpretations that can be replicated. The design of this study was constructed to focus on reliability procedures such as: (a) transcripts checked for obvious mistakes made during transcription; and (b) ensuring definition of codes do not change during data analysis (Creswell, 2009). The interviews were audiotaped and transcribed and provided to the participants for review and member checking. Member checking is considered an important method for verifying and validating information observed and/or transcribed by the researcher (Creswell, 2009; Merriam, 2009) and is meant as a check and critique of data. Member checking also provided material for further investigation or triangulation (Birt et al. 2016).
CHAPTER FOUR: FINDINGS

This study explored the work of novice teacher leaders who engaged in leadership activities for the second phase of a teacher leadership grant program. I examined teacher leadership activities as a means of building teacher leaders’ social capital. The overarching research question for this study was: How do teacher leadership activities facilitated by novice teacher leaders who participate in a grant funded teacher leadership professional development program rely on social capital to enact change? The specific sub-questions were:

- What kinds of social capital emerge from the fellows’ activities as teacher leaders?
- How are teacher leadership activities navigated or negotiated through the micro- and meso-levels of social capital?

This chapter presents the findings in the form of two case studies of novice teacher leaders who engaged in teacher leadership activities within their schools during the 2017-2018 school year. The cases are designed to provide a contextual basis for the teacher leaders from their initial inception in the Wipro SEF program in Phase 1 to their completion of the inaugural year in Phase 2.

The case descriptions are set up with sub categories to provide a contextual picture of the teacher leader as they progress through Phase 1 of the program into Phase 2. The first three sections, “Teacher Leader as . . .,” “Initial Concepts of Teacher Leadership,” and “Emergent Teacher Leadership” provide biographical information for each participant, data related to their perceptions and attitudes about teacher leadership roles, and their reflections on Phase 1 of the Wipro SEF teacher leadership program. The purpose of this section is to describe in detail the context for the research study. The next section “Use of Social Capital” examines the types of
social capital utilized by each teacher leader, how it worked for them and what challenges they faced. The remaining three sections, “Intentionality Plays a Critical Role in Teacher Leadership,” “Teacher Leadership Activities Require an Introspective Lens,” and “Teacher Leaders Need to Navigate the Activity Pathway to Enact Change” highlight the fluidity and multiplicity of teacher leadership activities and draw on activity theory through a social capital perspective to examine the interconnected nature of relationships among community members (teacher leaders, teachers, administrators, and university faculty).

In each section, the data presented are framed through the lens of the both Activity Theory and Social Capital Theory (AT/SCT). The AT/SCT conceptual framework is illustrated in Figure 1.

**Figure 1**

*AT/SCT Conceptual Framework*

![Conceptual Framework Combing Activity Theory and Social Capital Theory](image)
The AT/SCT framework was used to analyze the teacher leaders presented in this study in various contexts. The primary focus was to analyze and interpret the novice teacher leaders as they engaged in teacher leadership activities, specifically focusing on the teacher leaders’ interactions with the tool, rules, community and division of labor identified in the activity system. These interactions allowed me to determine what mediating factors directly contributed to a teacher leader's ability to achieve the goal of teacher leadership.

Activity theory does not predispose any teacher to be a teacher leader, but provides a way of analyzing activity from the perspective of a teacher that has been designated as a teacher leader in a study. Since an activity may be studied at any point within the activity system, it is important to understand that analysis relies on how the activity is being constructed. Additionally, as the teacher leaders interact with various parts of the activity triangle, I present the types of social capital which emerge from their teacher leadership work. For this study, I focus on three structural dimensions of social capital: cognitive, relational, and structural (Nahapiet & Ghoshal, 1998). Since social capital, as discussed in the literature review, resonated between the individual level and the community level, I also analyzed the teacher leaders’ use of social capital at the meso- and micro-levels.

Lauren – Middle School Science Teacher and Emerging Teacher Leader

Teacher Leader as Collaborator

Lauren is a middle school science teacher in Northern New Jersey. Her school serves 720 students in grades 6–8. There are three middle schools in Lauren’s district that feed into one comprehensive high school. Lauren’s middle school within the district is the Visual and Performing Arts Magnet School. The mission of the school relies on community, curriculum, coherence, climate, and character as the fundamental building blocks. Students truly have
choices; real options that promote excellence in living, as well as learning. The school employs a house system of teaming. Students are assigned to one of six houses. Within the house structure, a sense of family is developed as teachers and students connect to create a community. Lauren shared, “the value of family is affirmed and students are supported by a team of teachers who encourage them” (Phase 2, Interview 1, p. 3).

Lauren has over 18 years of teaching experience, specifically in middle school science, which spans two school districts. She graduated with a B.S. in International Environmental Science from Rutgers University and worked as an environmental consultant in the Pacific Northwest. After moving back to New Jersey, she decided to pursue a career in teaching. Lauren followed a traditional route for education, receiving a Masters of Arts in Teaching from Montclair State University. She found that within her preservice program “reading journals and theories provided me a basis for my own teaching profile. I worked with colleagues on reflecting on our practice and helping each other grow, all areas I guess will help me as a teacher leader” (Phase 1, Interview 1, p. 5). Lauren also emphasized the positive role student teaching played in her current practice, because she felt she lacked specific skills in science methods when enrolled in her preparation program: “I only got to take one science methods class. I think more methods classes where you learn, um, hands on activities to use in your classroom would have been great. That is what I try to share with my colleagues” (Phase 1, Interview 1, p. 5).

Lauren was a member of the science department in her initial school district for 10 years, where she “did play a role as a leader” (Phase 1, Interview 1, p. 2). When asked about her leadership roles, Lauren explained this as being a curriculum writer, mentor, professional development leader, sharer of best practices, as well as science fair director. She viewed the different leadership roles as a mix of formal and informal responsibilities, “A lot of it was
informal, but I feel there was formal as well I guess. The curriculum writing, mentoring, and PD [professional development] were my formal roles, but I always was leading my colleagues to be better, which I see as informal” (Phase 1, Interview 1, p. 2). Lauren shared that her district trained her in mentoring and curriculum writing, “which was formal” (Phase 1, Interview 1, p. 2), while her team leadership was more informal training of trial and error. Lauren recognized these events as the infancy stage in her development as a teacher leader.

When Lauren transitioned to her current middle school in Northern New Jersey, she was immersed in a kind of teacher leader role again through her work with colleagues. Her school uses a house system of teaming. The term “teaming” refers to pairing a group of teachers (between four and six) with a group of 80–100 students. In most cases, a team is built around the core subject area teachers in English language arts, math, science, and social studies. Guidance counselors, special education teachers, and other specialists are assigned to teams. While teaming may be structured differently from school to school, there are two general forms: 1) horizontal teaming, the grouping of students and teachers at a grade level, and 2) vertical teaming, which is the continuation of a horizontal team across multiple grade levels, such as the seventh and eighth grades. One form of vertical teaming is known as looping, where the teachers and students remain on the same team for consecutive years. The general goal of teaming is to provide a more personalized learning experience for students. With teaming, it is logistically easier for a group of teachers to schedule regular meetings and discuss the students they have in common, often in the form of a professional learning community. Team teachers meet to review student performance data, discuss which teaching methods are working for some students and which are not, plan appropriate support strategies for teachers, and develop lessons and projects collaboratively. When designed and executed successfully, teaming can also foster greater
collaboration among teachers, provide a feeling of continuity and mentorship for students, and create a stronger sense of community. Lauren’s school refers to the different teams as “houses” (Phase 2, Application).

Lauren is a member of the House Titus at her middle school. The members of House Titus include Lauren, the science teacher, Ms. C., the social studies teacher, Ms. D., the Language Arts teacher, Mr. T., the math teacher, and Ms. W., a special education teacher. Lauren explained that the house model is effective because it allows teachers time and space to discuss the students they have in common and to establish stronger teacher-student relationships. The house system in Lauren’s school loops with the students for three years, meaning that the teachers follow the students through grades six through eight. Within the current structure of Lauren’s school, the house has team meetings regularly which Lauren viewed as beneficial to her teaching, as well as her colleagues’ teaching, and her students’ learning. She reflected, “We have meetings where everybody shares what they are teaching now, and then I can help them . . . and it helps me because I like to do things they are not already doing. So, when we all get together, my class benefits” (Phase 1, Interview 1, p. 6). As Lauren began Phase 1 of Wipro SEF, she had already begun to exhibit intrinsic leadership characteristics, which seemed to make up her informal teacher leadership role. She thrived from working in collaborative relationships with her colleagues and felt empowered to be an effective teacher – the job she was hired to do. Lauren explained that to her being an effective teacher meant seeing her students succeed. The Wipro SEF program appeared to be an opportunity for Lauren to increase her abilities as a teacher leader, explore new classroom practices, and build the confidence and strategies to share those practices with others.
Lauren shared two formal goals for her professional career at the current middle school during her initial interview for the Wipro SEF program. First, she hoped to make science accessible to the middle school students. She explained, “Middle school is often where the students are first exposed to real science. I would like to build the foundation and build the program, and eventually share [that] with the other schools” (Phase 1, Interview 1, p. 1). She also expressed the goal of reaching the divide between classes within her school population. Lauren shared, “Of most concern to me is the divide in class, and how I am trying to serve students that are underserved” (Phase 2, Application). Lauren further explained how collaboration and leadership were essential to her achieving this goal, “Where I work there is a large gap, children with money and children without. There seems to be a lot of trouble with serving the underserved. I think that helping my colleagues better understand their role, will help move the department and the school in the right direction” (Phase 1, Interview 1, p. 4).

Lauren understood the importance of collaboration among and between teachers for student success. The conditions within the house system at Lauren’s school allowed a space for teachers to engage in the powerful act of collaborating. Lauren’s role as an emerging teacher leader effectively brought her house members together routinely to engage in discussion about classroom experiences, to strengthen pedagogical expertise, and to push each other to try new things. Such collaboration was built on trust among teachers and between teachers and leaders within the community. When examining Lauren’s teacher leader role as a collaborator prior to her participation through the AT/SCT lens, it is evident that she was able to establish the foundation of the activity triangle in terms of rules, community, and division of labor. The terms at the base of the triangle: Rules, Community, and Division of Labor, make up what Engeström (1999) refers to as the social basis of the activity system. The social basis situates the activity in
a broader context that allows us to account for the influences that shape the activity. Specifically, the community is the larger group of which the subject (teacher leader) is part. The community’s interests shape the activity. In most cases community members divide up the work needed to accomplish their objective(s). The division of labor describes how tasks are distributed within the activity system, which at times due to positions within that division, can cause conflicts within the activity system. Lastly, the rules are one way of attempting to manage or minimize these conflicts within the activity systems. Rules are defined not only as formal and explicit dos and don’ts, but also norms, conventions, or values. With this stability, the collaborative nature Lauren emphasized within her house allowed for a holistic view of student learning from all committed adults. This is important on two levels. First, this type of commitment fosters values that guide the subsequent use of learning both knowledge and skills in the wider world outside the classroom. Second, this commitment was seen as an internal motivation from the teachers of Lauren’s house who recognized a need for greater responsibility in their work as their level of participation in the activity grew. Lauren’s focus on meeting students’ learning needs, helping students understand themselves as learners, and advocating for them as learners were attributes of her practice prior to her participation in Wipro SEF, which supported her transition into the role of teacher leader.

**Initial Concepts of Teacher Leadership: Classroom Supporter**

The teacher leader as classroom supporter is someone who works alongside their colleagues towards positive change through sharing, collaborating, and envisioning. The classroom supporter shares her own classroom success with others to implement new practices, collaborates with a team oriented mindset, and envisions the system as a whole rather than through the lens of an individual classroom. Lauren began the Wipro SEF program in 2015 with
over 13 years of teaching experience as a middle school science teacher. When she started the program, she was in her first year in her current district, but explained that in her previous district she “did play a role as a teacher leader” (Phase 1, Interview 1, p. 2). When asked about her definition of teacher leadership, Lauren shared, “a teacher leader is somebody who can bring together the team they are working with, for a common advancement or common good” (Phase 1, Interview 1, p. 2). When Lauren shared the notion of bringing together a team, she saw this team as not only the science teachers in her school but all the other middle school science teachers in the district. Lauren’s first view of leadership was from a grass roots approach, where each member of her team would be a contributor and share the responsibility of achieving excellence. She saw herself as a lifelong learner and knew the value and importance of learning alongside her team members in an informal teacher leadership role.

Lauren highlighted specific skills needed to bring a team together as a teacher leader: “I think you have to know what people want to learn about, so that you find the needs that people are interested in. To be able to communicate and lead other people you must be able to assess what you are trying to teach them” (Phase 1, Interview 1, p. 3). Lauren’s teacher leadership style relied on her not only listening to teachers she worked with but also hearing what each one had to say. In contrasting her role as a teacher of students to a teacher leader of adults, Lauren emphasized that the skill set is similar, but a teacher leader “would be more interpersonal, so you can you know communicate with different kinds of people and personalities” (Phase 1, Interview 1, p. 3).

Lauren attributed her interest in teacher leadership with her passion for curriculum and guiding curriculum not only in her school, but with her district through the concept of vertical articulation, “helping align the curriculum so that you are working well with the high school and
the elementary school and helping to make things more cohesive. (Phase 1, Interview 1, p. 3). Additionally, Lauren saw the need for a teacher leader to have more community involvement, “I need to know and work with the community I am immersed in” (Phase 1, Interview 1, p. 3). She also suggested that administration must be “approachable and on board” (Phase 1, Interview 1, p. 7) for teacher leadership to be effectively executed. In her current role, she believed that her administration supported her drive to become a teacher leader. Lauren’s need for professional growth played a major part in her investment in the Wipro SEF program. She shared, “this program will help my students, help me and professionally enhance my skills” (Phase 1, Interview 1, p. 7). Lauren’s practice of teacher leadership in her school setting involved supporting the decision making of teachers in the service of student learning. Additionally, she has a repertoire of leadership styles that can be practiced both inside and outside the classroom.

**Emerging as a Teacher Leader in Phase 1: The Learning Facilitator**

As Lauren engaged in Wipro SEF Phase 1 of the program, she continued to learn qualities of teacher leadership through the program’s structured activities. This included training on topics like the Next Generation Science Standards (NGSS), classroom discourse, and identifying core beliefs to shape teacher practice. Through guided activities led by university faculty, Lauren engaged in professional learning which aimed to sharpen her skills in teacher leadership. As evidenced below Year 1 of the Wipro SEF program was pivotal to Lauren becoming an active member in the vertical and horizontal CCLS groups.

Lauren was one of five Wipro SEF fellows in her vertical group, from four different school districts in Northern New Jersey. The group contained two elementary grades 3-5 teachers, two middle school grades 6-8 teachers (including herself) and one high school teacher. All teachers had the commonality of working with Earth and Environmental Science within their
team. Before beginning work in their vertical collaborations, fellows were instructed to identify a problem of practice, find and read a research article about this, and plan lessons that might exemplify what they learned. When asked about her experience with the vertical groupings Lauren shared, “I enjoyed the vertical grouping because it gave me an overview of the different age levels and a complete scope/picture so you can see where your piece of science fits into what everyone else is doing” (Phase 1, Interview 2, p. 1). Lauren used the vertical group as a reflective tool for her own classroom. She shared, “I was amazed at the complexity that some of the students were doing at a younger age level then where I am” (Phase 1, Interview 2, p. 1) and “It was good for me to know where my students need to go . . . I prepare but never have the follow up to know if it worked” (Phase 1, Interview 2, p. 1). As Lauren transitioned to her horizontal grouping, she hoped for “new ideas and techniques to try out in my classroom. I hope we can share valuable feedback because we work in similar settings” (Phase 1, Year 1, Exit Survey).

Similarly, Lauren’s horizontal team was made up of three SEF fellows, all who were middle school (6–8) science teachers focused on a NGSS Science and Engineering practice and an instructional focus. Lauren and her team, the Space Cadets, chose to focus on Science and Engineering practice #8—obtaining, evaluating, and communicating information and classroom discourse in science, specifically the use of mathematical tools to communicate information. In an interview after year 1, Lauren shared her thoughts on horizontal grouping, “I was very comfortable because I was working with people who deal with students at the same age level and we agreed upon a topic” (Phase 1, Interview 2, p. 2). Lauren highlighted the benefits of “just going through the experience . . . put me on a path to be a learner and not just a teacher” (Phase 1, Interview 2, p. 3).
Lauren’s continued development as a teacher leader was influenced by her experience within the vertical and horizontal groupings. She noticed that teaching alone did not necessarily encourage her teacher leadership growth. From her perspective, her growth as a teacher leader was increased by the deepening of her reflective practice as well as the engagement of colleagues in discussions around professional practice beyond the classroom. Because of the attention on reflective practice, Lauren believed that participating in the Wipro SEF fellowship strengthened her teaching, “By looking at what is going on I actually changed the way I ask questions. I tried to change the dynamic in my classroom so students were more responsible for asking questions” (Phase 1, Interview 2, p. 2). Lauren directly related this concept to her own responsibility to be reflective about her teaching practice. She discussed how the CCLS experience improved her teaching and strengthened her ability as a leader. She found that teachers, especially those that saw themselves in the role of teacher leaders, needed opportunities to critically examine their teacher and receive constructive criticism. She shared how “the experience of warm and cool feedback and how to be critical is what helped” for her (Phase 1, Interview 2, p. 2). Lauren also used reflection to hone her teaching practice, “I am more comfortable with mistakes. It’s ok to fail” (Phase 1, Interview 2, p. 2). Lauren emphasized that feedback from other teachers and suggestions on how to improve teaching were key not only to reflective practice, but to her continued emergence as a teacher leader. As Lauren finished year 1 she shared, “I don’t have administrators that give me good or even relevant feedback. I’ve been doing this a long time and no one has told me if I am a teacher leader. Now to sit and work with other teachers I never met and realize I am doing it right and my vision is positive really helps and motivates me” (Phase 1, Interview 2, p. 5).
Once Lauren realized that teaching is cyclic, and reflection is part of the cycle, she reimagined her ideas about science teacher leadership. When asked to redefine a teacher leader, Lauren shared, “someone who is competent in the content and how to deliver and can work with other teachers who are not comfortable with the content. . . This is what I am trying to do” (Phase 1, Interview 2, p. 3).

A situation presents an opportunity for a teacher leader to share her expertise in an informal role where she can influence other teachers to improve their practice. As Lauren embarked on Year 2, she set out with a pointed goal to enhance her own teaching and leadership skills. Her growth plan (GPS) which would guide her fellowship work during the second year was focused on technology as a tool to support student collaboration. In the formal proposal presented to the Wipro SEF university faculty, Lauren shared the following formal goal, “Utilize the technology tools available via Google Classroom to facilitate student collaboration” (Phase 1, GPS proposal, p. 1). Lauren saw the need for this project, given the changing workplace in the 21st century. In her proposal rationale Lauren shared,

I hope to teach my students the skills required for effective collaboration . . .

Collaboration is especially important in the field of science. . . I would like to use technology to facilitate scientific collaboration in my classroom. With these tools, I hope to encourage students to explore, refine, and question new ideas that we discover in the classroom. (Phase 1, GPS proposal, p. 1)

The work Lauren completed in the first year of the Wipro SEF program allowed her to transfer skills and hone practices she researched during the horizontal and vertical grouping. She knew communication was a necessary skill by both teachers and students, and this was something she worked to improve on during year 1. She reflected: “I learned from valuable tools in my
classroom, especially how to communicate better” (Phase 1, Year 1 Exit Survey). She saw the GPS as an opportunity to “begin to foster the practice of working together . . . by my students and my house colleagues” (Phase 1, GPS proposal, p. 1). Lauren knew that for this to work, she would need the other members of her team to also participate in this initiative. Therefore, she set a timeline which incorporated details for how she would be trained in the technology, how she would implement this technology in her own classroom, and how she would disseminate what she learned to other teachers within her team. During her cohort 3 exit survey, Lauren concluded: “It [Wipro GPS] has helped create more opportunities for my student to collaborate . . . and the program showed me that the people I work with are receptive to new ideas and excited to try new things” (Phase 1, Exit Survey).

Lauren’s work through the initial two-year phase of Wipro SEF provided her with the tools and motivation to continue to work toward her teacher leadership role:

I feel as though this program has led me to the next phase of my career as an educator. I am no longer content working within the bubble of my district, and aim to impact the way science education is approached on as large a level as possible. Being part of this fellowship has afforded me the freedom to explore new possibilities and the confidence to do as much without fretting over if something will initially "work." The coordinators did a stellar job designing a program to promote growth in teachers. (Phase 1 Reflection)

Phase 1 of Wipro SEF encouraged Lauren to strengthen her development as a teacher leader. She learned this primarily through practicing leadership in context. She was becoming the kind of teacher leader who positively influenced other teachers by practicing her expertise while encouraging other to share their expertise. This affirmed her notion that teacher leaders are collaborators. Key to Lauren’s teacher leadership practice was knowing when to lead, when to
listen, and the overall situation. She seemed to understand that becoming a leader was more than acquiring a position or title. Since teacher leadership occurs within a socially constructed environment, Lauren believed that her commitment to her work within Wipro SEF benefited others and that allowed her to keep going. Teacher leaders like Lauren need resources to renew their energy. Lauren renewed her energy from the inspiration she gained from the positive experience of Phase 1.

**Phase 2 – Leading a Horizontal CCLS: A Catalyst for Change**

Teacher leaders are educators who positively influence their peers by establishing and sustaining collegial relationships for affecting change. Lauren’s two-year work in Phase 1 of the Wipro SEF grant allowed her to acknowledge that she was ready to move into the role of teacher leader within her district. She reflected:

I relish this opportunity to learn about and grow my skills in teacher leadership. This program has given me practice and the confidence to step outside of my comfort zone and take risks as a leader. I am glad that I have been able to have the Wipro experience to grow into a more formal teacher leader in my school. (Phase 1 Exit Survey)

Additionally, the Wipro SEF program provided Lauren with the necessary tool box to build her skills as a teacher leader within her personal educational setting. Lauren shared, “I gained valuable tools not only to use in my classroom, but to spread amongst my colleagues. I also learned how to communicate, something I see as a key factor in teacher leadership” (Phase 1, Final Reflection). Lauren indicated that she was ready to be acknowledged as a science teacher leader, “When I worked in this group [horizontal], I practiced taking a leadership role. As someone that typically waits for direction in a group, I was comfortable finding my voice and working to keep us all up to speed in the CCLS” (Phase 1 Exit Survey). When applying for the
Phase 2 Wipro SEF program, Lauren committed to leading a horizontal CCLS group in the role of novice teacher leader. Her work with this team created an opportunity for teachers to engage in deep, meaningful discussion. The instructional focus as described in her application was “a cross-curricular approach to teaching science, with an emphasis on the following NGSS science and engineering processes: (1) using mathematics and computational thinking; (2) engaging in argument from evidence; and (3) obtaining, evaluating, and communicating information” (Phase 2 Application). Lauren believed that these skills from the NGSS were ones that are needed to be a well-rounded student, and can be reinforced in all courses, which is why they were the focus of House Titus’ CCLS.

Teacher leadership puts a premium on leadership practice in context (Katzenmeyer & Moller, 2001; Robinson, 2007; Smylie et al. 2002). Learning to lead in context was imperative in the social practice of teacher leadership as experienced by Lauren in Phase 2. Lauren was learning to be a teacher leader in relation to the social world of middle school education. As I mentioned earlier, she is a member of the House Titus, at her middle school. In her recruitment plan, Lauren shared, “I teach in a "House" at [my] Middle School. We are a team that teaches four basic disciplines (LA, SS, Science, and Math). Our team includes an in-class support teacher. We have the same 106 students for three years. I have discussed my plan with the members of my team and my plan is to recruit them for the CCLS experience” (Phase 2 Application). Lauren’s purpose was to extend a structure already in place. As a catalyst for change, Lauren was not content with the status quo, but was looking for a better way for her house members to meet the needs of the students within her school. Her house has a common planning time weekly, “teachers meet weekly already. I want to make meetings during the school year devoted to my vision or goal” (Phase 2 Application). This suggests Lauren’s commitment
for continual improvement. She saw the need for her team to meet with a purpose to enact change. With this notion, Lauren set out to meet 6 times over the course of the 2017-2018 school year, “We will hold monthly meetings for the CCLS. . . . There will be 6 meetings in total. In addition to these CCLS meetings, we will communicate during our regular common planning time throughout the school year” (Phase 2 Application). Furthermore, Lauren modeled Wipro SEF protocol of setting up norms and for the CCLS meetings as she learned during Phase 1 of the program. She specifically articulated, “Our CCLS will have one meeting to focus on setting up protocols for our horizontal CCLS” (Phase 2 Application).

Participation with other educators in a learning community such as Lauren’s CCLS team is part of a teacher leader’s work. What is more, as a teacher leader Lauren interacted on individual or personal levels with her colleagues as she enacted leadership and this in turn encouraged the members of her CCLS team to actively participate. In my analysis of Lauren’s leadership work with the teachers in her house, I noticed two types of interactions. First, I saw her collaborating with her house team mates. This involved each member of the house contributing in a unique way to the larger commitment of educating all of the students in their house. An important task a teacher leader undertakes is to conceptualize how each role relates to the function of the whole group. Second, Lauren displayed the ability to relate to her colleagues in professional and personal ways. Her professional demeanor allowed for her to have quality professional relationships with these team members. These relationships were based on Lauren and the teams’ advanced agreement on how they would work together to meet the needs of their students. Lauren’s leadership served as a model and was transparent so that her house team members could learn from her.
Lauren knew the importance of having clear goals, expectations, and outcomes as a teacher leader. This was her activity pathway to enact teacher leadership within House Titus. Lauren began her teacher leadership activity by working with the House members with an anticipated outcome and plan to determine progress and success:

One of the measures I will use to gauge my progress and eventual success is completed student work. I hope to find clear links between each discipline in the assignments that they complete. Through their work, I will be able to analyze any connections that they make in each of their classes. Another measure will be completed surveys. I will survey the students as well as the members of the CCLS throughout the year to see if the cross curricular approach to teaching was meaningful. I will also create an end of year assessment that integrates each discipline. (Phase 2 Application)

During Lauren’s first interview, she reiterated this by stating, “The goal is to shift the conversation for the house from just focusing on the students to more focus on a goal or an instructional piece” (Phase 2, Interview 1, p. 1). Lauren elaborated on this later making distinct connections between science and math courses, “I teach a lot of things in science and if the math teacher and I talked beforehand... the kids would get more out of it” and between the science and ELA course, “we are doing a research paper in science, and the LA teacher introduced how to use sources and MLA... so this can really help our teaching” (Phase 2, Interview 1, p. 2).

House Titus met six times during the 2017–2018 school year for Lauren’s horizontal CCLS: November 3, December 4, January 25, February 27, March 16, and April 8. Lauren set out to facilitate these meetings to help focus on instruction, “I think I can help them in their instruction and the way that we do things so we can be on the same page for the students” (Phase
As part of the Wipro SEF Phase 2 program, Lauren submitted quarterly reflections which outlined the meeting as well as contained her personal narrative or reflection. This study is framed around activity theory and social capital theory and the understanding that teacher leadership is a social endeavor involving teachers’ knowledge and skills and their ability to gain expertise through interactions with others. Teacher leaders have access to social capital – resources and networks they can tap into to further hone their knowledge and skills. It is important to look at Lauren’s social capital through Phase 1 of Wipro SEF and as she embarked into Phase 2.

**Lauren’s Use of Social Capital**

Lin’s (2001) definition of social capital as “resources embedded in social structure that are accessed and/or mobilized in purposive actions” (p. 28) informs the conceptual framework guiding this study. The social interaction of teacher leaders within the school environment can influence a teacher leader’s actions. Social capital is evident as teachers shift their role to teacher leaders. While social capital is relational in nature, for those involved in the relationship it can be a kind of possession. Once the relationships are established, members of a network have access to the resources which establish social capital. Lauren most often addressed two social capital dimensions throughout her interviews. First was the structural social capital in the form of opportunity, structure, or ties to others in their network. Second was the relational social capital in the form of motivation and trust, and especially trust of those within the network.

Lauren frequently referred to her social networks or connections. She explained how the team or house structure influenced her classroom instruction, “House Titus teachers worked with each other, if needed we observed other classrooms, shared lessons, and saw students in different atmospheres” (Phase 2, Interview 1, p. 4). Lauren’s example showed how just by being a
member of House Titus, she had already gained structural social capital, specifically the social interactions which occurred at the meso- (community) level. Lauren shared another example of this when discussing the Language Arts veteran teacher in House Titus, “Like I said this woman, my language arts teacher who has been there forever. Now that we are talking about what we do in class she guides me as what I need and how to get them” (Phase 2, Interview 1, p. 4). Another aspect of structural social capital which Lauren relied on was the access to resources (or tools) within the activity triangle. From her completion in Phase 1 of the Wipro SEF program, Lauren gained valuable techniques and protocols which she could utilize as a teacher leader when working within her CCLS. For example, in Lauren’s first interview during Phase 2 she shared, “I have been thinking about what my own teams did in Wipro SEF, both the horizontal and vertical. I am using the structures I learned to facilitate our meetings” (Phase 2, Interview 2, p. 3).

Lauren’s structural social capital was tangible and could be observed by the existence of network ties as well as tools and social interactions.

Trust is another form of social capital that plays a role in the construction of teacher leadership. Relational social capital is a dimension of social capital that relates to the characteristics and qualities of personal relationships such as trust and respect. The key aspects of this dimension rely on trust, trustworthiness, norms, and sanctions. To quote Lauren, “I feel like House Titus trusts me . . . and I’ve come up with a lot of ideas for our CCLS” (Phase 2, Reflection 2). One common strategy that Lauren and her team used to develop trust within the network was to open their own teaching practice to others, a move that Lauren described as only occurring because of the trust built within the group. For example, Lauren shared a time when she invited the language arts teacher in to observe her introductory lesson for a science research project for some cross curricular support. As a result of this observation, they both planned
lessons around the science research project. Lauren focused on the science content and the language arts teacher worked on developing research techniques. Lauren shared the outcome of the above action: “The LA teacher, she introduced it [science project] in Language Arts, not my project but how to use appropriate sources and MLA and that type of thing” (Phase 2, Interview 1, p. 2). Because of this collaboration, the students had an interdisciplinary experience where they learned content across multiple classes. Facilitating interdisciplinary instruction demonstrated Lauren’s relational social capital specifically at the meso-level, since it involved the group or entire network community. Additionally, as Lauren gained this relational social capital in her teacher leader position, she realized that members of House Titus would look to her for common planning and other instructional guidance. She used her classroom teacher position to model behaviors consistent with the social trust that she wanted her house members to emulate. The three elements of relational social capital, trust and norms, encourage knowledge sharing with a network (Wasko & Faraj, 2005). Therefore, all the members in a network benefit from knowledge sharing (Song et al., 2007).

Relatedly, Lauren honored the experiences and expertise of the members of her team, exhibiting trust in their input. For example, Lauren noted other teachers’ strengths and asked them to lead meetings or share on topics that aligned to the instructional focus of their CCLS. For example, Lauren described the social studies teacher’s expertise in relation to her science class, “We found an article on how Isaac Newton inspired the American Revolution. The social studies teacher is going to bring the physics of the war into his classroom. We will try to align this to when I am teaching Newton’s Laws of Motion” (Phase 2, Reflection 2).

**Intentionality Plays a Critical Role in Teacher Leadership**
I found that intentionality, or the act of being deliberate or purposeful, was critical to Lauren’s teacher leadership during her engagement in the house team CCLS. A primary purpose of teacher leadership in this study was to assist teachers in becoming intentional in their practice. Lauren believed that teacher leadership intentionality not only improves instruction for students, but that it also informs collegial dialogue that builds a culture of collaboration and enacts change. Lauren’s application and initial interview portrayed this intentionality. She shared, “I think they [teachers] need to be heard . . . there has to be an open forum for collaboration . . . and sharing ideas to focus on the good for our students.” (Phase 2, Interview 1, p. 2). Lauren articulated the clear intention for leading the CCLS in her Phase 2 application, “eventual success can only be measured by student work. I hope to find clear links between each discipline in the assignments they complete, their work. This will allow me analyze any connections students made, based on our houses intended goal” (Phase 2 Application). Intentional activities guided Lauren’s leadership activities. The intentional focus on lesson planning across content areas and grade levels exemplified how teacher leadership can be enacted during structured house meetings already in place. The time together provided teacher and teacher leaders a social structure to engage intentional activities relevant to them.

Intentionality within teacher leadership activities relies on the social capital of the teacher leader, specifically the social relationships which are embedded within their working relationships. Commitments, trust, and respect correspond to three different aspects of social capital proposed by Nahapiet and Ghoshal (1998): structural, relational, and cognitive. These facets of social capital (structural, relational, and cognitive) are interrelated and not independent of each other. Additionally, when referring to the conceptual model, Figure 1, this interrelated nature is apparent within the activity triangle framework. As a result, the aspects of social capital
are better captured in three subthemes around teacher leaders’ intentionality: (a) Teacher leadership activities require commitment; (b) Teacher leadership necessitates a time commitment; and (c) Teacher leadership activities thrive in a safe culture.

**Teacher Leadership Activities Require Commitment**

Teacher leadership work can be motivating when a teacher leader is involved with a team of colleagues who are committed to enacting change. In her first monthly reflection, Lauren emphasized this commitment by sharing, “My house team meets now daily with the intent of talking about our upcoming lesson plans and to see if there are ways we can make connections. It’s not just about necessary house business” (Phase 2, Reflection 1). In the role of teacher leader, Lauren attempted to continue her efforts of a cross curricular approach to teaching by tapping into the commitment of her colleagues. This commitment by the teachers within the CCLS groups illustrated the way relational and cognitive social capital emerged for Lauren. Throughout the entire endeavor, Lauren’s house was committed to engaging in teacher leadership activities. In her initial interview Lauren shared:

> We have a house system, so all the subjects have the same kids. We are trying to meet more of often, everybody wants to. When we meet we have always talked about kids, and there are certain things we must cover because of standards, but now when we meet, we are trying to talk about lessons. (Phase 2, interview 1, p. 3)

The commitment of Lauren’s house remained evident in Lauren’s first two reflections. She stated, “All of the teachers in my house jumped into this project with both feet. We are enthusiastic and believe that we can make a meaningful change” (Phase 2, Interview 1, p. 2). In a subsequent reflection, Lauren expressed passion around the progress the group had made in the initial part of the program, “We had many meetings to talk about student performance and
behavior, but before this we never spoke about curriculum. Even the special education teacher described this as her dream come true, all the curriculum circling and touching” (Phase 2, Reflection 1). When viewing the commitment of Laurens’ team through the AT/SC conceptual framework, it was evident that Lauren relied on the relationship between cognitive and relational social capital. In this context, the cognitive dimension acted as an antecedent of the relational dimension. The reason for this was seen through the team’s shared goals and narratives that lead to shared norms and obligations and an enhanced feeling of trust. Lauren shared, “Our shift in conversations within the team moved us away from just talking about students but focused us on instruction” (Phase 2, Interview 1, p. 1). In her final project for Phase 2, Lauren continued to reiterate this idea, “After working on this CCLS this year, the members of my team discovered that when we work together to reinforce the same deep learning, the students truly benefit. We started by developing teaching practices and classroom requirements that were consistent across all subjects” (Phase 2, Final Poster Presentation). This trust and new teacher leader identity led to increased interaction and sharing that built cognitive social capital. The interacting elements of rules, subject, and community illustrated the relational social capital dimension, specifically emphasized by the norms and sanctions Lauren’s house had to follow. Similarly, Lauren’s reflections illustrate a sense of cognitive social capital, through the community cohesiveness that was represented by the shared commitment of house members. The two, relational and cognitive social capital, were very closely linked and therefore there was a two-way causality. When Lauren gained relational social capital, it was a direct result of interacting factors within the cognitive social capital domain. Essentially, the overlap seen with the conceptual framework emphasis the cause and effect nature of these two dimensions of social capital. The end goal or outcome of Lauren’s CCLS highlighted not only the commitment of her house members, but the
true emergence of her own relational and cognitive social capital as a teacher leader. In Lauren’s final interview she shared that her house members were fully committed to continuing the work they had done during the school year: “We started collaborating more and planning more lesson together. We ended the year with a big project that all of us took part in equally . . . The team saw the benefit and wanted to continue the momentum forward” (Phase 2, Interview 2, p. 4). In her final presentation, Lauren shared, “Because this process has been so meaningful and successful to the students and the teachers involved, we are committed to continuing next year” (Phase 2, Final Poster Presentation). Relational social capital refers to the level of trust and reciprocity between individuals within an organization and is dependent upon the characteristics of the social relationships between the individuals, while cognitive social capital refers to the capacity of a group or organization to share the same vision, mission and goals (Nahapiet & Ghoshal, 1998). It was evident through the year long process that Lauren and the members of her house gained both relational and cognitive social capital from their work in the teacher leadership activity. This was also apparent in her final interview:

With every meeting, each group member shared their upcoming subject matter curriculum. The members became excited to discuss objectives that need to be covered in each subject, the plans for the upcoming year. We also shared the big ideas and essential questions that each of us plan on going over at the beginning of next year. We briefly discussed our successes in incorporating the concepts. This was true professional learning within our small house model. (Phase 2, Interview 2, p. 5)

Teacher Leaders Need Time for Leadership Activities

Through her teacher leadership activities, Lauren’s house thrived, yet their commitment was inhibited by their lack of time to meet. The group found that the one period per week, even
when devoted to the goal of CCLS cross curricular approach, was not enough time to dig deep into the goal of Lauren’s Phase 2 activities. The teachers were often pulled in different directions, asked to cover classes or even be given administrative tasks to complete which had no instructional focus. The lack of time is a clear example of how, on the other hand, structural social capital, which relies heavily on the tools and division of labor within the activity system, was inhibited, blocking Lauren’s access to structural social capital by blocking the social interaction. From Lauren’s first interview, the lack of time was evident, “Time getting together is tricky, we aren’t meeting that often for this purpose” (Phase 2, Interview 1, p. 4). The struggle Lauren saw was that even though the house/teaming structure was present, the time was not used effectively, “We meet as a house every day, but we have specific things we are supposed to do, so it’s hard to fit this in” (Phase 2, Interview 1, p. 2). Lauren’s frustration came from the fact that her school organization dictated what the house meeting structure should be. The group needed to focus on top down tasks rather than an evolving discussion about teaching and learning. Lauren described an exchange she had with the math teacher, “Mr. T. and I talked about how to teach proportion using the butterfly method” (Phase 2, Interview 1, p. 4) but because they talked quickly about it one day in the hallway, these teaching strategies were never shared with the whole team. Lauren also shared how even when the group had time together, the time was not always spent in a productive manner toward the common goal. She reflected: “The first meeting everyone was doing other things during the meeting. I had trouble focusing them” (Phase 2, Interview 2, p. 3). The existing hierarchical and bureaucratic structures in schools serve to keep teachers isolated, creating instability within the bottom portion of the activity triangle (rules, community, and division of labor). As a result, Lauren and the members of House Titus were faced with barriers that prevented full engagement in the collegial and collaborative activities
that would support Lauren’s teacher leadership role and the goals of the entire team. This in turn created a situation where Lauren could not gain either cognitive social capital because the community and rules were barriers or structural social capital because of the division of labor blocked the social interactions.

Lauren brought up another time constraint in terms of how packed the curriculum was—there was no time to discuss interdisciplinary connections or link topics across subject areas. She shared, “It’s hard to discuss links in topics because there is not enough freedom. It’s just constant time limits. If you work in a school there is only a certain amount of time to cover everything” (Phase 2, Interview 1, p. 2). The strength of a network, the interactions within the network, and the access to resources facilitated the building of social capital but just as easily a weakening network can impact the possibilities of the influence of social capital. When the structural social capital was helpful it facilitated information sharing, and collective action and decision making through established roles, social networks, and other structures. In the above example however, the lack of social interaction because of time constraints was a result of the AT element of division of labor, since the administration set forth the time and content of the house meetings. As a result, Lauren did not gain structural social capital through this process. It was clear that for teacher leaders to influence other teachers there needed to be structured time where ideas were shared. A teacher leader cannot be effective if she is burned out or continually confronting obstacles. Rather time and opportunity are required to share instructional expertise with others for the betterment of instruction. Requiring teacher leaders to complete their activities solely on their own time with no institutional support did not communicate a dedication to support teacher leadership to enact change.

**Teacher Leaders Need a Safe Culture for Intentional Leadership Activities**
Teacher leaders have the potential to foster a safe and successful environment for teachers where they can become more intentional about their planning and pedagogical decision making (Coburn, 2003; Printy, 2008; Wenner & Campbell, 2017). When teacher leaders can see a direct relationship between intentionality and success, they tend to build their own social capital. In this study, the teachers in House Titus were more likely to open up, take risks, and try new things that Lauren shared with them because they felt that she tried to relate to them, she worked hard, and she was concerned about student learning. Lauren seems to have nurtured a safe and trusting relationship with the teachers she led: “I have really gotten closer with the other teachers in my house, on a personal and professional level” (Phase 2, Reflection 2). She added, “the group realized we were all doing good stuff, and they wanted to share this with all the students” (Phase 2, Interview 2, p. 1). Relational ties or linkages act as channels for the flow of resources and ideas between the participants in the network. When looking at this through the relational social capital lens, one must view the relationships between the members of House Titus. All the members had the same position within the network, which supported the bonds of trustworthiness and supported Lauren’s gain of relational social capital. Lauren saw this within her CCLS too:

At times collaborating between multiple subjects can be challenging. However, this endeavor felt seamless. Not to say easy, just challenges were more manageable. People were more willing. We have shared our google classrooms and put each other as co-teachers so all our ideas can be used for instruction. (Phase 2, Reflection 2)

In other words, social interactions that form strong relational bonds and that result in high levels of trust and cooperation are a valuable resource, and, according to Bowen et al. (2007) create a collective synergy that increases the outcome of the activity (Hargreaves, 2001). This notion of
cognitive social capital built by Lauren resulted in amplified trust (relational social capital) which existed within the CCLS. She reflected, “If we know we are doing good stuff, why are we doing it different . . . We definitely achieved our goal on a small scale, but not until we did the norms and that kind of thing” (Phase 2, Reflection 3).

The support that Lauren offered to her colleagues as a teacher leader extended beyond her CCLS group to focusing on benefiting the students themselves. One example Lauren shared was, “the group shared google classrooms and put each other as co-teachers, not for our benefit, but for better instruction to our kids” (Phase 2, Interview 1, p. 3). Additionally, as part of her work within Phase 2, Lauren surveyed her students regarding the cross-curricular approach. In her final presentation she shared, “most of my students said it was easier to master material when it was reinforced in multiple classes” (Phase 2, Final Poster Presentation).

On a basic human and relational level, Lauren strove to make the necessary connections with her colleagues in natural, positive, and purposeful ways. These connections helped her foster a safe culture of learning within the school community, that extended beyond House Titus. For example, the connection Lauren had with her university mentor served as pivotal in her development of a safe culture. From the beginning of Phase 2, Lauren saw her mentor not only as a cheerleader for her intentions, but as someone who reinforced her purpose in the process. Lauren stated:

So, in the beginning it was a little bit vague what I was supposed to do . . . when I sent my first reflection with questions to her [university mentor] her comments were really helpful in like steering me to a more defined process. She guided me to what I am supposed to get at with the group. This shifted my whole approach early on. (Phase 2, Interview 2, p. 2)
Lauren attributed her ability to build a community of learners to the support of her Wipro SEF mentor and the work within Phase 1 of the program. In particular, she appreciated what she learned about the role of and need for developing norms to guide her work. Lauren described herself as someone who is not particularly outgoing, and was initially uncomfortable with the Wipro SEF activities, however, she quickly changed her mind about these strategies as she saw the benefits, “Because of my work in Wipro (SEF), I saw such a collaborative group being built. We had trust in one another and we were really aligning ourselves to a common goal or purpose” (Phase 2, Interview 2, p. 3).

Additionally, Lauren found support from other Wipro SEF fellows that worked within her particular middle school or the district as a whole. These connections allowed her to thrive in a safe culture that would support her work as a teacher leader. She stated, “I talked a lot to people in my building and other buildings who were Wipro (SEF) fellows. We sit down and talk about what we are doing” (Phase 2, Interview 2, p. 2). It was evident through all Lauren’s interactions that her teacher leadership required a support network of people who could be trusted. In order for the teachers with whom Lauren worked to benefit from the expertise of herself and others, they had to have functioning connections or network ties. Since Lauren built on existing structures in her school, the collaboration among her team led to a much stronger network tie. The apparent benefits of their relationship encouraged the House Titus teachers to continue to examine their teaching practices and increase their work within their CCLS network.

Lauren’s teacher leadership practice was guided by intentional activities focused on cross-curricular planning with her grade level team. The intentional focus on lesson planning across content areas exemplified how teacher leadership can be enacted during common planning/teaming time with grade level colleagues. The time House Titus spent together
provided the team with a social structure in the middle school to engage in intentional activities relevant to their cross curricular approach to teaching. Lauren’s teacher leadership practice involved intentional ongoing decision making.

**Teacher Leadership Activities Require an Introspective Lens**

Our ability to introspect, in other words, to think about our thinking, is a key aspect of human consciousness and is important in all sorts of activities. Introspection is the process of turning one’s focus inward, toward one’s mental contents and processes, which goes deeper than traditional reflective practice. As teachers inevitably model their teaching on their own experiences, those who educate teachers must remain conscious of their own actions. In other words, an effective teacher leader needs to self-evaluate and measure her actions or activity as a means of introspection. Through interviews with the Lauren, it was clear that her introspection was pivotal in her ability to lead instructional change. As a teacher leader, she reflected on how to gain the trust and respect of her team mates as the foundation for their willingness to follow her lead and be influenced by her guidance.

Lauren’s reflection summarized her introspective lens well when she said, “When you see people you respect, then I think there are a lot more people willing to say, ‘Hey, I think I’m going to give that a try, too’” (Phase 2, Interview 1, p. 3). The realization that teachers were invested in her teacher leadership practice allowed Lauren to work toward her intended goal for the CCLS group. She saw a purpose to the cross-curricular work House Titus was engaging in as well as a vested interest and motivation of the House Titus members. The process of introspection for Lauren allowed her to reflect on how she conceptualized being a teacher leader. She shared, “My most significant learning experience was dealing with teachers . . . I had to focus and streamline things to be productive” (Phase 2, Interview 2, p. 1). She went on to
explain, “We definitely achieved our goal, but on a small scale, not a grand scale” (Phase 2, Interview 2, p. 1). Here Lauren acknowledged that change came slowly and was most noticeable within her team’s work, but not necessarily part of a whole school change. For Lauren and House Titus, the shift toward team meetings being focused around a shared common goal of student learning was a rewarding success. This small group of educators were eager to keep the momentum of change even if this was only within one grade level, in one school, within the district. This first level of change may have led to more systemic change, but Lauren realized it was incremental in nature. Lauren’s initiative around shifting the focus of the House Titus meeting is an example of how a teacher leader can provide direction that may eventually trickle into more systemic change. It is important to note that successful teacher leadership happened on both the personal level (micro) and the community level (meso). Lauren’s personal gains included her professional growth and decreased isolation, while her team’s growth was highlighted by their desire to continue during the 2018–2019 school year. Lauren’s ability to reflect on her overall experience exhibited the introspective lens needed for teacher leadership activity.

For Lauren to bring about the behaviors and attitudes that she wanted in her department, she knew she would first have to demonstrate these behaviors and attitudes as a classroom teacher. To begin Lauren modeled the value and practice of reflecting on one’s practice in her own work as a classroom teacher. Lauren shared, “I would often go to my colleagues for help. Asking them how I can make a lesson better” (Phase 2, Reflection 2). Additionally, Lauren asked others to observe her lessons to provide her feedback around an instructional focus. For an idea, strategy, or instructional practice to spread, Lauren believed that teachers needed to embrace an introspective stance. Introspection of teachers and teacher leaders can occur at both the micro
(individual) and meso (community) levels of social capital. The AT/SC framework offers a methodological approach that moves between the micro- and meso-levels, i.e. the teacher and teacher leaders' individual practices and the school or institutional norms. The data analysis of subjects' introspection through this lens resulted in the construction of two subthemes: (a) introspection allows teacher leaders to focus on the process needed to accomplish their goals; and (b) introspection must occur at the micro- and meso-levels of social capital for teacher leaders to accomplish their goals.

**Introspection Allows Lauren to Focus on a Cross Curricular Approach to Teaching**

While Lauren engaged in her Phase 2 CCLS work, she continued to be introspective about her newfound roles, duties, and responsibilities. Through these experiences, she recognized the unique aspects and processes of her teacher leader role. She reflected on what she wanted to accomplish as a teacher leader and began to formulate the processes of how she might go about her work. When analyzing this through the AT/SCT lens, Lauren’s activity pathway was influenced solely by the role of the self and how her social capital was emerging on the micro-level. As a teacher leader Lauren relied on where her role would be in a social network and at what level she would exist. Lauren initially shared, “I’m trying to figure out how I will know if this process is effective. I think that this is hard, to come up with something tangible. I guess that is why I look to Mary [university mentor] for ideas” (Phase 2, Interview 1, p. 2). Lauren was constantly striving to improve her own practice. She described the motivation behind her interest in professional growth when she shared her thinking, “I think it is because there comes a point where I need to balance whatever I am doing with the alternative. The theory with the practice” (Phase 2, Reflection 3). This was a key turning point in Lauren’s journey into teacher leadership. She spent two years during Phase 1 of the Wipro SEF program learning about
the benefits of becoming a teacher leader and the positive impacts teacher leadership may have within her own classroom. But now as she was engaging in teacher leadership activities, Lauren realized it was time to show what she learned and produce a true space where teacher leadership could enact change within her own CCLS context. Lauren explained that through self-evaluation or introspection of her own professional practice she could make necessary shifts to be an effective teacher leader and share this with her CCLS colleagues. She strove to go deeper than simply self-reflecting about the pros and cons of the experience and instead looked to find how her own actions affected those she was trying to lead. This was exemplified when she shared, “The group looks to me as the facilitator, they want affirmation in their work and throughout this process” (Phase 2, Reflection 3).

Lauren’s own introspective nature allowed her to see the benefit of her teacher leadership activities. She reflected, “The CCLS has already positively influenced our house meetings . . . Now we are also talking about lessons and ways of incorporating methods or concepts” (Phase 2, Reflection 2). The notion of the CCLS shifting to a true cross-curricular approach to teaching (not just teaching science) has allowed Lauren to reflect on the process of her leadership activities. Lauren discussed how the CCLS model shifted the thinking of her house members to move away from teaching in isolation, the “do your own thing” model. She shared:

I think that the structured time and the consistency of the CCLS meetings gave us that ability and availability to meet and share. I don’t think people would do that if it wasn’t scheduled in. We do it informally a lot, just through conversations, but I think there must be a process for this to take place. (Phase 2, Reflection 3)

Through the introspective process, Lauren found the need to end what she called an educational lottery – the idea of some students receiving good instruction in one classroom, while other
students having different qualities of instruction next door. Lauren’s goals for the teacher leadership activities she spearheaded were centered around synchronizing teaching and learning to encourage students to make interdisciplinary connections while increasing the collaboration between all the teachers in her “house.” Lauren met this goal because of her introspective nature. She reflected:

I believe the students are benefiting as well. Based on conversations with the students it is obvious that they notice when topics are reinforced in different subjects. I also notice that there is a greater success in math that we do in my science class since they practice it with the math teacher as well. (Phase 2, Interview 2, p. 3)

She then went into detail describing the “true leader” of her house, a veteran LA teacher, who “has been teaching 30 years. She is good at reflecting at things that are working and you know she shares that with us. She is the teacher leader” (Phase 2, Interview 1, p. 2). She further explained how her house members were thinking about their teaching and being reflective in the process. Lauren stated, “The recurring question becomes how do we connect subjects to have students get a stronger grasp?” (Phase 2, Reflection 3). Lauren found that the strength of her group was their willingness to come together to reflect on practice. She thought that would be a barrier, but instead found her team members very accommodating to the process. She shared in her final statement:

Because this process has been so meaningful and successful for the students and teachers involved, we hope to continue with our cross curricular approach next year. We loop with the students from sixth through eighth grade which allows us to identify strengths and weaknesses of the program over more than a traditional school year. Next year’s
curriculum is the culmination of three years of skill building and we hope to work
together to make learning more meaningful in every subject. (Phase 2, Reflection 3)

*Introspection Must Occur at the Micro- and Meso-Levels of Social Capital for Lauren to Focus on a Cross Curricular Approach to Teaching*

The routines and norms that Lauren described as driving the collegial interactions helped explain how introspection occurred at both the micro- and meso-levels of social capital for her to fully accomplish her goals. Lauren’s personal introspection and that which occurred with her CCLS showed how her social capital existed at both the micro- and meso-levels. Social capital at the micro level focuses on the individuals and the relationship between individuals and tends to focus on the structural dimension. At the individual level, social capital is conceptualized as accessible resources embedded in the social structure or social network that will be beneficial to the individuals (Lin, 2001). Simply micro-level social capital relies on having a good relationship with a lot of people who have access to valuable and different, resources. Social capital at the meso-level focuses on a target social group, specifically the relationships that exit among members of the group.

At the micro-level, Lauren focused on herself and the relationship she had with the CCLS group. The social capital at this level was conceptualized as directly benefiting Lauren’s actions rather than that of the CCLS or larger. At the meso-level, the focus shifted to the target group, in this case Lauren’s CCLS, as the context for analysis. Lauren and her group gained social capital at both the micro- and meso-levels. They found that, “We are all benefitting, and I believe the students are benefitting as well. They have said they even notice when topics are reinforced in different classes” (Phase 2, Reflection 2). In this instance, the individuals who were socially interacting with other individuals as part of a group provided resources (social capital) to
which they would not otherwise have had access. This in turn shifted Lauren’s view of herself to that of a teacher leader. She shared, “I am emerging as a teacher leader. I would say this process has made me more confident, because we [teachers in her CCLS group] made things more streamlined” (Phase 2, Interview 2, p. 4). These types of resources were valuable for teachers and teacher leaders engaged in teacher leadership activities.

Additionally, the House Titus members’ introspection illuminated the cross-curricular goal of Lauren’s teacher leadership activities. Lauren provided an interpretation of some teachers’ recap of the CCLS process, “Mrs. W. had the pleasure of seeing the interdisciplinary efforts spring to life. She saw students make the connections or recognize the connections we have made for them” (Phase 2, Reflection 3). Similarly, Lauren stated:

Mr. T. found the ability to cross pollinate methodologies helps the students understand why we teach the subjects individually and how they apply outside of their traditional classroom environment. And Mrs. C. told me how students noticed the links and planning that take place. I love it when students recognize that we do try to reinforce concepts by sharing across disciplines. (Phase 2, Reflection 3)

House Titus illustrated the belief in the power of teacher’s interactions to foster improved professional practice, but only because the social capital emerged at both the micro- and meso- levels. Lauren provided indirect evidence that the social capital of the teachers within her group was important in facilitating teacher change.

**Teacher Leaders Need to Navigate the Activity Pathway to Enact Change**

From the perspective of activity theory, the activity of any subject is a purposeful interaction of the subject within the context of their social network. It is a process in which mutual transformations between the subject and the object are achieved. The subject of and the
object of an activity transform each other. In activity theory, this central process is called internalization. Through the analysis of activities, it is possible to understand both the subject (teacher leader) and the object (social capital) of the activity. Additionally, the relationship between subject and object is often mediated by tools, the relationship between subject and community is mediated by rules and the relationship between object and community is mediated by the division of labor.

**Figure 2**

*Activity Pathway*

![Activity Pathway Diagram](image)

Adapted from *Learning and Expanding with Activity Theory* (p. 89), by H. Daniels, K. D. Gutiérrez, & A. Sannino, 2009, Cambridge University Press. Adapted with permission.

Although much effort was made for Lauren to follow a single activity pathway, the data revealed that she needed to navigate all seven interacting elements within the activity triangle to attempt to enact change. Lauren’s activity pathway centered around her leading a CCLS group in the role of novice teacher leader. Lauren’s discussion centered around the activity pathway and how tools, rules, and community factors interacted. The activity pathway mediated by tools, rules, and community were the three elements often discussed by Lauren. When facilitating her CCLS meetings, Lauren found that to achieve her intended goal of enhancing a cross-curricular
approach to teaching science, she needed resources (tools) from her colleagues (community), “I

I teach a lot of things in science and if the math teacher and I talk before hand and he does it in his
class . . . I don’t have to reinvent it” (Phase 2, Interview 1, p. 1). Her intention in the cross-
curricular discussion was to bring the teachers in her house together to focus on instructing the
same core group of students. She explained this further saying, “I got some procedures . . . from
other teachers. I started using them in my classroom . . . then they started using in their
classroom since it was all the same kids” (Phase 2, Interview 2, p. 2). In both examples, Lauren
described how something as seemingly simple as math and science topics would create a
connection allowing meaningful dialogue about instruction to take place. Activity theory
emphasizes tool-mediated action in context. In the very first reflection, Lauren submitted for
phase 2, she highlighted this dynamic interaction of elements with her CCLS group, “We
discussed how we would begin to implement our goal. Discuss/share lesson plans [Community],
share formats [tools], and create common expectations for our students [Rules]” (Phase 2,
Reflection 1). Lauren not only acted on her own practice with tools, she was working to embed
shared cultural tools within their learning community.

Lauren’s activity system exhibited a division of labor that shaped the way she as a
teacher leader engaged in leadership activities. Within this activity system, the division of labor
element was composed of both a horizontal division of tasks between the members and the
community and a vertical division of power and status. Teachers and teacher leaders took on
different roles in the activity. Lauren viewed the division of labor slightly differently, as a place
where teachers were striving to reach the facilitator role of teacher leader. In several data
sources, Lauren referred to herself as a leader or taskmaster rather than someone with authority,
“except for me who tries to facilitate everything and organize everyone together” (Phase 2,
Interview 1, p. 4) and “Like I was the leader . . . me and the special education teacher. . . I definitely ran the meetings and was in charge” (Phase 2, Interview 2, p. 3).

**Teacher Leaders Encounter Tensions When the Focus Shifts from Compliance to Agency**

In this study, systemic tensions were evident as teacher leaders tried to focus their activities on shifting teacher practice from compliance to agency. Tension and contradictions within and between elements in an activity system were the foundation for the change toward the outcome. Tensions often manifested themselves as problems, breakdowns, or disturbances, which interrupted the activity pathway, or in this case the ability of a teacher leader to focus leadership activity on instructional practice to enact change. In Figure 2, the double headed arrows moving between elements were interpreted as the challenges a teacher leader confronted when building their shared understanding. As described in Lauren’s Phase 2 application, the purpose or goal of refocusing her house meetings was to allow teachers the time to discuss strategies around teaching which would improve their practice, rather than complete administrative tasks. Lauren discussed breakdowns or tensions within the activity triangle, specifically between the division of labor, teacher leader, and community. During her second interview, Lauren emphasized the community breakdown of her “house” and how that impacted the dynamic of the leadership activities, “Almost everyone was mostly invested. There was one person who you kind of had to pull teeth to get her to participate” (Phase 2, Interview 2, p. 1). This superficially showed disruption of the activity pathway between the community and the subject, both through deeper analysis, it also revealed that the rules or norms of the leadership activity were not foundational in this activity system. Later, Lauren went on to say that the interaction with this member caused some meetings to be top-down, driven by her: “no one came through then with their own ideas. Everyone would sit and look to me” (Phase 2, Reflection 2).
Lauren encountered other tensions while trying to move the teachers in her house to authentic discussion around teacher practice. These tensions around rules and tools disrupted her ability to move forward within the pathway. When passionately discussing the goal of her CCLS group, Lauren shared, “We have specific things we are supposed to do most house meeting so we try to fit this in, but it is not easy” (Phase 2, Interview 1, p. 4). When external rules drove the system that directly affected the pathway, Lauren felt defeated in the process. Lauren explained further that when time did arise to talk about cross-curricular topics, “it’s difficult to say to teachers hey the students are learning about this so can you talk about that. I mean like igneous rocks in social studies because the Native Americans used them. It's like we have no freedom of topics” (Phase 2, Interview 1, p. 3). These examples show how activity theory’s principles of contradiction and tensions were not rooted in the individual, but instead rooted in the systems in which the individuals were invested. Thus, the implications did not help to clarify the unique roles of element interactions within the system.

Lauren’s Case Summary

Lauren was a middle school science teacher who participated in the Wipro SEF program to gain insight into science teacher leadership. She envisioned a culture in which all members of the network would enthusiastically embrace and share new ideas. The data demonstrated that the culture of Lauren’s House Titus has fostered her vision as she enacted teacher leadership during Phase 2 of the Wipro SEF grant program.

To accomplish this vision, Lauren’s leadership activities were invested in developing the culture of her house meetings to focus on student learning. In doing so Lauren developed and applied her knowledge while leading her CCLS team. She learned to be a teacher leader by practicing within the context of her House Titus. As a teacher leader Lauren invested in
maintaining the cohesive trusting nature and relationships among House Titus members. Lauren’s work as a teacher leader was intentional. The intentionality of practice in the context of the CCLS was to improve teaching and learning. Improving teaching and learning can be traced to socially constructed artifacts such as organizational routines and classroom instruction.

In summary, Lauren selected several pathways to enact successful leadership activities and develop different forms of social capital necessary to meet the vision for her CCLS House Titus. This all occurred as Lauren navigated the mediating factors her activity system. The interactions of the tools, rule, community and division of labor, presented Lauren with social capital that emerged on both the meso- and micro-levels, and encompassed the structural, relational and cognitive dimensions.

**Jill – High School Science Teacher and Emerging Teacher Leader**

**Teacher Leader as Informal Manager**

Jill is a high school biology teacher in Northern New Jersey. The comprehensive high school where she teaches serves 2020 students in grades 9–12. Jill’s school is part of the same district of Lauren’s middle school. The high school encompasses two buildings on opposites sides of the street. The main building is used for grades 10–12 and The Annex, known as the Freshman Building, is for 9th grade students. The school’s mission and vision focus on a “Design for the 21st Century.” The school’s goal is to create a rigorous learning environment in which all students learn, to which all students feel connected, and in which all students are invested. Jill explained that to her teaching” is really about capturing student interest, and then the motivation and academic success will follow” (Phase 1, Mini-grant Application, p. 1).

Jill is a 25-year veteran teacher, serving the last 14 years in her current school. She began her teaching career in her home state of Iowa, in a school district with a total of 302 students.
Prior to becoming a teacher, she was a pastry chef. Jill has three children, her oldest a science teacher in a middle school within the same district. Jill earned a Bachelor’s of Specialized Studies (BSS) in Biology and Education from Cornell College in Iowa. She began her educational career as a high school biology teacher. Upon moving to New Jersey and continuing her teaching career, Jill continued her education and earned a Master’s of Science in Biology from Montclair State University and a MS in PhEn (Master of Science in Pharmaceutical Engineering). When asked about her teacher training, Jill reflected on the nature of teaching as being intrinsic, “except for gaining certification, I feel I developed most of it [teaching practices] on my own over the years. I feel that teaching is a sink or swim activity. Those who swim are survivors. I am a survivor” (Phase 1, Interview 1, p. 4). She further elaborated on her own persistence in teaching, “I think back to my first years of teaching . . . and realize my persistence is what made me effective” (Phase 1, Interview 1, p. 4).

Jill is a veteran member of her high school science department, where she teaches ninth grade biology. She collaborates regularly with the biology team which consists of five ninth grade academic level biology teachers as well as special education science teachers with whom she co-teaches. Jill expressed how meeting the needs of all students in science is at the forefront of her practice. Working collaboratively with a special education co-teacher, Jill focused her practice on making science accessible to more students, “I want to shift the instructional approach from memorization to a more practice applied knowledge framework” (Phase 1, Interview 1, p. 3). Jill explained that teaching is a purposeful event, one where you need to plan and reflect, “I need to know our goals [as a district] as far as where we want our student to get to . . . and then I have to promote vision to get my students there” (Phase 1, Interview 1, p. 3).
Jill’s passion for teaching mirrored her belief about how students should be educated. In her initial interview when entering the Wipro SEF program, Jill shared, “no matter what level, a teacher should be providing the greatest challenge for students to meet. We need to teach in a passionate way and provide [them] something they didn’t have at the beginning of the year.” (Phase 1, Interview 1, p. 3). When Jill shared this global view of science education, she tapped into a personal passion, “I want other teacher to pull in their students and get them to have a love for science like I do. My personal interest or investment is to spread the love and interest in science” (Phase 1, Interview 1, p. 3). This concept embodied Jill’s professional goals as a high school science teacher.

Jill’s role within her school was one that naturally fostered leadership. When asked about formal and informal leadership opportunities, her initial response was, “curriculum writing, coaching, mentoring. I have also been asked to share best practices . . . I am trying to think, because I know there are more” (Phase 1, Interview 1, p. 6). Jill has worked her way through the ranks of the high school science department and has exhibited many formal and informal leadership roles during her 14 years in the district.

**Initial Concepts of Teacher Leadership: Content & Instructional Specialist**

Jill was in the inaugural cohort of the Wipro SEF fellows in 2013 as she continued her active role within the high school’s science department. Jill entered the program with the following view of teacher leadership, “a science teacher leader is a person who not only knows the content but is also willing to help others. They also must develop in their own personal… practice, always open to new ideas, implementing new strategies . . . being open to change” (Phase 1, Interview 1, p. 1). Jill’s initial view of teacher leadership was focused around three critical components: (a) content knowledge, (b) professional practice, and (c) being a change
agent. Jill continued to merge these components when discussing her view of skills necessary for teacher leadership, “Communication skills, knowledge of best practice. . . . I think extensive curriculum and content knowledge. . . . What holds people back is that they are stuck in their ways and are not able to take on new approaches” (Phase 1, Interview 1, p. 2). Jill added, “Oh and pedagogy, a teacher leader needs to know how to teach and how to work with adults” (Phase 1, Interview 1, p. 2). When comparing the role of teacher to the role of teacher leader, Jill shared that when working with any individuals, adult or child, it is important that “you have a basis of knowledge about what you are sharing” (Phase 1, Interview 1, p. 2). She felt that being a resource to other teachers in a leadership role required you to be heard, not as a threat, but as a resource, “You need to know how to work with adults, we all know teachers don’t make very good students.” (Phase 1, Interview 1, p. 2).

Jill reflected that working with teacher colleagues to instill change was a specific trait, essentially because teachers need a “sense of safety. . . . they have to feel safe in knowing they don’t have to stick to the textbook or busy work” (Phase 1, Interview 1, p. 5). She felt that teachers might have been able to change within the closed doors of their classrooms, but in the larger school context, change came with resistance. She continued that teachers need a “sense of security and confidence to try new things and step into an area they may not be comfortable but, won’t ruin their career or get them in trouble” (Phase 1, Interview 1, p. 3). When asked what a group of teachers should gain from working with Jill as a teacher leader, she replied, “the fact that now they have someone who is a figure head for taking new approaches. Someone who is recognized by the district to support and becoming a working collaborative community. I believe I would provide that sense of safety because ideas aren’t coming from top down district hierarchy” (Phase 1, Interview 1, p. 4).
Jill embarked on becoming a teacher leader as a way of addressing current educational issues, specifically the need for teachers to be change agents. Within her current district she has found that teachers not only are resistant to change, but go out of their way not to change, “the big issue is that it seems clear that they [teachers] are not approaching education for the challenge of educating students” (Phase 1, Interview 1, p. 4). Knowing that this is a larger educational issue, Jill still entered the Wipro SEF program to begin to combat this issue within her own district and around her own practice. She reflected: “We are so isolated in our own classroom. I am excited to see how others do things and learn from them. As much as I think I know it all, I really don’t” (Phase 1, Interview 1, p. 3). She described the beneficial cohort type structure of the Wipro SEF program: “Cohesiveness between the members of the cohort has been refreshing, to be surrounded with individuals who are the exact opposite of what I just described” (Phase 1, Interview 1, p. 4). Jill further elaborated, “Teaching must be collaborative business and the stuff I talked about before is getting the way and making each of us work in isolation” (Phase 1, Interview 1, p. 5). Additionally, Jill felt that her cohort of SEF fellows was dedicated to their practice while remaining humble, “There are an overwhelming number of teachers with their hearts in the right place . . . I find no one is holding themselves higher, we are all there as leaders to help each out tout. To spread ideas back in our home district” (Phase 1, Interview 1, p. 4).

**Emerging as a Teacher Leader: The School Leader**

Jill was an active member during Year 1 of the Wipro SEF program, devoting her time to both the horizontal and vertical groupings to learn and emerge as a science teacher leader. The vertical group, of which Jill was a member, centered around the content area of biology. Members of this group included a grade 4 elementary teacher, a middle school science teacher and two high school biology teachers, one being Jill. When asked about her experience with
working in the V-CCLS, Jill shared two points regarding the progression of science instruction (Trabona et al., 2019) First, she shared, “the vertical highlight was that I was able to see which themes were persistent throughout multiple grade levels. This enlightened me as to what to expect when students arrived . . . in high school” (Phase 1, Interview 2, p. 1). The second point Jill shared was, “I was able to see what kind of curriculum misconceptions that teacher and or the students had from younger grades. I felt this would help me clarify when students come to high school” (Phase 1, Interview 2, p. 1). Jill emphasized the benefit she found within the vertical groupings as understanding students’ educational backgrounds in science as they entered high school science. A specific example she shared was on the topic of photosynthesis, a discussion her V-CCLS had during their meeting, “We looked at photosynthesis in 4th grade as a recipe, in middle school as a traditional process and finally in high school at the biochemical level. It was so neat to see how we progress through an items or topics” (Phase 1, Interview 2, p. 3). It was evident that Jill’s area of expertise was science, she shared, “I have a love for science” (Phase 1, Interview pg. 5). Her love for science was practiced in her high school biology classroom and carried into her work with the Wipro SEF program. She developed professional relationships with others involved in science teacher leadership. These professional relationships aided her to build her authority in science teacher leadership.

Jill was honest in sharing some minor drawbacks she experienced during the V-CCLS with regards to initially working with all strong leader type personalities, “At times it felt like a lot of cooks in the kitchen. . . A lot of ideas being generated but not translated into the larger education issues” (Phase 1, Interview 2, p. 2). Jill’s quest toward a vision of learning and teaching around larger educational issues was expressed in her initial interview at the onset of the program. This notion still resonated with her after year 1.
Jill’s horizontal group consisted of four high school science teachers, who each represented a different sub-content area including, biology, chemistry, physics, and earth science. Jill was the biology representative as this was her certificated area. Her team chose the name Devil’s Advocates, and their focus was on the NGSS Science/Engineering practice of argumentation. They further narrowed their work around student to student discussions. When focusing on pedagogy, Jill found that “student driven dialogue or discourse [as her group discussed] became a massive role in how I run my class” (Phase 1, Interview 2, p. 3).

Jill found one major benefit from working with her H-CCLS group, “I was able to see where common difficulties arose in the same age group in different districts . . . get ideas from different teachers” (Phase 1, Interview 2, p. 1). She recognized that some ideas from the horizontal group helped her adjust her practice, but she still had to make it relevant to her students. She expressed most of the time was “sharing similar experiences . . . nothing new” (Phase 1, Interview 2, p. 2). Overall, Jill believed the H-CCLS was not as beneficial to her, but she did find the group enjoyable, “I liked to work with high school teachers, but unfortunately, I didn’t get any new perspectives” (Phase 1, Interview 2, p. 2).

In terms of Jill’s teaching expertise, she found that Year 1 of the Wipro SEF program helped her hone her practice, specifically her reflective practice into her own teaching, “I gauged the warm and cool aspects of each lesson I went back and taught, much more than I have in previous years. . . I increased technology . . . for me this was an innovative positive change” (Phase 1, Interview 2, p. 2). Jill attributed these changes to the cohort meetings. She found the meetings encouraged her to be reflective and promoted dialogue amongst colleagues within and outside of the program, “I tried new things because my groups supported me and I had district support . . . they would be backing me . . . I am an experiment for the good of education” (Phase
Furthermore, Jill stated that to sustain this reflective practice which allowed her to change would be to “have support, even when I am done with Wipro (SEF) . . . I want to not be afraid anymore to do new things” (Phase 1, Interview 2, p. 5). The professionalism teacher leadership has the potential to build is one that is based on trust, empowerment and support. When these factors are in place teaching and learning will resurface as the focus of the teacher leaders (Harris & Muijs, 2005). After Year 1, Jill’s revised her definition of science teacher leadership and began to refer to herself as one. She viewed a science teacher leader as someone, “who encourages growth within their district by adding . . . sharing innovation and encouragement with other teachers” (Phase 1, Interview 2, p. 4). Jill saw the role of science teacher leader as a spokesperson or liaison between the administration and the teachers, “teacher leaders, most importantly would be those that feel comfortable working with administration from the science supervisor all the way to the superintendent” (Phase 1, Interview 2, p. 4). When asked why Jill considered herself a teacher leader she shared, “they [other teachers] would have a person who practices all things I mention in the classroom and do the same with adults outside the classroom. I am strong and resistant and work toward solutions” (Phase 1, Interview 2, p. 5).

Jill found that Year 1 of Wipro SEF taught her that her students are still her focus, even in a teacher leader role, “My goal continues to be for my class to understand better and help other teachers get to a point where they have the same goal. Just get kids to love what they are learning about” (Phase 1, Interview 2, p. 5).

Continuing to spearhead change, Jill’s next teacher leadership work focused on the way biology was taught. Her goals for the year 2 GPS project were to reduce the achievement gap, “by first getting rid of the opportunity gap” (Phase 1, GPS proposal). To do this, Jill hoped to teach biology using cases from the University of Buffalo, to try and get students interested in
science. She focused this work on her academic biology class, the lowest level of biology for freshman. Jill believed that by working with cases, her students would be better prepared for a higher-level science course their sophomore year.

Jill began the school year working with four other academic biology teachers. They met two times a week for 45 minutes. She found some initial pushback when she presented the teachers with the technique of using cases. The major complaints included, “too much time to give up with the new NGSS demands” and “too much prep work” (Phase 1, GPS Reflection, October 2014). Predicting the battle around buy-in, she decided to weave this concept into an already district mandate of common assessments or benchmarks, “I suggested that benchmark 1 be a case. After presenting the team with a case they all agreed . . . the person who was most opposed was pleasantly surprised how easy it was to prepare for it and how much her students enjoyed it” (Phase 1, GPS Reflection, October 2014).

As Year 2 progressed, so did Jill’s work as a teacher leader. The academic biology teachers implemented cases (2-4 per marking period), aligned them with their SGOs (student growth objectives), and improved students’ ability to discuss science through written and verbal dialogue. Jill reflected on her Wipro SEF experience and shared:

My experiences through the first year of Wipro led me to believe that it’s about capturing student interest, and then the motivation and academic success will follow. As we have worked with the ninth-grade students, infusing case studies into our teaching, we have found the students are, in fact, more interested in the practical application of the topics and are seeing academic success. (Phase 1, Year 2, GPS reflection)

Jill decided to continue her work after her initial two years with Wipro SEF were over. She applied for a Phase 1 extension through a mini-grant. The goal of this extension was to double
the number of teachers and students involved in my current Wipro SEF GPS by working with the tenth-grade geoscience teachers to spread the use of case studies from ninth to tenth grade. With the Wipro SEF framework in mind, Jill organized and executed a project plan for this mini-grant. She found that teachers were “very interested and enthusiastic about taking on this challenge. But they will need guidance from me, as I have experience with this method as well as these specific students” (Phase 1, Year 3, Mini-grant Reflection). Jill’s objectives were put into action when her teacher leadership work was part of the school wide effort resulting in de-leveling ninth grade biology for the 2016–2017 school year, so all students had an equal opportunity to succeed in science. Leadership from the classroom required Jill to recognize that her school was part of a larger system. She explained her various role as “building-level instructional leader and liaison between the district and the school” (Phase 1, Interview 1, p. 5). When Jill was included in leadership work with her school, she was motivated by the autonomy in the leadership role.

**Phase 2 Leading a Horizontal CCLS: Lead Teacher**

Jill wanted to continue her teacher leadership work, but turned her sights to new teachers. She believed that in the first year or two of teaching, most novice teachers are trying to “keep their heads above water. But by the third-year self-reflection can commence” (Phase 2 Application). For Phase 2, Jill recruited three non-tenured science teachers to improve on their reflective practice. She used a model like Wipro SEF with these teachers which integrated teacher dialogue, reading professional research, lesson demonstration, and recording and critiquing a classroom instruction. Her hope was that the less experienced teachers would learn how to self-evaluate to improve their teaching practice. Jill’s teacher leadership style allowed for collegial relationship to potentially develop in order to address school needs. She explained that by collaborating with other educations begins, “with an attitude of this is important and why it’s
important” (Phase 2, Application). Jill viewed herself as a teacher leader who acquired the position because she had a certain expertise, which was developed from her vast teaching experience in public education and her formal education.

**Jill’s Use of Social Capital**

Social capital originates from the idea that relationships and networks can be utilized by individuals and groups as a resource. According to the level of analysis context, the social capital used by Jill initially existed at the meso level but ended on the individual micro-level. Additionally, the types of social capital used by Jill throughout her teacher leadership experiences resided within all three dimensions: structural, relational and cognitive.

During Phase 1 of Wipro SEF, Jill’s relational and cognitive social capital was created as a result of her participation in the horizontal and vertical groups. For example, Jill shared how the Wipro SEF program impacted her sense of science teacher leadership, “Cohesiveness between members of the cohort. It feels refreshing to be surrounded with individuals who are the exact opposite of what I just talked about [resistant to change]. These teachers in Wipro SEF have their heart in the right places (Phase I, Interview 1, p. 4). This above example demonstrates Jill’s cognitive social capital as it relates to community cohesiveness. All members of the Wipro SEF group were invested in building a strong network focused on a common goal. This foundational notion led to the development of Jill’s cognitive social capital, and built relational social capital as well. The key aspects of the relational dimension of social capital are trust and trustworthiness, norms and sanctions, obligations and expectations, and identity and identification (Nahapiet & Ghoshal, 1998). Jill shared, “We spent time sharing similar experiences. Nothing too much, but knowing I’m not the only one built trust in the process” (Phase 1, Interview 2, p. 2). In a separate example Jill added to the relational social capital in a
discussion of norms, “The vertical experience gave us a framework for horizontal, a level of logistics and working things out. It seemed a lot easier for our group to divvy up responsibility. We were much more productive” (Phase 1, Interview 2, p. 2).

In terms of structural social capital, Jill’s initial experience in Phase 1 allowed her to view social interactions as beneficial and building her own social capital. For example, Jill shared, “I find no one is holding themselves higher, we are all there as leaders to help each other out” (Phase 1, Interview 1, p. 4). This example showed that through social interactions, Jill gained access to resources that other Wipro SEF fellows had to offer, which increased her access to structural social capital.

As Jill progressed through her GPS and into Phase 2 and her work began to take place more within her district and less with the Wipro SEF community at the university, her view of where she belonged in the social network she created with her CCLS team changed and she used her influence, or power in her teacher leadership role to change the beliefs of the novice teachers with whom she was working so that they were more aligned with her own. Power can be a multifaceted concept and in relation to social capital, it can at times be enabling or coercive. In Jill’s case, using a more traditional paradigm of learning, teaching, and leading, she recognized her authority as enabling her to encourage novice teachers to adopt her beliefs about teaching and learning. In a way, this echoes a Marxist view that power is possessed by dominant groups in institutions and used to control groups. Her more authoritarian leadership model also resembles the traditional ways that administrative leadership plays out in schools. I identified two facets through which Jill acted to build social capital as a teacher leader. First, as a veteran biology teacher, she used her position of power and seniority to place emphasis on the change needed. Jill shared in her second interview, “I am trying to get my message out to people beyond
Biology, they need to realize that the way we should teach now is not how me or them taught 10 years ago” (Phase 2, Interview 2, p. 2). In this way, by using the teacher leadership function from her lens of seniority, Jill believed her years of service provided her the necessary social capital to be a leader. She shared, “when I was a younger teacher, I would always look to the veteran teachers as my role models and I would look for them to be the voice of reason, now people look to me” (Phase 2, Interview 1 p. 4). Second, Jill used her role as gatekeeper to select teachers to lead that had congruent values and demeanors to herself. She shared:

All three teachers, this is their first job. Fresh out of the gate. And I still remember when I was fresh out of the gate. I didn’t know a damn thing and I went to all the experienced teachers. . .. So, I just feel that when a new teacher already feels like they know every or know it all. They don’t ever analyze themselves, that is what I need to do to mold them.

(Phase 2, Interview 2, p. 2)

Both the above examples demonstrate how Jill viewed her position within the CCLS group as one of authority because of her teacher leadership role. Jill’s view of her position within a network is a clear example of her structural social capital. Structural social capital is embedded within the networks of social relationships and situated in the hierarchical social structure of society. As networks of social relationships, the members of Jill’s CCLS group organized into a hierarchical social structure that enabled Jill to be in a position of power, as in a traditional hierarchal leadership structure.

By viewing the different dimensions in which Jill’s social capital existed, it was evident that as she progressed through the Wipro SEF program, her social capital shifted from existing on the meso-level, or within the community with which she was working to the micro-level, where it was focused on her own individual power. This was seen when Jill shared the following
regarding interacting with her Wipro SEF peers, “It was sometimes irritating working with other people. Too many ideas being generated that were not the case for my teaching. This made me more reflective in knowing that my classroom had more benefits than others. This shifted my view of my role as teacher leader. I need to be a spokeswoman or a source of ideas for teachers. I am the liaison between teachers and administration” (Phase 1, Interview 3, p. 3). Jill was interested in social capital at the individual or micro-level, especially in the structural dimension because it was owned and regulated by her. Jill had control of her investment within the social networks and social relationships, but saw limited control over the wider social environment which became a barrier for her social capital to exit at the meso-level.

**Intentionality Plays a Critical Role in Teacher Leadership**

To be intentional means to act purposefully with a goal in mind and to have a plan for accomplishing the stated goal. Intentionality in teacher leadership means that teacher leaders act with specific goals in mind for the teachers with whom they work and set up the overall environment accordingly. Jill’s work within her CCLS was centered around a purpose and had grown from her earlier work within Wipro SEF. She was leading new teachers to hone their approach to teaching science through reflective practice. She was adamant that she saw the act of teaching to be deliberate, and that was the message she was sharing within her CCLS. Jill described this eloquently in her Phase 2 application when stating her intention to empower teachers who have “mainframes like mine. The goal is to create a linear approach to science . . . an endeavor that has been meet with no small amount of resistance” (Phase 2, Application). Jill shared that the first two meetings of the CCLS centered around this purpose, “The first meeting was an explanation mission . . . the second meeting consisted of identifying the pedagogical lens
through which we wanted to focus for the first round of reflective practice” (Phase 2, Reflection 1). Intentional activities guided Jill’s leadership activities.

Jill’s intentional actions within her teacher leadership activities centered around social relationships which were embedded within the working relationships of the science teachers in her CCLS. This notion demonstrated aspects of social capital, which emerged for Jill based on the commitment of her teachers, the trust of her teachers and buy-in of the members of her CCLS group. The different dimensions of social capital: structural, relational, and cognitive were apparent when viewing Jill’s intentional practice through the AT/SCT lens. As a result, the aspects of social capital are better captured in three subthemes around teacher leaders’ intentionality: (a) teacher leadership activities require commitment; (b) teacher leaders need buy-in for their leadership activities; and (c) teacher leadership activities thrive in a safe culture.

**Teacher Leadership Activities Require Commitment**

Teacher leadership work can be motivating when a teacher leader is involved with a team of colleagues who are committed to enact change. Jill attempted to sustain her department improvement effort by tapping into the commitment of her colleagues. This commitment, or lack thereof, by the teachers with the CCLS groups illustrated the way social capital emerged for the teacher leaders.

Jill’s view of the commitment of her teachers changed from the beginning to end of her teacher leadership activities. During her planning and application process for the Phase 2 grant, Jill stated, “The teachers who will be involved will be based on their interest and the subject taught. We will meet biweekly during the school year. We will reassess are process in January and adjust the schedule accordingly” (Phase 2 Application). Similarly, in her first interview, Jill shared, “The three teachers I am working with are totally on board with making some changes
and trying to reach students . . . not often thought of as science minded students” (Phase 2, Interview 1, p. 1). Within this first interview, Jill also shared that only the novice teachers were on board when stating, “not all the 10th grade teachers wanted to be a part of this. Many of the veterans felt no need to change their practice” (Phase 2, Interview 1, p. 2). Jill felt that the need to work with 10th grade students was because “that is where all of my students end up” (Phase 2, Interview 1, p. 2). Her commitment was to change the practices of lecture, lab, test, to a more interactive way of learning. Her commitment was felt by those who chose to be part of the CCLS group, but overall there was a lack of commitment from the 10th grade team in general.

Jill’s commitment to the process was not only evident in this initial application and interview but throughout her first reflection, “I am glad to see that the focal teachers enthusiastically came on board when they heard the proposal” (Phase 2, Reflection 1). The emergence of cognitive social capital, which was community cohesiveness, was seen through Jill’s dedication to working with teachers to improve the instructional process. The community cohesiveness that highlighted cognitive social capital increased with the frequency of the interactions, which led to facilitating increased mutual trust and willingness to cooperate in the activities. This was further emphasized within that interview when Jill discussed the tools and rules leading their activity, “We have been looking at research, and say these are good ideas, how do we bring that back to our classroom” (Phase 2, Interview 1, p. 3). The cognitive social capital referred to the fact that as these teachers interacted with one another as part of a collective community, they were better suited to develop a common set of goals and shared vision.

The fundamental notion of an actor such as a teacher leader gaining social capital through teacher leadership activity relied heavily on the network structure in which the actor was embedded in the activity, on both an individual and community level. Although overall the
network structure was important for understanding Jill’s acquisition of social capital, the teachers within her network occupied specific social positions which related directly to her teacher leadership outcome. The hierarchal nature of Jill in relation to the teachers in her network emerged from data retrieved from Jill’s final interview and reflections. Jill discussed one form of resistance that inhibited the commitment of her teachers, resistance from those teachers who felt Jill’s teacher leadership role was too closely aligned to administration. Jill shared this in her final interview:

   When they see teachers taking leadership, they also in some ways think that it is one that is working with administration. I think one of the barriers is when you become a teacher leader, some of your peers are going to think, number one you are the lapdog of the administration- especially if they support your efforts. I think the second thing is that they think you are not on their side when you sometimes take these movements. (Phase 2 Interview 2, p. 4)

The teacher leaders’ role often appears to fall somewhere within the traditional leadership hierarchy, that is, administrators “telling” teacher leaders their roles and expectations (Rutherford, 2006). When viewing leadership from a distributed perspective, it is essential to acknowledge power, authority, and influence (Spillane, 2005).

Jill acting as a teacher leader took initiative to implement new ideas, a portrait of her intentionality and commitment. She experienced resistance from other teachers when administrators supported her ideas, which led to their lack of commitment to the process. Additionally, Jill felt her teachers’ resistance came from wanting to keep the status quo, “I think it's probably just like any school. There are a lot of teachers that aren’t open to new ideas” (Phase 2, Interview 2, p. 2). She further explained, “We are lacking a resource or expert. I don’t know
who to reach out to, I really feel there is no one else as good” (Phase 2, Interview 1, p. 1). Jill realized the lack of commitment from two of her teachers and shared this in her final interview:

   In hindsight, the selection process had one major error. We chose two teachers who despite seeming to be interested in promoting progressive practices, were more friends than professional partnerships . . . So, I am not continuing [in year 2] . . .this didn’t show up in the videos, but of the three participants, two did very little, they didn’t want to be there. (Phase 2, Interview 2, p. 3)

These examples demonstrated the kinds of obstacles that emerged for Jill as she tried to gain structural and cognitive social capital. Her position within the social network as someone of authority who was aligned with the administration impacted the teachers with whom she was working. When focusing on structural social capital, Jill was viewed as member with power who had ties to the administration within the network. This caused tensions between Jill and her CCLS team members and they did not open up to her as a resource or asset or trust her, therefore Jill did not gain structural social capital. Additionally, since cognitive social capital relies on the subjective interpretations of shared understandings, it can be implied that Jill’s imposed rules which were implemented through her power within the CCLS also blocked her attainment of cognitive social capital. In this case the community (10th grade teachers) and the rules (how they must teach using case studies) blocked the cognitive social capital because of lack of cohesiveness.

**Teacher Leadership Activities Thrive in a Safe Culture**

   As the data showed, teacher leaders hold the potential to build social capital both in the classroom and in professional learning spaces. While trying to focus on her ideal of trust and reciprocity in the CCLS group, Jill attempted to infuse the habit of sharing among colleagues. Jill
believed that her colleagues were initially open to trying new things when she shared with them. She honed in on this when she reflected: “the teachers were willing to film themselves to check out the before and after. The teachers knew this was modeled after the program, and believed that we had good intention in sharing this practice” (Phase 2, Interview 1, p. 1). When teacher leaders see a direct relationship between intentionality and success, they tend to build their own social capital. In the case of Jill, her colleagues were initially open to trying new things that she shared with them.

In her first interview when discussing the informal meetings that took place with her teachers, Jill shared, “We are close physically to each other, there are lots of good interactions that take place just by waiting in the hall or setting up labs with each other” (Phase 2, Interview 1, p. 4). Additionally, she added, “After speaking with some of the target teachers in private, it became clear that they are in search of a different approach . . . but feel they lack the backing needed to experiment” (Phase 2, Interview 1, p. 4). The cognitive social capital Jill began to build was based on measures of how engaged her teachers were connecting with their colleagues and sharing important issues or opportunities that focus on mutually desired outcomes. It appeared that Jill had begun this endeavor by creating a safe culture for the teachers. But as the CCLS progressed, the teachers’ resistance grew, challenging the safe culture Jill had believed she built. For example, Jill shared that two of the teachers within her CCLS group argued that teaching too many classes and administrative work overwhelmed them. Furthermore, Jill shared, “they told me new tasks pop up and are thrown to us” (Phase 2, Reflection 2). During one of the CCLS meetings, Jill addressed one of the teachers who shared, “you cannot be a leader and inspire others with all these demands from school, the office, the state” (Phase 2, Video
Transcript # 1, p. 5) by providing suggestions of how to focus her efforts in the right avenues rather than succumbing to the extraneous demands.

As the data showed, Jill had the potential to build social capital both in the classroom and in professional learning spaces. Focusing on trust and reciprocity, she believed that her intentions would change teacher practice. Jill shared, “After speaking to one of the target teachers in private it became clear they she was in search of a different approach but was scared to experiment” (Phase 2, Interview 2, p. 3). The notion that Jill spoke individually to teachers regarding their practice outside of the CCLS meetings showed that the members did not view the meetings or network as a safe place to share concerns. The act of trusting has a social value, and, as the findings above pointed out, this fact implied that reliance and confidence did not grow among group members. But these social dynamics did not always translate into spontaneous and fluid social networking as described by Jill.

**Teacher Leadership Activities Require an Introspective Lens: Individual Activity**

Introspection, which is a reflexive process that looks inward at one’s interactions for a given process, was pivotal for Jill’s teacher leadership activity. As a teacher leader, Jill first reflected on her own practice to determine the benefits and constraints of enacting change. For example, Jill shared, “I am a big fan of going to workshops and seeing what is out there . . . this allowed me to know what good teaching looked like” (Phase 2, Interview 1, p. 1). As Jill tried to encourage this introspective practice for the members of her CCLS she was met with resistance. In her second reflection Jill shared, “Meetings usually began with some aspect of general complaining from two of the teachers, but I have tried to encourage a group culture that is major solution based than problem based” (Phase 2, Reflection 2). The lack of investment in the reflexive process, one that Jill relied heavily on, continued to impede her teacher leadership
activities. Jill shared, “though our initial meetings suggested promise in the potential for reflective growth in all the participants, I found that only one of our participants was included to follow through with portions” (Phase 2, Reflection 3). The teachers in Jill’s CCLS group did not show the same investment in the reflective process as Jill. This reinforces that teachers must construct change for themselves and Jill as a teacher leader could not change teachers who are not invested.

Jill’s introspective nature was situated around her individual activity, not a collective practice by the group she led. In the data analyzed for Jill, it was her interpretation that introspection was needed for teachers to enact change, yet this was not evident in the same manner for the teachers she was leading. This led me to look more closely at introspection of teacher leaders at both the micro- and meso-levels of social capital. The following two subthemes provide further analysis of Jill’s work through an introspective lens: (a) individual introspection shifted Jill’s understanding of how to accomplish teacher leadership goals; and (b) introspection only occurred at the micro-level of social capital as Jill tried to accomplish her leadership goal.

**Individual Introspection Shifted Jill’s Understanding of How to Accomplish Teacher Leadership Goals**

While working as a teacher leader, Jill was introspective about her personal role as a teacher leader rather than looking deeper into her teacher leadership goals. Through her experiences, Jill recognized the unique nature of her role as teacher leader and reflected on what she wanted to accomplish and how she hoped to get there. Jill asserted that one of the most crucial processes that educators encounter is change. She says, “Change? We’re change agents, and if you get into teaching thinking you’re going to do one thing and never change, you’re in
the wrong profession” (Phase 2, Interview 1, p. 5). That change comes in many forms such as curricula, instruction, assessment, leadership, school processes, and decision making. Jill demonstrated introspection around her practice when she described the shift in her own thinking:

I never really looked at research as far as learning techniques. I am a big fan of going to workshops but never read research. . .. Now looking at research helped me more clearly can describe how I think good teaching should look like. This is what I wanted to share with the novice teachers I am working with. (Phase 2, Interview 1, p. 4)

Jill recognized the importance of continual growth and modeled her interest in continual professional growth for others. She demonstrated her own commitment toward continual growth yet struggled to gain the attention of all her group members. When viewing this through the AT/SCT lens, Jill looked deeper into her own practice in terms of how research helped her change her teaching practice but she did not examine her teacher leadership practices. It is evident that she increased her own structural social capital by accessing resources, but she did not build cognitive or relational social capital as the group she was leading had more trouble following her suggestions. Her introspection, therefore, focused more on her individual practice of adjusting her own teaching, not her collective practice of leading a group to change their teaching.

In particular, Jill explained that two of the teachers in her group did not seem motivated to engage in the collaborative work. In a monthly reflection, Jill shared, “These participants gave identical feedback, wanted to split responsibilities between each other rather than focus on personal/individual goals. They both shared the mindset that there wasn’t much that could be done to make things better” (Phase 2, Interview 2, p. 5). As a teacher leader, Jill found that if “nothing is hanging over their heads” that mattered, the people were not going to change. These
teachers felt that the work within the CCLS group was not part of their formal evaluation and not led by the administration, so they were not personally invested in the change. The teachers in the CCLS group were lessening their personal investment. Their resistance presented an obstacle to Jill’s progression from teacher to teacher leader. Although Jill’s approach to leading the CCLS group came with her increased feelings of confidence, empowerment, and professional satisfaction, it also caused a barrier as the nature of her relationship with the teachers shifted from horizontal to hierarchal. Jill’s approach to reaching the teachers in her CCLS group relied on her quasi-administrator techniques. The novice teachers were not receptive to such an authoritative approach and in turn they did not attempt to critically analyze their practice. The process of teacher growth was blocked. In the summary of the teacher leadership work Jill completed during the school year she shared the following:

Reflective/Leadership growth was evident in one participant for many reasons: (1) extensive communication of reflective experiences; (2) evidence of reflection directed trajectory; and (3) involvement in demonstrating practices to large audiences. This growth was not evident in two participants for the following reasons: (1) communication of experiences did not surpass shallow reflection (i.e. “it won’t work because they [the students] can’t do it); (2) utilization of reflective techniques were regarded dubiously and eventually abandoned by these teachers, (3) Conversations about reconstructing methodology remained focused on conflict within their subject. (Phase 2, Final Reflection, p. 1)

Ironically, Jill’s own lack of introspection of her leadership style uncovered the shortfall of her teacher leadership practice, the co-investment of her colleagues. Jill believed that the unsuccessful nature of the CCLS group was a result of the lack of introspection of two team
members, when, Jill’s team’s members did not feel personally invested in the process. If the teachers had bought in and wanted to change, the process would have progressed differently. Jill concluded that introspection is a critical component toward promoting teacher leadership, yet that practice may be influenced by a workplace culture. This lack of buy-in or pushback by Jill’s teachers showed that her leadership style was one-directional in nature. She hoped that her teachers would simply follow her lead, and did not necessarily see the importance of their finding value in changing their practices for themselves or their students. Because Jill lacked true administrative authority, her model of teacher leadership that relied on authority was not effective. Jill viewed her intentions of changing the pedagogy as the correct and necessary goal and therefore perceived her colleagues as being resistant when they did not adhere to her recommendations.

Introspection Only Occurred at the Micro-Level of Social Capital as Jill tried to Accomplish her Leadership Goal

Jill’s accumulation of social capital existed solely at the individual or micro-level and coincided with her only attaining structural social capital through resources and power, rather than relational or cognitive social capital through a collective process. Jill generated this level of social capital individually. In the analysis of this case, it was evident that Jill had control over her investment in the social relationships but had limited control over the social environment in which the relationships were grounded. For Jill, her own belief of “helping to guide other teachers . . . towards better understanding teaching techniques” was occurring at the micro-level of social capital, even though the intended goal was more toward a meso or community level within her CCLS group. With the intended goal of becoming a teacher leader for novice science teachers to enact change within the method of teaching science, Jill found herself stuck between
the individual and community level. This was further seen when she stated, “I didn’t think I had the buy in to begin, but after talking extensively with colleagues I realized they were willing to do this” (Phase 2, Interview 1, p. 3). This initial feeling of accepting the desire to change practice motivated Jill’s own social capital to expand her work to that of the science department within her school. In practice, Jill noted that there was “no reflection” from two of her colleagues, yet a third, “took the concepts and reflective practice we covered and ran with it. This teacher showed not only marked growth in classroom presence, but also gained administrative attention based on her work . . . she shared her methodology with faculty” (Phase 2, Interview 2, p. 5). This level of analysis by Jill and her colleague shifted the social capital from the micro- to the meso-level and provided evidence that analyzing the internal structure of a group is necessary to help account for the distribution of access to resources and expertise in the school. But it also left Jill with wondering why some individuals seemed more willing to grow from this process and why others were not as willing. She shared this frustration of not existing in a community when she stated, “I am now faced with the task of considering why some individuals are more inclined to grow from this sort of process than other” (Phase 2, Reflection 2). This is another example of how Jill failed to be introspective about her own teacher leadership practice. She did not question the tools or rules she used to enact leadership within her CCLS group, instead she placed the responsibility on the teachers with whom she was working (community). By doing this she allowed the activity triangle to break and she gave up at achieving the goal of enacting teacher leadership.

**Teacher Leaders Need to Navigate the Activity Pathway to Enact Change**

Learning occurs within a system of activity, and activity theory’s primary focus is the analysis of these systems. Thus, activity theory is a dynamic way of conceptualizing and
analyzing teacher leaders action through a socio-cultural lens. Within this research, the activity is the facilitation of the CCLS by Jill in the role of novice teacher leader. The activity system focused on how Jill (the subject) transforms objects (social capital) with the use of mediating artifacts. The overall activity system as described in Figure 2, is made up of seven constructs which are: (a) tools, (b) subject, (c) rules, (d) community, (e) division of labor, (f) object, and (g) outcomes. Each construct is a mediator within the activity.

From the beginning, Jill expressed concern about how she interacted with the teachers in her CCLS group. She shared, “I had difficulty choosing our focal teacher group. Established teachers were more likely to have sway in deciding official course structure, but broadcasted less willingness to investigate new methods when unofficially approached” (Phase 2, Interview 1, p. 1). This interaction between the subject and the community was centered around buy in. First the novice teachers who made up Jill’s community were not invited to take ownership of the process. They did not exhibit any signs of wanting to engage in the CCLS group for their own personal growth. Second, Jill needed to navigate the activity pathway to show the community of novice teachers how they would benefit from working with her as a teacher leader. In this case the lack of cognitive and relational dimensions of social capital were identified as impeding the activity pathway to form a cohesive network.

The intentional practice of teacher leadership by Jill was mediated with artifacts of social structures. These artifacts were the tools Jill worked with that facilitated the learning in context. Jill engaged with two socially constructed artifacts; the systematic structure of her school’s science department and the organizational routines for the CCLS group meetings. Jill described that during her CCLS group meetings, the discussion were focused on teaching practices for the same group of students as they moved from 9th to 10th grade in science. She found that the
teachers in her group often relied on following the rules of the community with little awareness of the shared tools or the willingness to try practices that were different. She stated, “We are working with 10th grade teachers, which is where all of my students end up . . . And they teach in a very traditional manner, lecture, lab, test . . . we need to break that so our students don’t move backwards” (Phase 2, Interview 1, p. 3).

As Jill continued to navigate the activity system, the division of labor artifact shaped how she could engage in her leadership activities. Specifically, Jill found there to be a vertical division of power and status. Jill found that her position of teacher leader did not encourage her teachers to want to change simply because she did not have formal authority, “unless one of us is in a position of authority . . . where it would affect their [teachers] evaluations . . . humans are unwilling to change.” As Jill discussed this, she talked about being passionate about the need for teachers to have a purpose for engaging in this process but in practice as a teacher leader in all of the CCLS group sessions, Jill led from a position of authority, expecting the teachers to listen and follow her guidance and advice. In her case, being a teacher leader relied on the definition of a formal role which took on the characteristics of the hierarchical administrative roles already established within the school. Jill relied on the authority placed on her as a lead teacher and pseudo head of the science department, both because of her experience and seniority. This literally manifested in the ways in which Jill and her teachers interacted during their meetings. For example, in the video of the third CCLS group meeting, Jill sat on the desk in front of the teachers, while the teachers completed a circle around her, but were seated beneath her in desks. The interactions between Jill as teacher leader and the three teachers exemplified a traditional model of teaching and learning–where there is one person in authority and the others are there to obtain knowledge. While trust from the other teachers was important, Jill relied on her authority
to lead the teachers within the CCLS group. For example, several times during the videotaped
meetings, Jill added her own commentary and way of doing things to the teachers’ reflection. Jill
stated,

I mean they [students] don’t pay attention, they aren’t focused and engaged. So, what you
are seeing is what I see, kids not engaged and those that are afraid to do anything. How
did your lesson address this? (Phase 2, Video Transcript 1)

This type of dynamic around the division of labor shaped the general meetings of the CCLS
group(s) that Jill led. She attempted to affirm her own teaching practices by asserting how things
should be done in the lesson the group was watching. She was dictatorial in nature and set rules
in place about how teaching and learning should be conducted in the science classroom,
specifically around student engagement. Her actions demonstrated Jill’s hierarchal role in the
activity. In the role of teacher leader as authoritative manager, Jill struggled to navigate the
components within the teacher leadership activity, specifically the rules and community.

**Teacher Leaders Encounter Tensions When the focus Shifts from Compliance to Agency**

Due to the interactive and dynamic nature, activity systems are continually driven to
change by contradictions that arise between the elements within the system. Contradictions are
also referred to as structural tensions that may have accumulated over time. These contradictions
may create conflicts, interruptions, and clashes: however, through the resolution of conflicts,
they can also be considered as sources of change or development. From the very beginning of the
project, Jill believed that obstacles would impede her from working with teachers in a
meaningful way. While applying for the grant, she felt one challenge would be convincing her
supervisor of “the benefit of this good idea.” A second challenge for Jill was recruiting teachers
with the same mindset of changing their practice. She stated, “I went back and forth about doing
this project because of obstacles, specifically buy-in from the teachers” (Phase 2, Interview 1, p. 2). This statement illustrated a break in the activity triangle between the division of labor, teacher leader, and the community. Jill as the teacher leader and the members of the CCLS group(s) as the community were not on the same pathway toward change, which in turn caused a disruption to the outcome.

Mirroring the notion of contradictions and tensions around the element of community, Jill shared during her first interview, “we know these teachers and we have been talking about this stuff for a while and its interesting because not all the 10th grade teachers are on board” (Phase 2, Interview 1, p. 2). These tensions were amplified when Jill reflected on her selection process and in her final interview when Jill shared that she would not be continuing the program into the following school year. She stated, “In hindsight our selection process had one major error. We chose two teachers who despite seeming to be interested in promoting progressive practices, were more friends than professional partnerships” (Phase 2, Final Reflection, p. 1). Again, it was evident that Jill viewed the collapse of her teacher leadership activity triangle because of a break in the foundation due to lack of community.

The activity system within Jill’s case study showed the intricate relationship between the teacher leaders and the context of the leadership activities. Jill’s work as a teacher leader became a single process toward the outcome of enacting teacher leadership that was only possible with the interactions of the activity triangle. Specifically, without the buy-in from her colleagues and the rules and norms of her work, the goal oriented process broke down. The action only existed in relation to the foundational elements of rules, community, and division of labor and how the teacher leaders' interactions supported or inhibited the outcome. Furthermore, it became apparent
that for teachers to learn and grow they require a more collaborative and interactive environment where they have tools that afford their actions.

**Jill’s Case Summary**

Jill was a traditional high school biology teacher who viewed leadership as something earned by moving through the ranks. During her role as teacher leader within Phase 2 of the Wipro SEF program, she structured her meetings, much like she structured learning in the classroom, one-directional from the leader to follower with an intended purpose. As Jill’s purpose was to bring consistency and innovation to the science classes at her high school through leading the CCLS team, she found frustration in the process. Jill’s teachers were not invested in the process and displayed apathy.

Learning to be a teacher leader occurs with practice in context. A teacher leader becomes that kind of person in relation with others in the multiple ways she engages in leadership activities. From Jill’s experience, she learned that teacher leadership relied heavily on those she was trying to lead. Her choice of participants in the CCLS group influenced the level of success that she encountered with enacting teacher leadership. Two of the three novice teachers were friends and seemed not to be invested in the process. Without the commitment, common vision, or intentional vision or goal, the work became less meaningful and more of just passively being part of a process. Therefore, the break in the community level of the activity triangle along with the lack of relational social capital led Jill to become frustrated with the process. She found that it was difficult to replicate the Wipro SEF process with a group of novice teachers who felt little to no investment.

Furthermore, the style of leadership Jill executed did not in align with the participants of her CCLS group. This portrayed the need for this type of process to occur more naturally rather
than to be forced through the structured program. Jill viewed the participants as the barrier that impeded her ability to enact a true teacher leadership model, when it appeared to be more about her taking on a position of authority. Jill entered the Phase 2 program with the notion that her leadership activities would be sharing her views with participants and having them adopt them as best practice. When this method did not produce successful outcomes, Jill’s work within her activity pathway exhibited contradictions. In general, her actions were driven by rules that her community members did not buy into which created a division of labor. Since all three elements along the bottom of the activity triangle were unstable, the ability for Jill to gain social capital at the meso level was inhibited. The study of teacher leadership can provide much needed understanding about teacher leadership in contextualized roles. Identification of a set of guiding principles along with application and implications in teacher leadership practice could further empower classroom teachers in public school reform. To assist the understanding of my research on teacher leadership the AT/SCT framework provided guidance. The activity model focuses on learning processes involving collectives or networks of individuals. The next chapter will begin with an in-depth cross-case comparison to identify common issues in each case and relationships to the themes that are interconnected.

**Cross Case Comparison**

Several theorists influenced my methodological approaches to cross-case comparison. My investigation into the literature revealed two purposes for conducting cross-case comparisons. First, general propositions can be derived from the analysis across the cases (Simons, 2009). As Merriam (2009) wrote, “An interpretation based on evidence from more than case can be compelling to a reader than results based on a single instance” (p. 154). Second, researchers can establish scope or reach of their findings by demonstrating their appearance in
purposefully selected settings (Miles & Huberman, 1994). To complete the process of a cross-case comparison I used the identified themes from Chapter 4 to explain the commonalities and differences between the cases and how the themes emerged from both examples.

**Cross-Case Comparison: Lauren and Jill as Novice Teacher Leaders**

In the previous sections I presented two cases of teacher leaders as they enacted teacher leadership activities in novice roles. In each case I explained how each teacher led based on principles from activity theory and social capital theory (AT/SCT). This section is organized around the themes previously outlined in Chapter 4: “Teacher Leaders As . . .,” “Initial Concepts of Teacher Leadership,” “Emerging as Teacher Leader,” “Intentionality Plays a Critical Role in Teacher Leadership,” “Teacher Leadership Activities Require an Introspective Lens,” and “Teacher Leaders need to Navigate the Activity Pathway.” In this section, I sought to find similarities and differences between the cases and themes.

**Teacher Leaders As . . .**

Katzenmeyer and Moller (2009) identified teacher leaders as those who “lead within and beyond the classroom; identify with and contribute to a community of teacher leaders and leaders; influence others toward improved educational practice; and accept responsibility for achieving the outcomes of their leadership” (p. 6). This broad definition encompasses many roles that teacher leaders fill. In their review of teacher leader literature, York-Barr and Duke (2004) described several specific roles filled by teacher leaders including participating in school change and improvement efforts. As members of the Wipro SEF program, and by engaging in the Phase 2 process, both Lauren and Jill were teacher leaders by the above standards. They were teacher leaders who had full-time teaching responsibilities and practiced leadership beyond their
classrooms. This indicated that Lauren and Jill valued teacher leadership practice and were invested in bringing their leadership practice within their schools and district.

Lauren and Jill were in two different cohorts for the Wipro SEF program; Lauren was a member of Cohort 3, while Jill was a member of Cohort 1. Each leader was presented with the same structured professional development by the same university and district faculty, yet their role as teacher leaders varied. Lauren’s role as teacher leader was as a classroom supporter, while Jill’s role was as a manager. Both teacher leaders developed their teacher leadership role from their experience as a classroom teacher. Their classroom was their foundation where they developed their leadership identity.

Classroom practitioners lead by instructing others. They make decisions in the best interest of learner (Danielson, 2006). Lauren saw this identity as being a collaborator with other colleagues that taught the same group of learners – House Titus. Lauren’s house members’ willingness built this collaborative culture to share support and explore together. This type of culture increased their shared vision and purpose of promoting student learning across content areas. Regular collaboration time among Lauren’s teachers was important to improve instruction within and beyond the walls of her classroom. Lauren shared what it was like before and after the implementation of her CCLS group:

When I started here, our house did not meet regularly. Most of our ideas were shared at lunch or in prep periods, but then it began to get more cohesive when they developed houses. We started meeting, but for a lot of administrative stuff, now we are so cohesive. I still think it can get better, but I never believed how far we can come with a simple notion of teachers collaborating for a purpose to help each other. (Phase 2, Interview 2, p. 4)
In contrast, Jill exemplified her leadership role as a managerial leadership position. Her involvement throughout her time within her district on the school and department level support her belief that she was a leader of change. Muijs and Harris (2007) discussed this top-down managerial leadership as a space where actions are mirroring what is thought to be correct. Jill saw her role as managing other members of the department and helping guide them to see the benefits of teaching science in a more progressive manner, similar to how she perceived her own teaching. She shared, “my initial approach to teacher leadership was to take on a semi-administrative responsibility and act as a go to person for other science teachers. My role was making teachers more accountable” (Phase 1, Exit Interview). Additionally, her participation in science department meetings and committees transcended her classroom and school. The impact of her perceived expertise impacted her involvement in her GPS reform to delevel the science classes at her high school.

**Initial Concepts of Teacher Leadership**

Teacher leaders serve as change agents inside and outside classrooms by improving educational practice through working collaboratively with colleagues (Muijs & Harris, 2003). As such, effective teacher leaders develop trusting and collaborative relationships (York-Barr & Duke, 2004). The most important dimension in forging close relationships with individual teachers occurs through mutual learning (Muijs & Harris, 2003). As Silva et al. (2000) concluded, “Teachers can only become leaders within schools when the school culture is clearly committed to provide support for the learning of all its members” (p. 802).

Lauren and Jill believed that the definition and purpose of teacher leadership centered on increasing teacher collaboration in school improvement. Both teacher leaders felt they were agents of change in the school improvement process with the goal of improving performance and
supporting teachers when needed. Lauren and Jill both described themselves as risk takers, skilled in their content, and individuals who possessed good communication skills. Additionally, both felt they were reflective practitioners always willing to learn. Lauren shared, “I am more comfortable with my mistakes. It’s okay to fail. We learned in the first year when we watched our videos that it’s okay to fail” (Phase 1, Interview 2, p. 3). Similarly, Jill shared:

I think it’s something that we should do more often as professionals, and being in the program had me do it. And just that evaluative eye on yourself, um, and looking at your own lessons, you know, taking that second . . . not even a second but you know, half an hour to watch your lesson and looking at things you do. Things that you should or shouldn’t have capitalized on. (Phase 1, Interview 2, p. 5)

Jill felt she was on call for administrators and her purpose was to keep the school going in a defined direction by providing consistency across her science department. She believed as a teacher leader she was a communication link between teachers and the administrator. She saw herself as a school reformer. Specifically, Jill shared:

I feel as though this program has led me to the next phase of my career as an educator. I am no longer content working within the bubble of my classroom or even department. I aim to impact the way science education is approached on as large a level as possible. This fellowship has afforded me the freedom to explore new possibilities and the confidence to do as much without working whether or not it will work. (Phase 1, Exit Survey)

In contrast, Lauren viewed her role as less formal and focused on the purpose of her leadership as working with teachers on personal growth driven by student needs. She explained this eloquently in her Cohort 1 exit interview when she shared:
This program has shown me true leadership is not necessarily a title, just someone with initiative. To me science teacher leadership is having an idea, acting on it, and then sharing it with someone. Ideally you are able to eventually share on a large scale, but even getting the conversation going is a place to start. (Phase 1, Exit Survey)

**Emerging as Teacher Leaders**

Lauren and Jill found their own professional development within the Wipro SEF program as a key time in their professional careers and in their transition to becoming teacher leaders. Participating in this program was pivotal because of the learning they had, the structures they were given and the camaraderie and new friendships they developed with other teacher leaders.

Additionally, Lauren and Jill’s practices were by their experience and expertise. Both leaders began with confidence in their teaching ability and had a command of instruction in their classrooms, including a vast knowledge of science pedagogy. Experience was also essential in Lauren and Jill’s capacity to lead. Through their formal education and graduate degrees, both teacher leaders were able to provide their knowledge and information so other teachers could share in learning.

As Lauren and Jill emerged as teacher leaders in Phase 2 of the Wipro SEF program, they intentionally demonstrated for their CCLS members the behaviors, attitudes, and values that they desired or expected members to emulate. As Lauren began working with House Titus, she looked for her teachers to value teamwork and collaboration. She shared, “I think, well I think you want to collaborate instead of do stuff on your own. You learn to work as a team. I wish, I had more opportunity in my school. I think it is a great thing when teachers come together, sit and talk…great things happen” (Phase 1, Interview 2, p. 2). Lauren’s role in this stage of the study
was teacher leader as learning facilitator. She saw herself as a participant within her team and attempted to contribute to the single group voice for a collective mission.

Conversely, Jill targeted values that slightly differed. Jill’s role of teacher leader was in the category of school leader. She saw her experience and rank as a motivator to pass along her instructional mainframe. In particular, Jill looked for candidates who were new to the field and were willing to see how things work in her department. The following excerpt for her final interview in Phase 1 portrays her approach:

I am continuing with new teachers. You know honing in on what we did and introducing them to our culture …telling them about the practices so they can jump in . . . But there is a selfish aspect to it, the kids come into my class lacking background knowledge and I don’t want that cycle to continue. The new teachers are not doing science the way I know it was supposed to be done. (Phase 1, Interview 3, p. 3)

Each teacher leader’s purpose and intent was to make sure that student learning was at forefront of their leadership work. Both teacher leader took this role further and realized that they were not only impacting students with their leadership work, but their peers as well. The reality for a teacher leader is that her work does not just stop with teaching students. Hence, the link that Lauren described as the “chicken and the egg” (Phase 2, Interview 1, p. 3) relationship between becoming and being a teacher leader. That is, both these teacher leaders see themselves simply doing what they think is best for their students. So, often, teacher leaders do not see themselves as entering a realm of leadership. When questioned directly about this perceived dichotomy between teaching and leading, both teacher leaders expressed the sentiment that everything they do is in the best interest of the students they have. Further, they do not have a desire to be different from or perceived as better than their peers.
**Intentionality Plays a Role in Teacher Leadership**

When both teacher leaders explained how they influenced instructional improvement within their CCLS group, they each discussed being intentional in their approach to leadership. Specifically, Lauren highlighted the importance of sharing ideas with other teachers. It was clear from the data that in order for her to influence other teachers as a teacher leader, there had to be an intentional purpose for when, where, and how ideas were shared. Lauren explained:

> I think that the structured time for house meetings and the consisted of that meeting time gave us the ability and availability to meet and share. I don’t think people would do that if it wasn’t scheduled in. We do it informally a lot, just through conversation, but I think there has to be a formal structure in place to make in purposeful. (Phase 2, Final Reflection)

One of Lauren’s leadership goals was to build a learning community that was positive and filled with collaboration about how to improve student learning. Lauren’s story, as detailed previously, provided examples of how her “House Titus” was the main vehicle to her teacher collaborative role as a teacher leader.

Jill also exhibited intentionality toward a shared goal with her CCLS team members. Based on the interview and observational data, Jill was more comfortable fulfilling an administrative role during her CCLS meeting and showing positional authority within her network by directing her intentions to science teaching. For example, Jill shared, “mainframes like mine. The goal is to create a linear approach to science . . . an endeavor that has been meet with no small amount of resistance” (Phase 2, Application).

Both Lauren and Jill were intentional in their practice, which directly related to how they used and relied on social capital within their teacher leadership activities. Lauren’s intentionality
was centered on the relationships she made with her CCLS group for the cohesive purpose of enhancing a cross-curricular approach within House Titus. This intentionality placed her reliance on social capital between the cognitive and relational dimensions. Additionally, Lauren faced barriers based on her intentionality, specifically at the meso-level. For example, she and the members of her CCLS team felt there was a lack of time to work on the cross-curricular approach. This lack of time inhibited Lauren’s attainment of cognitive social capital at the micro- and meso-levels.

Jill’s intentionality was centered on the idea of commitment, or lack thereof, by her CCLS group. As Jill progressed through the Phase 2 program, the commitment of the teachers she was working with shifted, which altered the social capital she used and upon which she relied. Specifically, Jill’s hierarchal nature of leading teachers caused teachers’ buy-in to decrease and inhibited the ability of Jill to obtain structural and cognitive social capital.

**Teacher Leadership Activities Require an Introspective Lens**

Jill described the time commitment of teacher leaders best when she explained how other teachers did not realize the amount of thinking, planning, and strategizing that teacher leaders engage in well after their day is done. I identified this concept as introspection, and it is an integral linkage between becoming and being a teacher leader. Lauren did not directly identify this aspect of her leadership development or actions, yet within the umbrella notion of introspection as I identified in Chapter 4, both teacher leaders recounted examples of their own recognition of the attributes, actions and fears they experiences as emergent teacher leaders.

Teacher leadership takes place within the context of everyday life for both of the teacher leaders within this study. Lauren, through her own introspection, was able to visualize her role as a teacher leader being meaningful and impactful. She recounted:
I just thanked God that it had gone so well because it was a huge investment of time, planning, energy, and courage! From the experience, I learned that adult learners liked sharing and that I needed to continue to provide opportunities to foster such sharing. (Phase 2, Interview 2, p. 5)

Conversely, Jill’s introspection led to her questioning her role of teacher leader, based on the culture in the school, especially in comparison to her personal experiences. She reflected:

I think that part of it is the negative spirit that can float around the district with new teachers. When I started teaching at the high school, life was not always sunshine and rainbows, but it’s what you make of it, and so I tried to look at the positive. Now I see the younger staff as more against administration, or even against other staff— it doesn’t feel like the same atmosphere. (Phase 2, Interview 2, p. 4)

With these realizations through introspection, the teachers were able to more effectively evolve and engage as teacher leaders. However, this introspection also resulted in a range of feelings that had to be dealt with by each teacher leader. Some of these feelings were positive and fostered the teacher leader’s development. Others were negative, often resulting in fears or resilience to continue as a teacher leader.

While the teacher leaders were engaging in their work, they continued to be introspective about their newfound roles, duties, and responsibilities. Both Lauren and Jill recognized the unique aspects and processes of their teacher leader role. However, this was not always strikingly apparent to them when they were immersed in their work. Lauren viewed herself as teacher leader in her school, but she had never really thought about if what she was doing was being effective until asked for this study. She stated, “So yeah I guess I have made a difference. I didn’t realize that” (Phase 2, Interview 2, p. 2). As an emergent teacher leader, she continued her
introspection and deepened her understanding of the role within the school. These realizations included aspects that were completely unique to teacher leadership and certainly may have been uncharted waters for a teacher who was just beginning to delve into leadership functions.

Whereas Jill, throughout her own introspection, questioned the introspective ability of the teachers she was leading, “They don’t ever actually critically analyze themselves. Somewhere along the way I was taught to do that, but they don’t seem to have it” (Phase 2, Interview 2, p. 4). While Jill valued the importance of her work as a teacher leader, she also recognized the needs of the teachers (with whom she was working) to ensure she found value in what she shared. However, Jill found that her teachers were reluctant to make the necessary changes to improve their practice with students and/or with each other.

**Teacher Leaders Need to Navigate the Activity Pathway**

This study used activity theory as a basis for analyzing Lauren and Jill’s work as novice teacher leaders. The six elements of the activity structure helped me to understand the process teacher leadership activities. When looking at the linear activity pathway of subject  \rightarrow object  \rightarrow outcome, the other tenets, tools, rules, community and division of labor mediated the trajectory. These elements played a dynamic role in Lauren’s and Jill’s ability to engage in teacher leadership activities.

Lauren when facilitating her CCLS meetings found to achieve her intended goal of enhancing a cross-curricular approach to teaching science, she needed resources (tools) from her colleagues (community), “I teach a lot of things in science and if the math teacher and I talk before hand and he does it in his class . . . I don’t have to reinvent it” (Phase 2, Interview 1, p. 2). Through most of her work, tools, rules, and community were the mediating factors that supported her authentic approach to teacher leadership. Activity theory emphasizes tool-
mediated action in context. In the very first reflection Lauren submitted for phase 2, she highlighted this dynamic interaction of elements with her CCLS group, “We discussed how we would begin to implement our goal. Discuss/share lesson plans [Community], share formats [Tools], and create common expectations for our students [Rules].” The teacher leaders not only acted on their own practice with tools, they were working to embed shared cultural tools within their learning community. Additionally, the division of labor intentionally constructed by Lauren to highlight teacher strengths, first created tensions but ultimately embraced her ability to move toward the intended outcome of successful teacher leadership aimed at improving student outcomes.

Consequently, when Jill described focusing teaching practice discussions on the same groups of students as they moved from 9th to 10th grade in science, she found that the pathway involved rules followed by the community with little emphasis on shared tools. She stated, “We are working with 10th grade teachers, which is where all of my students end up . . . And they teach in a very traditional manner, lecture, lab, test . . . we need to break that so our students don’t move backwards.” Two mediated factors disrupted Jill’s activity pathway - first the community and second the division of labor. The community of teachers with which Jill worked was not cohesive and lacked the trust in her intent. This, in turn created a vertical power status that Jill exhibits, as she views herself a “leader” with authority.
CHAPTER FIVE: CONCLUSION AND IMPLICATIONS

A conscious challenge that I embraced throughout my research was to design and implement a case study that went beyond the nature of program evaluation and instead examined data in ways that would add to the existing body of research (Fitzpatrick, Sanders, & Worther, 2011). Just as Stake (1995) cautioned about the limitations of case study, I remained cognizant of how my findings were based on participants’ experiences related to one program in one particular district in Northern New Jersey. Moreover, this study was driven by specific questions derived from the literature, my positionality as a researcher, and the conceptual framework I created in order to examine the issue of how novice teacher leaders enacting teacher leadership activities rely on social capital.

Conclusion

The previous chapter detailed the ways that I analyzed the data and established a contextual case for each teacher leader to identify the findings for this study. I used the data to help tell the story of Lauren and Jill through the lens of my AT/SCT conceptual framework. In this chapter, I focus on what I concluded about teacher leaders’ social capital when enacting teacher leadership activities. Additionally, in this chapter, I present the implications of my study and offer recommendations around the elements of the activity system (tools, rules, community and division of labor) for: (a) teacher leaders; (b) school administrators; and (c) teacher leadership programs. The practice of teacher leadership in the 21st century builds upon the existing pedagogy about teacher leadership and current educational trends. For nearly 40 years, countless studies have been conducted to examine and make sense of teacher leadership (Little, 2003; Pounder, 2006; York-Barr & Duke, 2004). Historically, teacher leadership has emerged as a potential vehicle for educational reform (Harris & Muijs, 2006; Little, 2003; Muijs & Harris,
Conceptualizations of teacher leadership range from identifying both formal and informal roles (Harris, 2003, Muijs & Harris, 2006, York-Barr & Duke, 2004). Teacher leaders who do not hold formal leadership roles can be equally as influential as formal teacher leaders (Katzenmeyer & Moller, 2009). Mujis and Harris (2006) stated, “Teacher leadership is conceptualized as a set of behaviors and practices that are undertaken collectively. It is centrally concerned with the relationships and connections among individuals within a school” (p. 968). In addition to Katzenmeyer and Moller’s (2009) metaphor of teacher leadership as a “sleeping giant” (p. 9) that resides within prospective teacher leaders, the social capital they possess or obtain is equally important as it allows for productive and reflective interactions with colleagues founded on trust, and mutual respect (Bourdieu, 1992; Coleman, 1966; Putnam, 2000).

The overall guiding question for this research study was how do teacher leadership activities facilitated by novice teacher leaders who participate in a grant funded teacher leadership professional development program rely on social capital to enact change? The specific secondary questions were:

- What kinds of social capital emerge from the fellows’ activities as teacher leaders?
- How are teacher leadership activities navigated or negotiated through the micro- and meso-levels of social capital?

To assist my understanding of teacher leadership activities, Engeström’s (1987) activity systems model provided guidance. The activity model focused on learning processes involving collective networks of individuals. Activity theory (Engstrom, 1987) suggests a three-way
interaction among subject, object, and community. Tools mediate the subject-object interaction; rules mediate the subject-community interaction; and division of labor mediates the community-object relationship. In addition, the outcome resulting in the activity is the total effect of the activity system.

**Figure 1**

*Activity Triangle*

Activity System. Adapted from *Learning and Expanding with Activity Theory* (p. 89), by H. Daniels, K. D. Gutiérrez, & A. Sannino, 2009, Cambridge University Press. Adapted with permission.

Activity theory brings three important features to the study of what teacher leaders do. First, activity theory conceptualizes individual doing as engaging in activities with a wider social group (Vygotsky, 1978), also known as the collective or the community (Engeström 1993; Leontiev, 1978). The social nature of doing is captured by conceptualizing the individual as the subject. It is through the subject’s intentions and actions that activity may be understood. Second, activity theory incorporates intentionality into the subject (Kaptelini & Nardi, 2006). When people act, they have motives and desires that they impute to their own actions. Intention
is thus inherent in action. Third, an activity theory lens on the actors as a social subject provides a social cultural perspective on the analysis of actions.

Given that this study of teacher leaders presented two case studies, Figure 5.2 illustrates the emergent conceptual framework for this study. A conceptual framework explains graphically the key constructs that were studied and presumed relationships among them. Identifying the key constructs and their interrelationship forms the activity theory/social capital theory conceptual framework. The key constructs for this study of teacher leadership activities were based on the three dimensions of social capital: structural, cognitive, and relational, and the two levels of social capital: meso and micro. The lines and arrows indicate relationships that were shown to exist. The shaded boxes show where different form of social capital exists within an activity system.

The data presented in this study placed the practice of teacher leadership as pivotal to how teacher leaders enacted leadership and built social capital. The practice of teacher leadership is recognizing the situation to determine when to lead or follow, and then determining what action to take. Within their professional school networks, the teacher leaders in this study enacted new leadership roles and an analysis of their work emphasized the reliance on social capital to achieve these intended goals. Trust, intentionality, and introspection were central to the connections each teacher leader made while enacting the leadership activities. Also important were the direct experiences each teacher leader had in relation to the culture of the school and district, the resources within their professional network, and their own personal ideology around teaching and learning. The relationships made and the interaction engaged in by both teacher leaders while enacting their leadership practice shaped the way each individual relied on social
capital. The findings revealed interconnected relationships that directly affected the collaborative actions of the teacher leaders with the members of their individual CCLS groups.

**Intentionality in Teacher Leadership Practices**

Intentionality in teacher leadership practices helped Lauren and Jill to make sense and give meaning to their work within the groups each led. Teacher leadership guided by intentional practice can facilitate improvement at the school and district levels by aligning roles, values, goals, and educational processes and providing a heightened sense of purpose through personal commitment to the mission of public education. Although practice in context of the public education system was an important element, which I discuss later, an additional element in viewing how teachers lead was by their intention. Lauren and Jill participated in intentional practices that began at the classroom level and projected to the school level, yet the crux of their work was focused on student needs.

Teacher leaders’ judgement in how to work with the teachers in their CCLS groups while enacting their teacher leadership activities was influenced more by a flow of deliberate actions rather than random activities. When the teacher leaders within this study had disciplined intentionality, their teacher leadership practice resulted in desirable outcomes and sustainability. Sustainability was based on the teacher leader and teachers being committed to a purpose over time and collaborating with others was a way to maintain capacity to lead (Fullan, 2005).

Many of the intentionality tenets portrayed by the teacher leaders, including their views of teacher leadership, and their enactment of teacher leadership were similar across cases. The situation, the role, and each leader’s influence varied between the cases. In examining the data across cases, I identified activity related to practice. Actions within the activity system emerged from how each teacher leader practiced leading. A social capital view of Lauren and Jill’s cases
provided a perspective of how each were similar in activity and social networks within their educational systems. This point of view of teacher leadership suggests that a teacher leader is a teacher who engages in leadership practice activities with others in social structures of the educational setting. The focus on teachers who lead in social practice views the teacher as leader in activities with members in specific circumstances.

**Knowing How to Lead**

Key to enacting successful teacher leadership is to know that leadership is not about always having to be the leader. A teacher leader who is committed to the goal of her teacher leadership practice thrives in a safe culture where leading and learning are reciprocal and dynamic. For Lauren, her ability to know when to lead and when to follow contributed to her success as a novice teacher leader. A good leader can also be a good follower in a given situation.

Teacher leadership may be a valuable resource in long-term educational reform; however, like other resources it must be sustained and renewed. Both teacher leaders in this study used their leadership to accomplish a particular task, but only Lauren sustained her work beyond her initial goals through her intentional practice and knowledge of leading. Teacher leadership provides teachers opportunities to pursue professional goals beyond their classroom. In their pursuit, there were times when they should lead and times they are expected to follow. Teacher leadership makes use of the collective capacity of teamwork for ongoing efforts followed by times of renewal.

**Navigating the Activity Pathway to Enact Change**

Teacher leader practice can be explained through the interaction of the elements within the activity theory triangle. What makes these interactions dynamic has to do with how teacher
leadership is framed. This study suggests teacher leadership be viewed as a complex organizational structure that can transform education from past practices and align teaching and learning to the 21st century (Fullan, 2001; Smylie et al., 2002). Teacher leaders must be involved with administrative leaders and be supported in the context of their public school systems. They also need to be relationship builders and networkers so that their leadership can reach its full potential (Frost & Durant, 2003; Smylie et al., 2002). Teacher leadership involves collaborating with diverse people and groups as part of one’s professional aptitude (Fullan, 2001). Most teacher groups or teams on which teachers participate focus on grade-level or content specific topics or issues at the school level (Chrispeels & Martin, 2002; Crow & Pounder, 2000). Often teachers do not have a choice about being a member; if they are a teacher at a certain grade level or in a specific content area, they must participate. In these cases, their required membership may influence their participation in team discussions or activities. In this study, both teacher leaders eluded to the challenges of building trusting relationships with their colleagues. Jill’s team members lacked motivation to carry out the given tasks, while Lauren’s team showed investment in the process of enacting change.

In this study, the teacher leaders engaged in ongoing practices in a social network of schools. Both Lauren and Jill related to their CCLS colleagues and began the leadership role as social agents of change. Through their leadership practice, they developed their identities as teacher leaders within the social network and as a result built structural social capital. A teacher leader is one who practices leadership in a sociocultural context.

**The Role of Context**

Teacher leadership involves learning how the organizational structures function in relationship to one another. In the literature on distributed leadership, Spillane (2005, 2006)
argued that leadership emerges from the interactions and relationships among individuals. Distributed leadership is an important construct in the conceptualization of teacher leadership. Teacher leaders may perceive leading as an isolated job, yet the distributed leadership framework distributes practice among stakeholders reducing the isolation (Spillane, 2005, 2006). In this study, the teacher leaders’ experiences revealed that they led in relation to others. Jill began the journey of leading the CCLS program with the intention of distributing leadership to the novice teachers within her team rather than sharing leadership. Yet as the year progressed, it was evident that her intention of distributing versus sharing led to her inability to lead (Smylie & Denny, 1990). In addition, context played a role. The school context, the hierarchy of power, and the leadership skills of teacher leaders (Muijs & Harris, 2007; Smylie & Denny, 1990) all influenced how Jill took up the role of teacher leader. First, the school was organized around a traditional, hierarchal conceptualization of leadership. Jill had power as a veteran science teacher to work with her novice counterparts within her school, but the lack of invested support from her building administration created an environment where her science CCLS meetings were superficial. Lauren, in contrast, was working in a school, within the same district where her building administration fostered a collaborative environment. Lauren’s experiences as a teacher leader revealed that she led in relation to others around the context of the school culture, she often used “we” instead of “I” when discussing her teacher leadership activities.

In order for teacher leadership practice to be successful within a distributed model, the school leaders need to provide structure (time and process for teams), the practice (through modeling and opportunity), and the beliefs (established the professional norms around the process), all of which have been identified as influential to teacher leadership (Smylie & Denny, 1990). Additionally, effective teacher leadership is found in the interactions between leaders and
followers, not just a leader’s actions. This study confirmed, through Jill’s case, that no matter what leaders do to influence others, who they are makes a difference. Teachers are not influenced to change their instructional practice by someone with whom they have not established a supportive relationship.

Teacher leadership involves navigating the organizational structure and function in relationship to one another. Networking among stakeholders was a vital undertaking in order for teacher leadership to achieve its aims in this study. A necessary element for creating and maintaining relationships was communication. Communication must be a reciprocal process where the teacher leaders received ongoing information and shared information with their constituents. In essence, teacher leaders need to be relationship builders.

**Supporting Teacher Leadership within Specific Contexts**

According to Muijs and Harris (2007), supporting teacher leader development is key to shaping teacher leaders. This includes articulating what teacher leadership looks like in specific context, the skills needed for the positions, and the overarching vision of the position. Multiple researchers (Kruse & Louis, 1997; Muijs & Harris, 2007; Sanders, 2006) alluded to the need for formal leadership training for teacher leaders. Both Lauren and Jill completed the Wipro SEF 2-year training, and continued their developed through the structured Wipro SEF Phase 2 program. However, leadership is more than just taking classes and having the skills; the desire to lead, the passion for change, and the understanding of the process for both must be there. Teacher leaders, like Lauren, have the ability to link their leadership skills to the actions they take and understand their motivation for wanting to lead. Lauren who was humble in her role as teacher leader, grew to exhibit confidence in her to lead and in turn was successful at her teacher leadership experience. Contrastingly, Jill’s ability to reflect on her own motivation and desire to lead was
not enough. She lacked a true understanding of leadership. Jill viewed leadership as telling other what to do based on her own personal insights. In turn, this led to her lack of confidence or desire to lead as she progressed through the leadership activities. She used the wrong skills, power and authority, which were not effective as she progressed through Phase 2 of the program. Not all teacher leaders have the confidence or desire, as was the case with Jill.

**The Role of Social Capital**

The research questions focused my analytical attention on the actions of teacher leaders and the role of social capital within their teacher leadership activities. Teacher leaders in this study readily obtained structural sources of social capital, because they occupied a role in their school organizations. Lauren and Jill both used the structural social capital to attempt to gain social trust and professional norms. When trust and norms were fostered within the leadership activities, as described in Lauren’s case, relational forms of social capital began to emerge. When teacher leaders occupy a role, establish norms and trust, they begin to tend to have cohesive mindsets within the groups they occupy. These similar beliefs or shared attitudes highlight the cognitive dimension. In illuminating how both teacher leaders preferred to develop social capital, the pathways of social capital development examined in this study began with teacher leaders on the structural side of Uphoff’s (2000) model and finished with social trust and professional norms on the relational side. On the structural side, teacher leaders, using the positional power inherent in their roles, selected leadership functions that facilitated collective action (Uphoff, 2000). Using these leadership functions, Lauren attempted to develop professional norms and social trust as sources of social capital on the relational side, while Jill’s experiences indicated that the dominant hierarchal leadership model impacted the nature of her teacher leadership practice. By operating in this bureaucratic system, Jill exhibited challenges
when developing norms and trust, resulting in a loss of relational and cognitive social capital. While Jill began on the structural side and attempted a linear approach to end on the cognitive and relational side, her pathway appeared to be linear and unidirectional. Yet Lauren’s pathway was fluid and the three sources of social capital were navigated based on tenants within the activity theory. I contend that the dimensions of social capital have a reciprocal relationship. Therefore, teacher leaders do not always build social capital in a linear manner starting with investments made in structural social capital and ending with increases in relational or cognitive social capital. For instance, Lauren and Jill’s pathways both began with their teacher leadership role as a source of structural social capital. Yet, attitudes, beliefs, and trust among different actors (teachers, administrators, etc.) which are forms of relational social capital, influenced the formation of these teacher leadership roles. Therefore, forms of cognitive or relational social capital may precede the structural role of teacher leader.

The interplay among teacher leaders’ social capital as they enacted leadership activities through two case studies was analyzed in relation to the three dimensions of social capital, structural, relational, and cognitive and their placement at the meso- and micro-levels. The data supported that interactions resonated between structural, relational, and cognitive sources of social capital. As a teacher leader embraces a leadership role, they portray or gain a sense of structural social capital. When this is set in place and a role is established, norms and social trust emerge in the form of relational social capital for teacher leaders. Through a domino effect, a teacher leader then may gain cognitive social capital through shared values and beliefs. The relational (norms and trust) and cognitive (shared values and beliefs) seemed similar within each case. The major difference found was that cognitive social capital related to the subjective interpretation of shared understandings whereas relational social capital included feelings of trust.
that are shared by the many actors within the social context (Nahapiet & Ghoshal, 1998; Uphoff, 2000). In this study, based on the interactions of teacher leaders within the activity system, a simplified view of a teacher leader with high level social capital would be one who works in an environment that exhibits strong connections between teacher leaders and teachers, high levels of trust with the teacher leader and teacher system, and where there is a shared goal and a common mission. The social capital in this study was portrayed by the level of interconnectedness, quality and nature of connections, and extent of a common shared vision within the teacher leadership activity. These factors placed the social capital of the teacher leader within the activity in all three dimensions: (a) structural (connections among actors), (b) relational (trust between actors) and (c) cognitive (shared goals and values among actors) dimensions. In this study, all three dimensions of social capital were connected and mutually reinforcing (Uphoff & Wijayarantna, 2000). Teacher leadership activities and processes are embedded within a network of relationships which places the structural dimension as an antecedent to both cognitive and relational dimensions since social relationships and structures are essential for social exchange.

Network ties facilitate social interaction, which in turn emphasizes the development and maintenance of the cognitive and relational dimensions of social capital (Nahapiet & Ghoshal, 1998). Social capital can very easily be damaged, as seen in Jill’s case. It can take a long time to build social capital through repeated interactions, but this can be undone in a single action. Social capital is lost or damaged by anything that disrupts social relationships and networks. In Jill’s case this would be a lack of trust and a feeling of hierarchal power.

**Social Capital at the Micro- and Meso-Levels**

This study explored at what level social capital resided within an activity, at the individual (micro) like human capital or was it a property of the community (meso) more
generally. Overall, I found that social capital had both individual (micro) and aggregate (meso) components, when analyzed through the lens of teacher leadership activities. This was because an individual, such as the teacher leaders within this study, had a certain amount of control over some aspects of social capital, but limited or little control over other aspects. Additionally, the practice of teacher leadership was not an individual activity, but instead a collective one, relying on social capital within the meso (community) level.

In this study the social capital of Lauren and Jill, when found at the micro-level, focused on the individual and their relationships with the teachers they led. Social capital at this level tended to be conceptualized as the property of the individual and therefore as a private good (Lin, 2001). At this individual level, social capital was conceptualized as an accessible resource embedded in the social network of Lauren’s and Jill’s CCLS experience. Put simply, a high level of social capital at this level was indicated by demonstrating a good relationship with a lot of people who have access to different resources. This in turn denoted strong norms of trust and reciprocity (Lin 2001, Yang 2007).

Social capital also existed at the meso-level for Lauren and Jill within their teacher leadership activities. At the meso-level the social capital focused on the CCLS group as the context where relationships were the analytical tool to determine its worth. When viewing social capital at the meso-level, it was often conceptualized as a public good, with more emphasis on norms of trust and reciprocity (Fukuyama, 1995). Lauren’s CCLS group, as a mechanism for collective action, created shared experiences which in turn fostered not only her individual use of social capital, but the collective use of social capital by the group. Conversely, in Jill’s CCLS group, the collective rules and norms were not apparent, and therefore the social capital was not relied upon at the meso-level. This resulted in the hierarchical structure with the group, so the
emphasis was placed on Jill who was in the leadership role and in turn, the collective group did not gain social capital at the meso-level (Fukuyama, 1995; Putnam, 1995). Teacher leadership has the potential to impact teaching and learning in many ways. The teacher leaders from this study yielded insights into the nature and complexity of teacher leadership enactment from a social capital perspective. Teacher leaders are not only the recipients of social capital, but also can distribute social capital among the groups they lead. As a result, there are certain areas that need to be considered because of this study. First, teacher leaders must be skilled in building relationships that foster trust. Second, teacher leaders need to foster the necessary dispositions needed to create the conditions for collaboration to flourish. We know that openness and trust are factors that promote enactment of teacher leaders’ activities.

**Implications**

Given the analysis of teacher leaders’ social capital in Chapter 4, several implications emerged from this study about teacher leadership enactment in K-12 schools. This study used activity theory, through a social capital lens, to understand the complexities of engaging in teacher leadership and specifically how actions and interactions of teacher leaders in a collaborative setting help build and sustain teacher leader social capital. As depicted in the triangular model in Figure 1, the activity system is comprised of seven interacting elements, including object, outcome, subject, tools, rules, community, and division of labor.

**Figure 1**

*Activity System*
I present the implications for this study in relation to the different interacting components of the activity system (e.g. tools, rules, community and division of labor) and how they influenced the teacher leaders’ social capital while enacting teacher leadership activities. The activity triangle signifies the collective activity system and the outcomes of the activity cannot be analyzed separately from the mediating elements. First, I discuss the implications around the necessary “tools” for teacher leaders, which include physical resources as well as nonphysical skills. Next, I focus on implications which exist within elements at the base of the triangle (rules, community, and division of labor) which Engeström (1999) referred to as the social basis of the activity system.

**The Necessary “Tools” for Teacher Leadership**

The findings from this study place an emphasis on tools teacher leaders need to successfully enact teacher leadership. Within the activity system, tools are the mediating devices by which an action is executed (Hasan, 1998). Tools function as intermediary aids which the subject or teacher leader needs in order to successfully attain goals for the intended action of enacting teacher leadership. This study emphasized the need for two critical tools, time and teacher leadership skills, to be in place for the teacher leaders to be successful within their
activity system. I first discuss how teacher leadership is not possible without the tool of time and share insight of how time can be appropriately given to teacher leaders for their activity. Second, I focus on the tool of skills to share how teacher leaders must build strategies and dispositions within their activity context to engage others in the act of teacher leadership.

The findings from this study suggest that teacher leaders need structured time to adequately enact teacher leadership activities. The teacher leaders in this study were still in the classroom, providing day-to-day leadership and support for peers informed by their own classroom experience. As they attempted to balance their work for students with their work for peers, sustainability of their leadership was not always possible without structured time. Specifically, I suggest that schools and districts that are using teacher leaders who are still in the classroom, need to account for the leadership responsibilities by providing time within their schedule, or structured time within the school day for leadership activities. When teacher leadership is done “on the fly” in unofficial lunch meetings or an add-on to team meetings, the full benefit of peer teaching and learning may be compromised. Schools need to create opportunities for teacher leaders to have time to share their expertise with other teachers in the school community. This study found that in order for teacher leaders to influence others, there must be opportunities for teachers to talk and share ideas. Without avenues for teacher communication about instructional practices and student learning, the opportunities for teacher leaders to influence instructional improvement decreases. Teachers can be isolated in classrooms unless structural and cultural aspects of the school keep this from happening. The isolation not only keeps teachers from learning from others, but it also inhibits teacher leaders, who have great classroom practices to share. Another way lack of time can be addressed is by changing the traditional school calendar and building in planning, learning, and leading time during non-
instructional days throughout the school year. Both teacher leaders in this study specifically addressed the need for time to enact leadership. Lauren found that even though she used team meetings to energize her CCLS team, this was not the sole purpose of these meetings and her objectives were often put to the side when more pressing school issues arose. Similarly, Jill found that the lunchtime meetings were not completely effective since teachers again were not always focused on the Jill’s instructional intentions.

Second, teacher leaders need specific skills to properly learn how to enact teacher leadership activities. The teacher leaders in this study worked hard to “learn the job” and “navigate the pathway” in order to acquire the needed skills for effective teacher leadership. Their own learning shifted beyond best practices for classroom instruction, to their new roles as leaders in the development and support of teachers. When this was executed successfully, the unique set of skills teacher leaders develop emerges from their work with small groups of teachers around common goals. These skills are deeply rooted in teaching learning and leading and need to be intentionally developed.

A tool essential for assisting teacher leaders in acquiring the skill set mentioned above is purposeful professional development. For teacher leaders, professional development around teacher leadership serves a dual role of recognizing and affirming good practice, and improving present and future practice for leading. Teacher leaders must have professional development that is research based, in-depth, meaningful, consistent, continual and applicable to their work. Both teacher leaders in this study attributed their passion for leadership and the risk to enact Phase 2 on their own to Wipro SEF structured professional development. Furthermore, teacher experience alone does not provide the skills necessary to be a teacher leader, professional
development is an important aspect that offers guidance and help for future teacher leaders. Specifically, professional development can facilitate the process of teacher leadership.

Thirdly, school administrators must also contribute to the tools needed for teacher leader enactment. For school administrators, recognizing leadership qualities and strengths in one’s teachers and facilitating that leadership is something that principals can’t afford not to do. The question for principals is how to administer this facilitation and foster the leadership while balancing the other demands of the job. In this study, direct involvement from school administrators was not present, but the support and recognition of the vision was seen in the successful case. Principals and school leaders can empower teachers and help them grow by recognizing and nurturing the potential in teachers to be teacher leaders. They can provide professional development, mentoring, and an atmosphere that supports this leadership. I suggest that principals need to involve teacher leaders in collaboration, decision-making and curricular issues. Additionally, school leaders can set up a physical structure and schedule that allows time for teachers to work together, facilitate teachers moving in and out of leadership as interest and time dictate, and promote teacher involvement in critical school issues.

A final “tool” for teacher leadership deals with teacher leadership programs. The teacher leaders’ affiliation with Wipro SEF in this study has provided them the resources to create and support research-based professional development sessions in an effort to improve teachers’ instructional practices as well as contribute to their drive to be lifelong learners. This is because the Wipro SEF functioned as a network for teacher leaders across the state and such programs provide access to expert knowledge that otherwise may not be available within the school or district (Adler & Kwon, 2002).
The Need for “Rules” in Teacher Leadership

The element of rules within an activity system consist of the norms, conventions, and customs that subjects adhere to while engaging in an activity. Rules shape the interactions of subject and tools with the object. These rules understandably change as other aspects of the system change. The rules effect how tools are used within the activity system. Establishing or enhancing a system of teacher leadership begins with clarifying the set of assumptions that drive teacher leader practices. Without defined fundamental norms or conventions, educators’ efforts may not lead toward desired results. The implications of this study showed the need for “rules” which fostered defined teacher leader roles and the norm of fostering a collaborative environment.

The findings of this study indicate that teacher leader roles can be rewarding, challenging, and beneficial. Teacher leaders are talented educators who often act in informal or unrecognized roles. Teacher leaders are an essential part of the distribution of leadership in school, but this is not well understood by many educators, leading to role ambiguity. In this study, the method for defining the teacher leadership study was based on the Wipro SEF program. Even though the school district was a part of the Wipro SEF program, there was a lack of clarity and commonality around how the teacher leader roles were defined for their individual schools and departments.

This study examined individual stories of two teachers as they made a role change from just teachers to teacher leaders. The role of teacher leaders must shift from being “representatives of change” to “leaders of change.” For this to be done effectively, there needs to be a culture within the school that supports this process. Teacher leaders are critical in developing and supporting positive relationships with teachers in their schools to help shift this needed change.
When teacher leaders work with others in a non-threatening and supportive way they can move past the representative phase and foster initiatives that directly relate to be critical supporters for instructional improvement. In an effort to avoid role conflict and power issues, it is imperative that a teacher leader understands this concept herself. As stated by Sergiovanni (1994), “the sources of authority for leadership are embedded in shared ideas, not in the power of the position” (p. 214). With this in mind, teacher leaders must view leadership from a systemic perspective rather than an individualistic one. This means that the activity of teacher leadership is a system of systems, in which the teacher leaders needs to see how each part influences and interacts with the whole. Furthermore, the whole is not just a sum of the parts, but the system itself can be explained only as a totality. If teacher leaders utilize an individualistic approach, they attempt to view each element separately with a view to putting the parts together into a whole at some later point. In contrast, teacher leadership viewed through a systemic perspective emphasizes that viewing individually is not possible and the starting point has to be the total activity system.

Teacher leaders need an array of skills to successfully help improve teachers’ practices. These are in addition to having content knowledge, intellectual curiosity, and the ability to effectively turnkey information. Therefore, in addition to offering content rich learning experiences, teacher leadership programs should also provide sessions that help teacher leaders become better facilitators of learning. For example, since resistance was one of the factors affecting the professional development provided by teacher leaders, programs should consider focusing some trainings that emphasize how to engage teachers in the change process. In addition to content, professional development should incorporate trainings that deal with building trust, buy-in, and cooperation for teacher leaders to use in their work.
Within their professional environment, teacher leaders must be involved in the leadership processes and structures in their schools. Teacher leader roles and descriptions should be examined to include the ability to make autonomous decisions while desiring group internal accountability to help define what an effective distributed leadership structure could look like.

The norm of a collaborative environment was determined to be essential to successful teacher leader enactment in this study. As noted in Chapter 2, there is substantial literature supporting the ideal of teacher leader collaboration reforming schools. Collaboration requires a broadening of the scope of the traditional understandings of teaching abilities. In addition to content knowledge and pedagogical skills, teacher leaders need to be competent collaborators. A host of skills is necessary, including for communication, conflict resolution, and team leadership. The collective knowledge and collaboration that exists within teacher leadership activities are factors that contribute to the overall effectiveness of teacher leaders and their contribution to student success. It is when teacher have the opportunities for collective inquiry and the learning related to it that they can develop and share from their experiences. Despite the benefits of collaboration, the data indicated that teacher leadership was not automatically cultivated through the structured collaboration. Therefore, the norm of collaboration must be present within the activity system for effective teacher leadership enactment to occur. With this in mind, there are several recommendations for cultivating teacher leadership that must be done on a school or organization level, which I discuss in depth under the activity system element of community.

**Fostering a Sense of “Community” for Teacher Leadership**

The results of this study highlight the importance of community in the educational environment. The community is the larger group of which the teacher leader is a part and from which teacher take their cues. The community’s interest shapes the activity. Lauren as a teacher
leader reflected frequently on the positive support she received from her colleagues within their contexts. Conversely, the other teacher leader, Jill, lacked full support from her community, which caused a contradiction within her activity system. What is learned from these opposite experiences is that all members of the teacher leaders’ community need to be involved in order for the teacher leaders to enact leadership, but this must start at the top. First and foremost, school administrators need to view their role in teacher leadership as a member of the educational community, not as top-down leaders. This is because the work of teacher leaders is rooted in collaborative relationships and its assumption of many aspects of leadership exemplifies the ideals of a distributive leadership model (Spillane, 2006).

Using the distributed leadership framework, the findings in this study stand as an example of how effective leadership is found in the interactions between leaders and followers (community), not just a leader’s actions (division of labor). This study confirmed that no matter what leaders do to influence others, who they are makes a difference. Followers or community members will not be influenced to use an improved instructional practice by someone who has not established.

Principals and school administrators need to be proactive in creating opportunities for teachers’ leaders to establish relationships through planned activities which engage teachers in meaningful dialogue. These connections are the foundation for building the credibility that allows teacher leaders to influence followers, but only when school administrators take a stake in this process. For example, the principal needs to create a school culture which is collaborative, makes it safe for risk-taking, and makes failure as part of the learning process. The supportive role of the principal may vary. For example, they may be passive and allow teachers to engage in
teacher leadership activities such as collaborative planning or sharing or active where the principal designs structures and selects personnel for leadership positions.

Teacher leadership programs have an important role in building “community” within teacher leaders’ activity pathways. In their landmark 2004 study, York-Barr and Duke posed an important question for future research to address: “What combinations of formal trainings and job-embedded learning support the development of effective teacher leadership?” (p. 292). The implications from this research provide insights into this question, as the best practices of the study’s combination of training and job-embedded teacher leadership program supported the development of the teacher leaders. Both teacher leaders in this study relied on their Wipro SEF training and support when beginning to engage in the teacher leadership activities. They modeled their own CCLS groups after ones they were engaged in through Phase 1 of the program. Additionally, the continued support from the university faculty during Phase 2 allowed for the teacher leaders to continue their training while engaging in actual teacher leadership activities.

**Fostering an Introspective School Culture to Combat the “Division of Labor”**

This study was framed by the activity theory understanding of the concept of division of labor, comprising both a horizontal and a vertical dimension; that is, the division of labor determines the work tasks and powers of the members in a community. Here, the horizontal dimensions refer to the distribution of tasks and assignments between teacher leaders and other teachers, while the vertical refers to changes in status and power with regard to colleagues that the teacher leader position entails (Engeström, 2001; Hirsh, 2013). The concept of division of labor within an activity system makes it possible to distinguish between collective activity and individual action (Cole 1996; Engeström, 2001). When people divide work between themselves, their own portion does not satisfy their needs. Rather, their needs are satisfied by the portion of
the product of their aggregate activity they gain in their social relation during the activity process.

An implication of this study is that the division of labor and the traditional hierarchy in school systems act as a barrier for teacher leaders to successfully implement their teacher leadership activities. Teacher leadership is not a new concept and it is important that we actively support individuals who want to lead in positive ways in our schools. School administrators along with other stakeholders within schools, need to build a culture of learning that supports more than just improved outcomes, but a positive, safe, and accepting school culture that embraces and values the need for introspection on the part of teacher leaders. For traditional hierarchical administration, this means creating and opening paths to teacher leadership, including how administrative roles operate within the organization. This means fostering involvement to create ways to help teacher leaders feel empowered, take risks, and make autonomous decisions. Teacher leaders need a seat at the table for decision making to lead in positive ways in our schools.

Finally, teacher leaders’ voices can be thought of as a sustained presence in enacting teacher leadership that represents the unique practical perspectives teacher leaders bring to understanding their endeavor. Effective teacher leadership must be responsive to the real circumstances of the classroom, the school context, and the nature of teacher leaders’ work. When division of labor interferes with the input on the part of teacher leaders, teacher leadership tends to not reflect or respond to teacher leaders’ actual needs (Spillane, 2001). Despite compelling reasons for greater teacher leader engagement in school decision making, teacher leaders cannot adequately enact teacher leadership without having a seat at the decision-making table. Organizational structures often exert pressure on the actions of those within the
organization through norms and routines (rules). It is imperative that institutional norms must support the nature of teacher leaders’ work where all members of the collective community have a value-added role in enacting teacher leadership.

Summary

The purpose of this qualitative case study was to explore how teacher leaders use social capital while they enact teacher leader activities. This study was conducted to understand how teacher leaders engaged in teacher leadership following their initial participation in the Wipro SEF program. In addition, I wanted to understand the relationship between the activities of teacher leaders within a teacher leadership activity system to explore their use of social capital.

The qualitative data revealed that teacher leaders need to navigate the activity pathway to enact change within their educational context. For this to occur, teacher leaders must be intentional in their leadership practice and introspective in their own practice of leadership. The findings highlighted the fluidity and multiplicity of teacher leadership activities and drew on activity theory through a social capital perspective to examine and understand the interconnected nature of relationships among community members (teacher leaders, teachers, administrators, and university faculty) within a teacher leadership activity pathway.

The results of this study add to the field of teacher leadership enactment and will support teacher leaders, school administrators, and teacher leadership programs. The identified need for teacher leaders to have; (a) access to tools, (b) established rules, (c) community involvement and (d) context that supports distributed leaders, adds to the literature on teacher leadership development.
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Dear Teacher,

My name is Kristen Trabona, and I am a doctoral student who has been working with the faculty and staff of the Wipro SEF (Science Education Fellowship) project since its inception in 2013. I know you have all received an email about the opportunity to participate in my dissertation research study about the Wipro SEF fellowship Phase 2 and I would like to take this opportunity to share some information about my study.

I am interested in learning more about how, as Wipro SEF fellows, you use social capital (resources, contacts, power, relationships, etc.) to lead a teacher leadership initiative within your school. Specifically, I am hoping to learn more about how you use what you learned in the initial Wipro SEF program to be a leader in your own school and own capacity.

To this end, I am seeking your participation in a research study. I will use the work you do during the Wipro SEF Phase 2 fellowship as research data. I will interview you about your action plan, your expectations for the horizontal or vertical CCLS, and your personal expectations of enacting a teacher leadership activity. The interviews will take place at the beginning of your program and a focus group interview will occur at the end of your program. Each interview will take between 45-60 minutes. The interviews will be audiotaped and transcribed for analysis. I will also collect artifacts from your leadership activities. These will include reflections, meeting agendas, and video artifacts of CCLS group meetings. These video artifacts will focus on the teacher leaders and their leadership practice and not on the other members or group outcomes. All written data will be loaded onto a Dropbox folder and videos will be loaded onto an external hard drive that will be kept in a locked file cabinet. Data will be analyzed using the constant comparative method looking for emergent themes around the teacher leadership and social capital.

If you are interested in participating, I will be asking you to sign an informed consent form. All information is confidential - your name or school will not be identified in any material or publication. I will keep the tapes for the designated amount of time, and will destroy the tapes after that time.

If you would like to participate or have questions about the project, please let me know and I will provide you with a consent form. If you have questions about your rights as a participant in a research project, you can contact the Montclair State University IRB chair, Katrina Buckley (reviewboard@mail.montclair.edu or 973-655-5189). I hope that you will consider participating in this project and look forward to hearing from you.

Kristen Trabona
Ktrabonal@gmail.com
Doctoral Candidate – Teacher Education Teacher Development Ph.D. program
College of Education and Human Services, Montclair State University
APPENDIX B: ADULT INFORMED CONSENT

Please read below with care. You can ask questions at any time, now or later. You can talk to other people before you sign this form.

Study’s Title: The Social Capital of Teacher Leadership

Why is this study being done? As part of the Wipro Science Education Fellowship since its inception at Montclair State University in 2013, I am interested in learning more about how the Wipro SEF fellows use social capital (resources, contacts, power, and relationships) to lead a teacher leadership initiative within their school. Specifically, I am hoping to learn more about how you use what you learned in the Wipro SEF program to be a leader in your own school and own capacity.

What will happen while you are in the study? I am seeking your participation in a research study. I will use the work you do during the Wipro SEF Phase 2 fellowship as research data. I will interview you about your action plan, your expectations for the horizontal or vertical CCLS and your personal expectations of enacting a teacher leadership activity. The interviews will take place at the beginning of your program, and a focus group interview will occur at the end of your program. Each interview will take between 45-60 minutes. The interviews will be audiotaped and transcribed for analysis. I will also collect artifacts from your leadership activities. These will include reflections, meeting agendas, and video artifacts of CCLS group meetings. These video artifacts will focus on the teacher leaders and their leadership practice and no on the other members or group outcomes. All written data will be loaded onto a Dropbox folder and videos will be loaded onto an external hard drive that will be kept in a locked file cabinet. Data will be analyzed using the constant comparative method looking for emergent themes around the teacher leadership and social capital.

Time: This study will take about 3 hours outside of your normal participation in the fellowship program.

Risks: There is the potential risk that the teacher leaders could be concerned that their participating groups of teachers and/or district administrator could learn something from their written reflections that was embarrassing or put their job at risk. Reflections will never be shared with members of the CCLS groups or administrators. No one will have access to the Dropbox folder.

Although I will keep your identity confidential as it relates to this research project, if I learn of any suspected child abuse New Jersey state law requires me to report that to the proper authorities immediately.

Benefits: By participating in this study, you will be affecting the discovery of valuable knowledge regarding teacher leadership activities and social capital.
Compensation

To compensate you for the time you spend in this study, you will receive a gift card to show my appreciation. Participants will not be eligible for compensation if they withdraw from the study prior to its completion.

Who will know that you are in this study? You will not be linked to any presentations. I will keep who you are confidential. I will use pseudonyms for all teachers, schools, and districts.

You should know that New Jersey requires that any person having reasonable cause to believe that a child has been subjected to child abuse or acts of child abuse shall report the same immediately to the Division of Youth and Family Services.

Although the researchers will take every precaution to maintain confidentiality of the data, the nature of focus groups prevents the researchers from guaranteeing confidentiality. The researchers would like to remind participants to respect the privacy of your fellow participants and not repeat what is said in the focus group to others. Please do not share anything in the focus group that you are not comfortable sharing.

Do you have to be in the study?

Your participation or non-participation in this study will have no effect on your Wipro SEF fellowship. You are a volunteer! It is okay if you want to stop at any time and not be in the study. You do not have to answer any questions you do not want to answer.

Do you have any questions about this study? Phone or email Kristen Trabona, 56 Alcott Road Mahwah, NJ 07430, (914)-419-9688, ktrabona1@gmail.com.

Do you have any questions about your rights as a research participant? Phone or email the IRB Chair, Dr. Katrina Bulkley, at 973-655-5189 or reviewboard@mail.montclair.edu.

Study Summary

I would like to get a summary of this study:

Please initial:    _____ Yes    _____ No

As part of this study, it is okay to audiotape me during the interviews and use the video meetings of me?:

Please initial:    _____ Yes    _____ No

One copy of this consent form is for you to keep.

Statement of Consent

I have read this form and decided that I will participate in the project described above. Its general purposes, the particulars of involvement, and possible risks and inconveniences have been explained to my satisfaction. I understand that I can withdraw at any time. My signature also indicates that I am 18 years of age or older and have received a copy of this consent form.
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APPENDIX C: INTERVIEW ONE PROTOCOL

To be read at the start of each of the interview session:

The purpose of this study is to investigate the ways how as Wipro SEF fellows you use social capital (resources, contacts, power, relationships, etc.) to lead a teacher leadership initiative/activity within your school. Specifically, I am hoping to learn more about how use what you learned in the initial Wipro SEF program to be a leader in your own school and own capacity.

I going to ask you a series of questions. Please try to answer each question as honestly and thoroughly as possible. I may ask you to provide examples to illustrate some of your points. I will be taking notes and our conversation will be audiotaped. Before we start:

1. Do you wish to continue the interview? It’s okay if you don’t want to. We can stop here.

2. Are you okay with being audiotaped? It’s okay if you’re not. We don’t have to.

3.) Also, you don’t have to answer all of the questions. Just let me know that you want to skip any question you’d rather not answer. Your answers will remain anonymous and no names will be used in our reporting of the results:

1. How do you see yourself as a TL? How did your training from Wipro SEF prepare you for being a teacher leader?

2. How do you envision your role of teacher leader within your school? Who do your work with (university mentor, district coordinator, building administration)? Who impacts your work as a teacher leader (university mentor, district coordinator, building administration)?

3. Describe the CCLS group you are facilitating within your school. Is it horizontal? Vertical? What is the goal? Who are the members? Why did you choose these members? What are the members roles within the CCLS group?

4. How do you intend to build relationships within the CCLS group? (Between you and the group and within the members of the group)

5. What will the members of the CCLS group gain from working with you in this teacher leader role? Is this different from the overall goals?

6. What are (if any) potential obstacles toward meeting your goal(s) for the CCLS? (administration, time resources, scheduling, lack of support, lack of cooperation by members) How might you work to overcome these obstacles? Who might you seek help from? (university mentor, district coordinator, building administration)

7. What resources or tools do you have to help you? (people, curriculum, PD, other members of the schools) What resources or tools do you think you need to obtain for you to goal of the CCLS? (time, scheduling, money, support)
8. Whom do you consider having expert knowledge around the topic of your CCLS? Why? What is that person knowledgeable in? How will you access that knowledge to facilitate meeting the goal of your CCLS?

9. Are their individuals (stakeholders, administrators, university mentor etc.), who are not part of the CCLS, from whom you might seek input or help? If yes, please explain why you believe these people are a resource.

10. How will you determine if your CCLS is effective? (Warm/cold feedback, participant reflection). Have you established ways of measuring progress toward your goal? Please explain, and why you choose these methods of measurement.

11. Social capital is defined as _______. How will you build or gain social capital through your teacher leadership CCLS?
APPENDIX D: INTERVIEW TWO PROTOCOL

Purpose: First of all, I would like to thank you all for taking time out of your day to come here and discuss your ideas and reflections regarding your teacher leadership activities. The overall goal is to hear your thoughts about the implementation of your teacher leadership action plans.

This is voluntary. I will be taking some notes later and audiotaping the conversation so I do not miss anything important. The total length of time of the interview is expected to be no longer than 45-60 minutes.

Do you have any questions so far?

Questions:
1. Describe your most significant learning experience(s) during the Phase 2 program.
2. How did you integrate knowledge from the initial Wipro SEF experience with your teacher leadership activities you implemented this school year?
3. What was the one thing that surprised you during the implemented activities?
4. How would you summarize your groups’ interactions? Strengths of group? Weaknesses of the group?
5. How did you get the resources needed to fulfill your teacher leadership activities? Did you encounter barriers and/or hurdles? What were these barriers and/or hurdles?
6. Did you utilize your district coordinators, other fellows, or university mentors during the process? If yes, how so?
7. Did you utilize your social capital during this experience? Explain.

I think we’ve come to the end of our questions. Let me be the first to say thank you for your honest opinions – you were tremendously helpful at this very early, but very important stage.

Again, thank you very much for your participation today. We really appreciate your help.
APPENDIX E: WIPRO SEF PHASE 2 APPLICATION

Please complete the proposal form for Wipro SEF Phase 2 for Option A: leading a CCLS. Please answer as thoroughly as possible and submit your proposal by 8 p.m. on October 2, 2017.

The Wipro SEF leadership team (including the district coordinators) will consider each completed proposal and will notify recipients by October 16th, 2017. We will consider the following points in determining allocation of funds:

1. Is the proposal clearly written? Are all of the categories addressed?
2. Is the plan feasible? Can it be carried out in a year?
3. Is this a potentially high impact project? Will it be sustainable after the year?
4. Does this project tie in to current work on GPS?
5. Does the project exhibit teacher leadership?
6. Is the budget reasonable?

As a recipient of the funding, you will be required to:

1. Attend all meetings (twice a year at MSU).
2. Be in contact with Colette about your expenditures.
3. Be in contact with your faculty mentor and district coordinator about your progress (or to seek guidance).
4. Submit a quarterly report.
5. Submit a final poster for our June meeting to disseminate what you have learned.

Option A: Leading a CCLS

For this option, you will be leading a CCLS group of your own design. You can have it be at your school, in your district, or in partnership with other districts. It can be either vertical or horizontal. You are encouraged to include a principal or other administrator to participate in the CCLS group as a way of making a greater impact.

The objectives of the CCLS experience are for you to:

1. Engage as a teacher leader by facilitating a CCLS experience for your peers;
2. Disseminate the CCLS model to teachers who are not Fellows within and outside of your district;
3. Include building administrators (i.e., principals) in the experience as a means of making greater impact;
4. Think of ways in which the CCLS model could be adapted for different situations (e.g., including support teachers, principals, etc.);
5. Report out on the experience of being a CCLS facilitator to the Wipro SEF community.

Questions to be answered and submitted:

1. Name
2. Structure of CCLS group: Horizontal or Vertical
3. Plans for setting up CCLS group: How will you recruit people?
4. Plans for setting up CCLS group: What will your schedule look like?
5. What will the instructional focus of your CCLS group be?
6. If you choose a vertical CCLS group, what will your content focus be?
7. If you chose a horizontal CCLS group, please describe the NGSS science and engineering practicing you will be targeting.
8. Please provide a tentative outline of meetings you will hold for the CCLS group. Your proposed project should be completed between October 2017 and June 2018.
9. Who will be part of your CCLS group?
10. Anticipated Outcomes: What measures will you use to gauge your progress and eventual success?
11. What challenges do you foresee and how will you work to overcome them?
12. What do you hope to get out of the experience?
13. What role do you see your district coordinator having in this process?
14. What role do you see your university mentor having in this process?
15. Provide an item by item breakdown of proposed expenses and the cost of each. This is separate from the stipend, which will be honored as long as you meet all requirements of the project. Your budget might include materials, honoraria for participants, travel to conferences, or professional development workshop registration, for example. (You can upload an Excel file under the next question.)
16. Is there any additional information you would like to add to your CCLS proposal?
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