ABSTRACT

Title of Document: FOSTERING TEACHER LEARNING
                            COMMUNITIES: A CASE STUDY OF A
                            SCHOOL-BASED LEADERSHIP TEAM'S
                            ACTION RESEARCH

                            Kenneth B. Fischer
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Directed By: Dr. Linda Valli
                            Education Curriculum & Instruction

The purpose of this study is to examine how a school-based leadership team identifies and alters school conditions to foster the development of TLCs. Many educators, school leaders, and politicians have embraced teacher learning communities (TLCs) as a vehicle for school reform. Despite the considerable documentation of the capability for TLCs to influence teaching and learning, TLCs are not the norm in American schools. The development of advanced levels of TLCs is dependent, in part, on the presence of certain school leadership, professional development, and workplace design conditions. This study examines how school leaders and teachers conceptualize TLCs, how they identify and alter supportive conditions, and how those altered conditions influence the development of TLCs.

The researcher conducted a single case study incorporating a practitioner inquiry stance with his own school where he served as an assistant principal. The study traced the influence of conditions altered by school leaders to two embedded subunits: the Math and World Language TLCs. Data were collected through semi-structured interviews with five school leader participants, focus group interviews with the two TLCs, observations, and document analysis. Participants identified six characteristics of TLCs capable of

accomplishing goals: trusting relationships, common purpose, reflexive dialogue, collaborative activity, data-driven decisions, and agency. School leaders identified and altered 12 supportive conditions. Of those 12, participants reported that nine influenced their work and the development of their TLCs from traditional teacher teams to novice and intermediate professional communities.

Although compatible with scholars' descriptions of TLCs, participants' descriptions represented an emerging/novice perspective suggesting a dynamic TLC conceptualization. Three of the six characteristics that participants' identify are precursors to other scholar's conceptualizations. These TLCs could reach advanced levels without developing shared values, deprivatizing practice, and focusing on student learning. The study's findings also suggest that school leaders seeking to foster TLCs provide time embedded into the teachers' regular workday and identify someone to serve as a resource/power broker to help teachers negotiate power relationships. By addressing their emerging/novice perspective and continuing to alter additional conditions, school leaders may influence the development of TLCs, eventually reducing teacher workload and improving teaching and learning.

Fostering Teacher Learning Communities: A Case Study of a School-Based Leadership

Team's Action Research

By

Kenneth Brian Fischer

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Advisory Committee:
Professor Linda Valli, Advisor and Chairperson
Senior Lecturer Helene Cohen
Assistant Professor Maria Hyler
Professor Margaret McLaughlin
Associate Professor John O'Flahavan

Dedication

To

My Daughter, Taylor

&

My Wife, Heather

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Chapter I: Introduction

Many educators, school leaders, and politicians have embraced teacher learning

communities (TLCs) as vehicles for school reform (Vescio, Ross, & Adams, 2008).

They suggest that the joint work resulting from teachers' participation in TLCs can open

up new considerations and possibilities for teacher and student learning (Darling-

Hammond, 1997; Little, 2003; Newmann & Wehlage, 1995). They say that teachers can

learn within TLCs (Hargreaves, 1994; Little 2003). Advocates for TLCs hope that when

teachers' engage in joint work within TLCs (e.g., sharing their pedagogical expertise,

collaboratively planning lessons) they may positively influence teacher practice and

student learning (DuFour & Eaker, 1998; McLaughlin & Talbert, 2006). In some studies,

researchers have documented that TLCs are capable of positively influencing teaching

and learning (e.g., Bolam, McMahon, Stoll, Thomas, & Wallace, 2005; Ermeling, 2010;

Grodsky & Gamoran, 2003; Hecht & Roberts, 1996; Hollins, McIntyre, DeBose, Hollins,

& Towner, 2004; Lee & Smith, 1996; Louis & Marks, 1998; McLaughlin & Talbert,

2006; Pang, 2006; Timperley, 2005). Despite these examples, however, TLCs are not the

norm in American schools (Grossman, Wineburg, & Woolworth, 2001; Sergiovanni,

1994).

A lingering suspicion that teachers' joint work within TLCs cannot fulfill such an

optimistic premise that TLCs may positively influence teaching and learning may explain

the absence of widespread development. Some scholars remain skeptical that TLCs can

influence teacher practice and student learning (e.g., Miller & Rowan, 2006; Visscher &

Witziers, 2004). Miller and Rowan (2006), for example, do not find an empirical

relationship between the type of collegiality, shared decision making, and supportive

leadership found within TLCs and student achievement in data from national surveys. Similarly, in a study of teachers in the Netherlands, Visscher and Witziers (2004) do not find a connection between teachers' joint work within TLCs and student achievement. Although these findings cast doubt on the validity of TLCs, the authors concede that their conceptual framework or research design may have prevented them from finding positive outcomes.

While McLaughlin and Talbert (2006) find that TLCs can positively influence teaching and learning, the authors attribute TLC scarcity to the difficulty of developing and sustaining them. School leaders attempting to foster TLCs, like those referenced in the studies above, cannot expect fully functioning TLCs to develop by simply arranging teachers into groups. When school leaders force teachers to participate in TLCs, teachers may be skeptical and engage only at superficial levels that do not influence their instructional practices (Meister & Nolan, 2001). Without input and buy-in, teachers may not view the purpose of TLCs as relevant to their instructional interests. As a result, teachers may lack motivation to engage in the work of TLCs. Hargreaves (1994) describes this type of TLC as "contrived collegiality". When placed in this type of group, teacher involvement is often superficial and temporary (Scribner, 1999; Scribner, Hager, & Warne, 2002). Therefore, the research in this area suggests that school leaders desiring to foster fully functioning TLCs should collaborate with teachers and seek their input and buy-in.

Input and buy-in are only two conditions that influence the development of TLCs. In the studies that find connections between teachers' joint work in TLCs, teacher practice, and student learning, researchers document the presence of many other school

conditions that allow teachers to realize the advantages of TLCs. Similarly, in the studies

that do not find a connection, scholars attribute the failure of TLCs to influence teaching

and learning to the *absence* of certain school conditions. In this study, I explored the

nature of these school conditions and their role in facilitating or hindering the

development of TLCs. Specifically, I sought to investigate the relationships between

conditions altered by school leaders and the work of TLCs. Below, I will explain three

key terms that are essential to this study: teacher learning community (TLC), school-

based leadership team, and school conditions.

Definition of Key Terms

Teacher Learning Community. A learning community can mean many things. For

the purposes of this paper, I define a TLC as three to eight teachers working together in

specific ways on matters of teaching and learning within the same educational setting.

Not all teacher teams qualify as TLCs. I distinguish teacher teams from TLCs by the

presence of certain elements discussed below. Team teaching by two teachers in the same

classroom would not qualify as a TLC; however, both teachers individually may be

members of a TLC.

It is possible that TLCs may operate within the context of a school-wide

professional learning community (PLC)[1]; however, a school-wide PLC is not a

prerequisite condition for the creation of a TLC. Some researchers suggest that the

department, not the school, is the most appropriate unit of analysis for teacher

collaboration (Adajian, 1996; Talbert, 1995). Grodsky and Gamoran (2003), for example,

find that 81% of variance in the presence of TLCs is within rather than between schools.

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[1] For a complete discussion of the definition of a school-wide professional learning community see DuFour
and Eaker (1998).

Teachers within a single department, an interdisciplinary group, or across an entire faculty may constitute a TLC.

Many authors present lists of additional characteristics common to TLCs (Bolam et al., 2005; DuFour & Eaker, 1998; Grossman et al., 2001; Kruse, Louis, & Bryk, 1995; Secada & Adajian, 1997; Talbert & McLaughlin, 1994). Despite minor differences, their descriptions are strikingly similar (Grodsky & Gamoran, 2003). Although any of these frameworks would have been appropriate for this study, I selected Kruse et al.'s definition, which emphasizes deprivatized practice and reflexive dialogue. This emphasis is appealing because it draws attention to the process of how TLCs may break the barriers of teacher isolation. Scholars have traditionally characterized United States education by the highly private nature of its teaching (Lortie, 1975) and have proffered TLCs as a vehicle to overcome this norm (McLaughlin & Talbert, 2006). In addition to deprivatized practice and reflexive dialogue, Kruse et al. list shared values and norms, a focus on student learning, and collaborative emphasis as components of TLCs.[2] As a team implements and operates in accordance with these five elements, teacher practices and students' learning may improve and individual teacher capacities may increase (Louis, Marks, & Kruse, 1996).

I do not classify the existence of a TLC as binary; rather, groups of teachers can operate within a continuum of TLCs (e.g., Grossman et al., 2001; McLaughlin & Talbert, 2006; Sergiovanni, 1994). Similarly, a TLC's level of engagement with each of Kruse et al.'s five elements may be uneven. For example, while a TLC may fully engage with reflective dialogue, that same TLC may only partially engage with deprivatized practice.

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[2] For research support for these five elements, see Louis, Marks, and Kruse's (1996) adept application of these principles to learning communities within 24 elementary, middle, and high schools.

Scholars present rubrics for assessing the level of professional community ranging from novice to advanced. To assess the development of the TLCs in this study, I adopted McLaughlin and Talbert's five levels of community: traditional community, strong traditional community, and professional community. The scholars differentiate professional community into three categories; novice, intermediate, and advanced. At the start of the study, I superimposed Kruse et al.'s (1995) five elements of a TLC over these five levels. During the study, I modified this rubric to match participants' conceptualizations of TLCs.

While a group of teachers may engage deeply in an activity representing any one of the elements of a TLC, that group may still represent a novice level of development. For example, a group of teachers may conduct several peer observations during the school year as part of a professional development program. Although peer observations are an appropriate strategy to deprivatize practice, shared values and norms may not exist. In order for me to consider this group as an advanced level of TLC, these teachers would also need to share values and norms, focus on student learning, emphasize collaboration, and engage in reflexive dialogue. A wide range of possibilities results from a groups' engagement with the five elements of TLCs.

School-based leadership team. For this study, the school-based leadership team consisted of the principal, assistant principals, academic facilitator,[3] and those individuals given a formal role to facilitate TLC meetings. The facilitator may be a teacher, department chairperson, or professional developer. Members of this team engage in

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[3] An academic facilitator is a teacher assigned a significantly decreased teaching load in exchange for additional professional development responsibilities (e.g., coordinating an advisory program, mentoring new teachers, and/or planning professional development activities). In this district, there is only one academic facilitator per high school.

school leadership when they provide guidance or direction for the purpose and actions of a TLC. This definition is a specific constellation of the broader concept of school-based leadership team.

Within the context of a TLC, school leadership is multidirectional and occurs among teachers, school leaders, parents, and other stakeholders. Like Scribner, Sawyer, Watson, and Myers (2007), I conceptualize school leadership within the relationships among people (e.g., school leader and teacher, teacher facilitator and teacher, etc.). Operationalizing school leadership from this perspective requires the analysis of individual and group influence on decision-making. Some scholars use the term *empowerment* to represent the way principals support teachers' engagement in school leadership (DuFour & Eaker, 1998; McGuinness, 2009; Tschannen-Moran & Barr, 2004). Empowerment of teachers implies that school leadership is a commodity controlled by the principal and exchanged between school actors. However, teachers do not always require formal permission from principals to provide guidance or direction for the purpose and actions of a TLC. For example, a facilitator's decision for the TLC to jointly develop formative assessments or analyze anchor papers can be independent of principal control or initiative (Tschannen-Moran & Barr, 2004).

School Conditions. I define school conditions as a set of extant characteristics within the educational setting that restrict, facilitate, limit, or modify the operations of educators. School conditions are tangible or intangible and static or dynamic. In this study, I restricted my discussion of the potential thousands of conditions to those that interact with the teachers' joint work in TLCs. Some of the conditions in this study (e.g., curricula, professional development design, master schedule) are controlled by school-

based leadership teams, while some of the conditions (e.g., federal mandates, graduation requirements, length of the school day) are outside the control of school-based leadership teams. Because of my practitioner research stance, I am specifically explored those conditions that school-based leadership teams may alter to facilitate the development of TLCs. Finally, I considered conditions that fall outside of a school's traditional responsibilities of teaching and learning (e.g., dental health) and those that occur primarily outside of the educational setting (e.g., poverty) to be non-school conditions, even though these have an impact on school conditions (e.g., Anyon, 2005).

To simplify my analysis, I categorized 13 school conditions into three groups: school leadership, professional development, and workplace design. Each of these categories represents distinct ways school conditions interact with teachers' joint work within TLCs. For example, school leadership conditions include aspects of a school leader's style (e.g., trust) and actions (e.g., shared commitments and shared decision making) that are likely to influence teachers' joint work within TLCs. Professional development conditions include ways that professional developers deliver and align professional development that may influence teachers' joint work within TLCs, such as continuous delivery, a job-embedded design, and alignment with student data. Finally, workplace design conditions include time, human resources, and school climate factors that may influence the development of TLCs. In the next chapter, I explore each of these categories in depth and discuss whether these conditions directly or indirectly facilitate or hinder the development of TLCs. First, I discuss the contextual background of the research site.

Contextual Background of Research Site

I chose my own school, a traditional public high school in the Mid-Atlantic region, as the research site for this study. As I began searching for a research site, developments at my own school, Carter's Run High School,[4] aligned with my research interest making it an appealing choice. Choosing my own school, however, meant that I would contend with an additional set of limitations unique to practitioner research and my position as assistant principal at this site. I discuss these limitations and the strategies I use to mitigate them in Chapter III.

Carter's Run High School had traditionally underscored and underperformed in relation to other schools in the district in most measurable categories (e.g., test scores, attendance, discipline, etc.).[5] The new superintendent assembled a new team of school leaders to get the school on track (private correspondence, September 12, 2011). With our complementary strengths, the superintendent expected us to address the academic program at Carter's Run. Understanding that the superintendent did not expect change overnight, our leadership team emphasized self-assessment and evaluation during our first year, one year prior to this study (2010-11). During that year, the school-based leadership team collaborated with the school improvement team (hereafter SIT) to assess the perceived needs of faculty and staff. We believed that faculty support in addressing school needs and working toward a vision of an "excellent" school was necessary but that consensus on school needs and the definition of "excellent" did not exist. Therefore, we presented an assessment to the faculty and staff in the form of two questions in March 2011: 1) What does an excellent school look like? and 2) What do we need to do to get

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[4] Pseudonyms used throughout.
[5] I present a more detailed analysis of the school's demographics, teacher demographics, and student achievement scores against national averages in Table C found in Chapter III.

there?   During the March 2011 faculty meeting, teachers and other staff met in small groups to answer these two questions. The SIT summarized these changes into three major areas and presented them to the department chair team in April 2011: improve the school climate, increase academic rigor, and increase opportunities for collaboration. When I observed that results of this assessment included the desire for increased collaboration in March 2011, I began to consider using my own school as the research site for this study.

Historically, Carter's Run has served a predominantly agrarian community. Students, faculty, and alumni are proud of the school's heritage as the district's "farm school". Part of being in the outskirts of the district has contributed to school community members' belief that the solutions to problems lie within the school's four walls. For example, when designing and implementing professional development, the faculty has been more receptive to its own "experts" rather than to outsiders. While Carter's Run generally views its "farm school" moniker with pride, the district's other seven high schools take it to mean something else. Whether discussing academics or athletics, outsiders generally dismiss Carter's Run as a serious contender. They believe that they can easily outperform or outscore them on any test or contest. Over the past fifteen years, however, the rural community has begun growing and changing.   New industry, commerce, and residential properties have brought about demographic changes and a 100% increase in student enrollment. Despite these changes, the school's "do it ourselves" attitude has remained. This attitude is a chief reason why school leaders chose not to use outside facilitators from our Professional Development School (PDS) partnership with a local college for TLCs.

Prior to the study, Carter's Run faculty's sole experience with learning communities was a district-wide, smaller learning community initiative 10 years ago. A few schools in the district adopted a 9th grade house and/or academy model at that time; Carter's Run did not. Participants who worked at the school during that period reported that the decision was not theirs; rather, insufficient funding forced them to abandon the initiative. These participants reported that most staff were willing to implement learning communities and that some were enthusiastic about it. From that point, Carter's Run teachers continued to operate within the district's traditional department and school improvement (hereafter SI) structures. In that model, teachers were contractually required to meet with their content department monthly and serve on one SIT sub-committee (e.g., character education, veteran's day assembly, and American education week).

Despite the contractual requirements, school leaders and teacher participants acknowledged that many departments did not meet regularly and some SIT sub-committees did not meet at all. In addition, participants reported that teachers' experiences within departments were predominantly operational in nature. Department chairpersons met with teachers to transmit information from and solicit feedback to school administrators. Teachers' experiences with SIT sub-committees were similar. Participants said that SIT sub-committees met to complete assigned tasks (e.g., the awards sub-committee met annually to select scholarship recipients). Most, if not all, of these tasks were operational in nature. Teachers' limited experience addressing teaching and learning within departments and SIT sub-committees made Carter's Run an appealing site for this study. The challenge of transforming the traditional nature of

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department and SIT sub-committees into learning communities made the school an ideal case study for my participatory research interests.

Although a few the faculty members had some experience with these types of learning communities, I brought the new idea of disciplinary and transdisciplinary TLCs to Carter's Run HS. Because of my experience as a teacher facilitator/department chair implementing a Biology TLC, I suggested that we explore the idea of transforming departments and SIT committees into TLCs. I presented the idea to the school-based leadership team, SIT, and the department chair team as a way to increase opportunities for collaboration. I also suggested that transdisciplinary teams could address some Common Core requirements. For example, each school in our district was required to implement a school-wide Science Technology Engineering and Math (STEM) project. By organizing teachers into a STEM transdisciplinary TLC, our school could address that requirement. In those discussions, other school leaders and teachers reacted favorably to the idea. The principal, SIT chairperson, and I discussed the suggestion further and made plans to continue the investigation at our summer SIT Retreat. In addition to these local happenings, state and national characteristics also shaped the context of this school.

At the time of this study, educators in this Mid-Atlantic State simultaneously worked to meet the requirements of both the No Child Left Behind (NCLB) Act of 2001 (U.S. Department of Education, 2001) and Race to the Top (RTTT) (U.S. Department of Education, 2010). Teachers at Carter's Run were familiar with NCLB. Over the past 10 years, teachers had become accustomed to dealing with the Mid-Atlantic State's Algebra, English, and Biology assessments. District officials, school leaders, and teachers created

and/or revised curricular programs designed to intervene, instruct, and remediate students in order to pass these tests.

No one at the school, however, knew exactly *how* RTTT would influence those curricular programs. Teachers speculated what the new RTTT assessment would look like and whether it would replace or supplement the existing assessments as a graduation requirement. Carter Run's faculty members were more familiar with the district's new Common Core curricula and the teacher evaluation process linked to RTTT. Some teachers had volunteered to pilot units from the Common Core curricula during the study. RTTT prompted our superintendent to reassign professional development responsibilities directly to schools. Previously, principals shared responsibilities with district content supervisors. This important shift caused the school-based leadership team, who may have otherwise lacked control of resources allocated to professional development, to gain full site-based control of fiscal and time resources.

Statement of the Problem

I first experienced teacher collaboration at McDaniel College in the early 2000s. As a graduate student, I investigated the concept of teacher collaboration for a course assignment. For that assignment, I developed a professional development plan that reorganized our subject area department as a learning community. I anchored my project in the five pillars of professional learning communities found within *Professional Learning Communities at Work: Best Practices for Enhancing Student Achievement* (DuFour & Eaker, 1998).

Soon after completing the course, I had an opportunity to put the plan in action. I accepted a transfer to a newly opened high school, and my new principal appointed me to

the position of science department chairperson. During this time, our science department's chief concern was meeting the Mid-Atlantic State's Assessment requirements, specifically achieving success on the Mid-Atlantic State's Biology Assessment. Using my graduate assignment as a guide, our department chose to adopt the PLC initiative and to reorganize into Biology and Chemistry TLCs. I was a member of the Biology TLC.[6]

Our TLC grew in both scope and depth from 2002 until 2007. We began by engaging in low-trust tasks on the periphery of our individual instructional practices such as defining anchor papers for state assessment rubrics. The teams eventually moved from these tasks into those requiring a deeper degree of trust, such as peer observations. The culminating activity for our team was our presentation at the National Association of Secondary School Principals annual conference: *Collaboration in a High-Stakes Environment* (Fischer & Board, 2007)*.* At this presentation, we described our joint work within the TLC and detailed how students' Biology HSA scores improved, particularly among special education subgroups. We presented how our work within the TLC changed our thinking and instructional practice. Although we suspected our TLC activities contributed to this increase, the absence of a rigorous and systematic investigation prohibits a causal claim. This experience, however, provided me with firsthand insight into the possible influence of TLCs on teacher practice and student learning.

After five years as science department chairperson, I accepted a promotion to assistant principal at another high school. Once there, I noticed that departments rarely

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[6] There were four members in this biology TLC. Three of these teachers had taught in other locations for several years. The fourth teacher was in her first year. Several student-teacher interns also participated within this TLC during their practicum and student-teaching placements.

operated as TLCs. At this point, I began to wonder what prevented teachers from working together within TLCs. After all, my experience had been rewarding; although it had taken an initial investment of time and energy, the division of labor in our Biology TLC decreased my workload overall. Additionally, the quality of our jointly developed activities and lessons was better than what any of us could have accomplished alone. I also wondered what I could do to open up the possibilities of TLCs to other teachers.

Scholars' findings validate my observations and experiences at my new school; TLCs are not common in American schools (Grossman et al., 2001; Sergiovanni, 1994). At the beginning of this chapter, I illustrated the mixed evidence over whether TLCs are capable of influencing teacher thinking, teaching practice, and/or student learning. What is the difference between those empirical works that find connections and those that do not? In my search, I found that only 10 of 16 studies found positive connections. Many additional studies found changes in teacher thinking without confirming changes to instructional practice. A few others found no change whatsoever. By comparing and contrasting these studies, I discovered that the presence or absence of supportive conditions often accompanied positive relationships between teachers' involvement in TLCs and changes to teacher practice and student learning. Perhaps the absence of these supportive conditions explains why TLCs are uncommon in American schools.

During my literature search, I located 66 empirical studies that investigate and analyze the nature of TLC work. Thirty-seven of these studies specifically explore the relationships between school conditions and the development of TLCs. I reviewed each of these works for the presence or absence of supportive conditions that facilitate or hinder the development of TLCs. I arranged the 13 supportive conditions I found into

three major categories: leadership conditions, professional development conditions, and workplace design conditions. Although I discuss these and other school conditions later, I briefly present an overview and give an example of one particular condition from each category here.

The first set of conditions involves school leadership. In the literature I found that school leaders who work to develop deeper degrees of trust, negotiate consensus and manage conflict, develop shared commitments, and practice shared decision making are more likely to develop TLCs capable of influencing the core matters of teaching and learning. For example, when teachers do not trust each other or their school leaders, teachers may not feel safe enough to deprivatize their practices and engage in critical self-reflection with their peers (e.g., Hindin, Morocco, Mott, & Aguilar, 2007; Meister & Nolan, 2001). Without safe climates built on trust, teachers will not focus on matters of teaching and learning within TLCs. To engage in levels of TLCs that influence teacher practice and student learning, it is essential for teachers and school leaders to develop higher degrees of mutual trust (Bryk & Schneider, 2004; Tschannen-Moran, 2009).

The second set of conditions involves professional development. In the literature, I found that continuous delivery, job-embedded design, opportunity for collaboration and reflection, alignment to student outcomes and teacher interests, and new member induction facilitate the development of TLCs. For example, scholars found that attempts to instill cultures of inquiry benefit from collaborative reflexive dialogue (Nelson, 2009; Nelson & Slavit, 2007; Reagan, Case, & Brubacher, 2000). Reagan et al. suggest that teachers maintain a willingness to try new ideas and practice, remain open to the unforeseen and the unexpected, and value curiosity as they collaboratively engage in

inquiry. Engaging in inquiry and critical self-reflection are difficult processes that some

scholars claim are easier when done collaboratively (Butler, Lauscher, Jarvis-Selinger, &

Beckingham, 2004; Nelson & Slavit, 2008). These findings suggest that collaborative

and reflexive opportunities have the potential to facilitate the development of TLCs.

I categorize the third set of conditions as workplace design conditions. Through

my review, I found that providing time, arranging human resources, attending to school

cultural factors (e.g., collegiality, power relationships), and addressing external factors

(e.g., NCLB, external facilitators) can facilitate the development of TLCs. For example,

teachers need time to carry out collaborative activities (e.g., Levine & Marcus, 2010;

Plauborg, 2009). Many tasks compete for teachers' time during their contractual duty

day. Supervision of extracurricular activities, administrative tasks (e.g., taking attendance

and keeping records), extra duties (e.g., hall duty and cafeteria duty) student discipline,

and parent concerns compete for teachers' attention (Newmann & Wehlage, 1995).

Cohen (1988) and Kennedy (2005) refer to some of these structural conditions

collectively as "circumstances of teaching". The compounding nature of these tasks may

overwhelm teachers to the point where they view TLCs as "just another expectation"

competing for their time. Although Cohen and Kennedy ultimately dismiss the

circumstances of teaching as a primary reason for reform failure,[7] research illustrates that

school leaders need to consider these circumstances. For example, Scribner Cockrell,

Cockrell, and Valentine's (1999) analysis of the SI process illustrates how TLCs with

time for collaboration built into the school day are better able to change organizational

practices than those without.

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[7] Kennedy (2005) and Cohen (1988) discuss many possible explanations for school reform failure. Both
ultimately suggest that the most likely reason is that the reform ideals themselves are unrealistic. I suspect
both authors would attribute the lack of widespread success of TLCs to that reason.

In summary, in order for TLCs to have a chance to exert influence on teacher practice and student learning, the research in this area suggests that school leaders put several supportive conditions in place. I have presented a brief sampling of supportive conditions here: the degree of trust, opportunity for collaborative reflection, and availability of time. In Chapter II, I present a more detailed treatment of these 3 conditions and the additional 10 that scholars have shown to influence the development of TLCs. By working with my school-based leadership team to implement many of these supportive conditions, I hoped to foster the development of TLCs. I also hoped to glean insight on why instances of TLCs are scarce in American schools, or at least this particular school.

<div align="center">**Research Questions**</div>

School leaders at Carter's Run High School were interested in better understanding how to foster TLCs. An abundance of articles in school leadership trade journals, which outline the steps school leaders can take to create and sustain TLCs, suggest that other school leaders are interested too (see Garrett, 2010 and Hord & Hirsch, 2009 for recent examples). To understand how a team of school leaders can alter conditions to influence the development of TLCs, I investigated the leadership team's efforts at my school. My primary research question was: How does a school-based leadership team identify and alter school conditions that facilitate or obstruct the development of TLCs? To attempt to answer this research question, I asked four questions:

1) How do school leaders and teachers conceptualize TLCs?

2) How does the leadership team identify and address conditions that affect the development of TLCs?

3) What is the perceived impact, if any, of those efforts on the development of two different TLCs?

4) What are the implications for those findings on our understanding of the relationship between school leaders' efforts to create supportive conditions and the development of TLCs?

Research Methods

I chose a qualitative case study methodology to investigate these questions. Using a practitioner inquiry approach, I analyzed the work of my own school-based leadership team. Our leadership team engaged with an action research cycle in an attempt to foster the development of several TLCs. I included two of these TLCs as embedded subunits in my single case study design: the Math and World Language TLCs. Participants in each TLC helped me trace conditions altered by the school-based leadership team back to the work of TLCs. The focus of this study was the relationship between altered conditions and the work of TLCs. I completed this study between July 2011 and June 2012.

Practitioner research presented the opportunity to affect social change in my professional setting, which was an appealing concept (Coleman, 2007). As a member of the school-based leadership team, I investigated the relationships between altered conditions and TLC development while actively altering those conditions. The opportunity to develop reflexivity in my own professional practice was a surprising advantage of practitioner research (Alvesson, 2003; Coleman, 2007). Although I was not

the school leader liaison for Math or World Language TLCs, I learned a lot about my own professional practice through this study. Regardless of whether change occurred for teachers in my school or not, the study fostered professional changes in me.

Choosing the practitioner-researcher stance also provided me with "natural access" to the research site (Alvesson, 2003; Coleman, 2007). Kasl and Yorks (2010) assert that sometimes "one can best understand the human experience by being inside that experience" (p. 317). To capitalize on this advantage, I needed to step outside of this context and observe tacit cultural knowledge. Prior to and during this study, I kept a reflexive journal where I wrote down everything I knew (or thought I knew) about the school, its teachers, my position and responsibilities in the school, the leadership team, my relations with teachers, the implications of these relationships to the study, my vision of a TLC, and thoughts about the strengths and limitations of alterable conditions. My hope was that this reflexive journal would reveal my preconceptions and suggest a method for dealing with them. I made entries into this journal simultaneously with data collection points. That way, I had some basis of comparison between my own thinking and each piece of data. I drew on this chronology of thinking during my data analysis as a way to explain my own observations and changing perspectives. Although I wrote about my biases in this highly intimate way, it did not mean that I was able to record and/or understand all of them.

To counter this, I used two other strategies: critical friend and critical incident technique (CIT). My critical friend was a recent doctoral graduate who conducted a practitioner research study for her dissertation. She examined my data analysis and served as a "devil's advocate" to my tacit knowledge. I used CIT during certain

interviews with school leaders as a way to draw attention to atypical or unusual events. Scholars specifically recommend CIT as a strategy for school leaders conducting research, suggesting that it is an effective way to uncover tacit knowledge (Tripp, 1993). By asking participants questions about their assumptions behind certain events, I hoped to uncover motivations and values that would otherwise remain hidden (Serrat, 2010)

Participant research is also well suited for avoiding the trap of "othering" (Fine, 1994). This advantage turns into a limitation, though, when participants occupy different roles than the participant-researcher. In the case of unequal power relationships, "we" can be deceptive. My role as a member of the school-based leadership team, therefore, is both an advantage and a limitation. School leaders have a power advantage over other actors in a school (Malen & Cochran, 2008; Shipps & White, 2009). For example, teachers may withhold certain information about their practice for fear that it may resurface in the form of a negative evaluation. I may only partially be aware of how my position and power as a researcher and assistant principal affect my findings. However, I may be able to represent my school-based leadership teammates more accurately than researchers who do not occupy such a role.

While individual teachers and teacher evaluation are not the focus of this study, teachers were intimately involved. Therefore, I took multiple steps to minimize the effects of unequal power relationships and increase the trustworthiness of this study. While I discuss the full range of strategies in Chapter III, I describe two here: cultivating trust and maintaining skepticism. First, cultivating trust is a central feature of school leaders' work to establish fully developed TLCs. Bryk and Schneider (2002) and Tschannen-Moran (2009) offer extensive advice for school leaders hoping to gain the

trust of their school communities. Their principles of trust (e.g., demonstrating caring, maintaining integrity of the highest degree, being open with information, and sharing power by delegation without micromanagement) are relevant to my dual role as assistant principal and researcher, and are, therefore, imperative in my design. In my own practice, I tried to follow their advice by demonstrating caring, maintaining integrity, being open, and sharing power with all teachers. Building trust is also a fundamental aspect of any methodology that employs interviews (Merriam, 1998). In order to build trust with school leaders and teacher participants, I listened intently to participants, worked to understand their perspectives, provided them with opportunities to member-check their interview responses, and maintained the strictest confidentiality with information shared with me as a researcher.

Second, I remained skeptical when drawing conclusions on participants' self-reports. To confirm self-reports I triangulated their assertions and observations with additional data. Using other participants' reports, direct observation, and/or document analysis, I looked to confirm or disconfirm information. When participants' self-reports matched other pieces of data, their statements gained additional credibility (Merriam, 1998). Similarly, I questioned or rejected self-reports (and other data) when they stood apart from other, more credible sources of data. Later, I discuss the additional steps taken to produce trustworthy data and minimize limitations associated with power dynamics between participants. These include using anonymous surveys (NEA's Keys 2.0), member checks, and minimized supervisory responsibilities with teacher participants.

Another significant limitation of practitioner research is the tendency for practitioner-researchers to self-promote (Herr & Anderson, 2005). Scholars caution

practitioner researchers to remain critical. I was particularly concerned about this limitation because Anderson and Herr (2009) describe this tendency as common in school leader practitioner research dissertations. While I developed strategies to help safeguard against this inclination to find positive results, I was extra vigilant to encourage critical feedback about this study. I constantly reminded teacher participants that I needed, and valued, critical responses, even if they came across as negative. I continuously reassured them that they would not experience any reprisal for critical reports. In some cases, I addressed their critiques and improved working conditions for their TLCs. Although many teacher participants provided this kind of critical or negative feedback during focus group interviews, I could never be certain that they were not withholding some criticism.

In this study, I collected data through semi-structured interviews, observations, and document analysis. I conducted 25 individual interviews with school leaders, 11 focus group interviews with teacher members of the Math and World Language TLCs, and 1 follow-up interview with a world language teacher. I observed 10 school leader meetings, 10 teacher team meetings, 1 classroom lesson, 7 SIT meetings, and 4 department chair meetings. I collected eight journal entries from school leader participants, my own reflexive journal, and numerous documents from school leader and TLC meetings. Finally, I collected results for teachers' anonymous responses to the National Education Association's Keys 2.0 survey (National Education Association, 2010). I used Keys 2.0 survey results from May 2011 and April 2012 as a way to compare participants' qualitative responses with the whole faculty's perception of movement, or lack thereof, in certain areas. This survey presents means and standard deviations across 42 indicators for school quality. Many of these indicators directly

aligned with conditions altered by school leaders (e.g., Key Indicator 6.7 asks about research conducted at the school and aligns with one of the conditions altered by school leaders: the study itself).

I followed Merriam's (1998) recommendation to recursively derive and refine thematic categories as I analyzed data. For example, I inductively coded categories for the defining characteristics of TLCs from participants' responses to interview questions, observations, and document analysis. I coded thematic categories simultaneously with data collection. In many cases, I presented participants with initial analyses during interviews. Their responses helped guide my research progress. At the conclusion of the study, I finalized thematic categories and recoded all data. I attempted to increase the trustworthiness of my data analysis by triangulating multiple sources of data, maintaining chains of evidence for key findings, checking data against alternative explanations, completing member checks, and using a critical friend to periodically check my data collection and data analysis.

Conceptual Framework Preview

School leaders cannot command TLCs into existence. They can only alter conditions within their control in order to develop a more advanced professional community, which has the potential to influence core matters of teaching and learning. Their doing so may help TLCs achieve their optimistic premise, as in the examples presented above. While it is not the purpose of this study to confirm or refute the potential of TLCs to influence teacher practice or student learning, I propose that investigating whether, and how, school leaders can develop advanced functioning TLCs is an important first step.

For this study, I conceptualized a school-based leadership team assessing, implementing, and evaluating supportive conditions as it engaged in an action research cycle, represented in Figure 1 by the rectangle on the left. As that team altered conditions, represented by the diamond, those conditions interact with a TLC, represented by the rectangle to the right of the diamond. Finally, those altered conditions may or may not influence an element of that TLC, represented by the circle on the right. The arrows in this conceptual framework are purposefully multidirectional to illustrate that TLCs may report supportive conditions to school leaders and/or alter supportive conditions themselves.

Figure 1: Conceptual Framework Overview
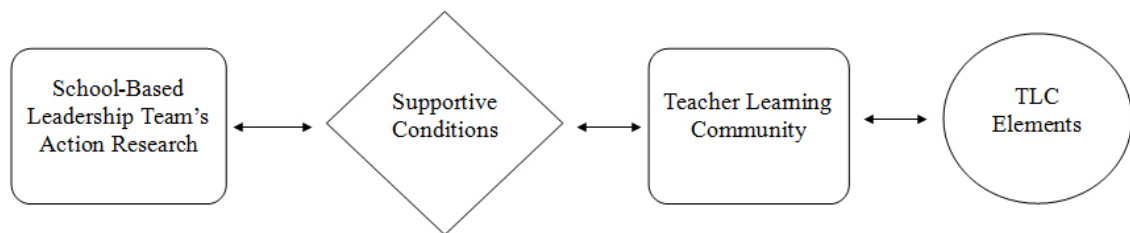
Significance of the Study

In addition to contributing to an understanding of school leaders' potential impact on TLC development, this study's significance lies, in part, in its rich descriptions that may inform policy-makers, school leaders, and teachers engaged in TLC work. Marshall and Rossman (1999) suggest that the significance of a study is grounded in its ability to link the research to concerns of policy and practice. This study contributes to theory and practice by continuously analyzing participants' conceptualizations of TLCs. Do TLC members' and school leaders' descriptions of TLC characteristics change as they develop? Extant descriptions of TLCs provide static sets of characteristics. While

scholars describe how TLCs may develop within continuum for each TLC characteristic (e.g., McLaughlin & Talbert, 2006), they do not suggest that school actors' descriptions of the characteristics may also develop over time. This study examines that question. Identifying dynamic conceptualizations like these of TLC characteristics may inform those interested in fostering the development of advanced TLCs by illustrating areas needing additional support and/or professional development.

The study also speaks to policy and practice by examining how school leaders alter conditions and the effect of those efforts on TLC development. The arguments suggesting that TLCs have the potential to exert influence on teaching and learning are supported by considerable empirical evidence, which finds positive relationships between teacher practice, student learning, and TLC activity. Despite these findings, TLCs are not common in American schools. Are the supportive conditions required for the development of more advanced levels of TLCs unrealistic to achieve? Do school leaders have the opportunity and means to create supportive conditions that foster TLCs? This study's significance also lies in its ability to contribute to the dialogue embedded within these questions. For example, many studies identify time as a critical resource for TLC development. Out of the plethora of time delivery strategies available (e.g., substitute time, common planning time), which strategies have potential to facilitate the development of TLCs? While scholars emphasize that each supportive condition's influence is contextual (Clement & Vandenberghe, 2000; Grodsky & Gamoran, 2003; Little, 2003), how this school-based leadership team alters conditions may inform policy-makers and practitioners seeking to foster the development of TLCs.

Conclusion

Numerous studies have documented an empirical link between the work of TLCs and changes to teaching and learning (e.g., Bolam et al., 2005; Ermeling, 2010; Grodsky & Gamoran, 2003; Hecht & Roberts, 1996; Hollins et al., 2004; Lee & Smith, 1996; Louis & Marks, 1998; McLaughlin & Talbert, 2006; Pang, 2006; Timperley, 2005). Although many scholars recognize what Little (2003) terms "the optimistic premise of TLCs to bring about positive change in teacher practice and student learning," TLCs are not widespread in the United States (McLaughlin & Talbert, 2006). Perhaps, their absence in American schools can be attributed to what Cohen (1988) and Kennedy (2005) term "the unrealistic ideals of school reform," that is, the unlikelihood that school leaders can provide the supportive conditions necessary for TLCs to influence teaching and learning. Perhaps the positive examples discussed in the next chapter represent extreme or ideal contexts that school leaders cannot easily reproduce in other settings. This study investigated whether altering certain conditions would facilitate or obstruct the development of TLCs. I show that school leaders *can* produce TLCs by attending to several key supportive conditions, although the process is far from easy. These findings inform the dialogue on how policy-makers, school leaders, and practitioners can work to increase the influence of TLCs in American schools. But the findings also support the idea that TLC reform ideals may be unrealistic. In this school, their development consumed many resources. The complex and costly implementation of supportive conditions at this site may explain the reluctance of other school leaders to embark on a similar SI initiative.

Chapter II: Review of Literature

Scholars have shown that that TLCs can foster teacher learning (Hargreaves, 1994; Little, 2003; McLaughlin & Talbert, 2006). As teachers learn together, scholars suggest that the learning can influence their instructional practice and student learning. In many studies of TLCs, researchers attribute the TLCs' successes or failures to the presence or absence of certain school conditions. In this chapter, I explore TLC research analyzing the links between TLCs development and changes to teacher practice and/or student learning. I use that literature to analyze the conditions that support the development of those TLCs that influence core matters of teaching and learning. In these and other studies, I focus on the nature and depth of TLC development. In doing so, the research on TLC development highlights how various school conditions influence this development. I analyze this body of literature for the conditions that may facilitate and/or hinder the development of TLCs at my site.

I include 66 empirical studies that investigate and analyze the nature of teachers' joint work within TLCs. Thirty-seven of these studies examine the nature and/or depth of TLC development. Of these 37 studies, 11 also analyze changes in teacher thinking from their participation in the TLCs. The second group of articles – 16 studies total – focuses on how teachers' participation within TLCs changes their thinking and/or practices and/or their students' learning. Finally, I include 13 additional empirical studies that examine matters of instructional practice, professional development, and school leadership that are relevant to teachers' joint work within TLCs. In Appendix A, I provide a summary of each of the 66 studies' research question(s), focus, research design, and findings.

In total, 27 studies examine changes in teacher thinking, practice, and/or student learning (11 studies from the first group and 16 from the second). The mixed nature of the research findings makes it difficult to draw conclusions or make definitive statements about the impact of TLC on teachers and students. While none of the 27 studies illustrate detrimental relationships between TLCs and teacher or student learning, many find no relationships.

To augment what appears to be limited support for the influence of TLCs on matters of teaching and learning, I draw on four literature reviews (Adajian, 1996; Darling-Hammond, 1997; Newmann & Wehlage, 1995; Vescio et al., 2008) that analyze connections between TLCs, teacher change, and student learning. Adajian's review of research on mathematics TLCs and Darling-Hammond's review on urban TLCs include studies outside of the 26 I located in my literature search. Of Vescio et al.'s 11 studies that investigate the link between teacher practice, student learning, and TLCs, I located four in my literature search (Bolam et al., 2005; Hollins et al., 2004; Louis & Marks, 1998; & Supovitz, 2002). Newmann & Wehlage review studies on the relationships between teacher characteristics, student learning, and TLCs that use data from the Center on Organization and Restructuring Schools (CORS). Although I located studies that draw on CORS databases, Newmann and Wehlage's work predates these studies (Lee & Smith, 1996; Louis & Marks, 1998).

The lack of consensus on the potential for TLCs to transform teacher thinking, instructional practice, or student learning draws attention to the contextual features within and surrounding TLCs. In articles finding positive relationships, TLCs appear to be highly developed and highly supported. In articles finding no relationships, researchers

often report obstacles to their TLC's work. School reformers and school leaders who are able to facilitate the work of TLCs through supportive conditions may have a greater chance of fostering more advanced levels of TLCs. The presence or absence of these conditions is likely a prerequisite for realization of the optimistic premise of TLCs.

I have organized this literature review into two major sections. First, I clarify what I mean by TLC. Researchers use multiple terms and offer multiple interpretations for TLCs (e.g., professional learning community, learning community, discourse community, and community of learners to name a few). Grossman et al. (2001) point out that community has become an "obligatory appendage" to every educational innovation. To sort through the multitude of implications presented by these various terms, I define this study's interpretation of TLC. Second, I analyze the conditions present in the body of literature that exert influence on their development. Before proceeding, I describe the method that I used to locate literature for this review.

Method

I selected several scholarly books, chapters, and articles for review through two literature searches. First, I searched for scholarly chapters and articles within the EBSCO, ERIC, and JSTOR databases using these key terms: professional learning communities, teacher collaboration, collaborative teams, teacher learning communities, teacher teams, vertical teams, and interdisciplinary teams.

For the second search, I combined the previous key terms with leadership, professional development, lessons study, and conditions.[8] Because educators in other countries have implemented TLCs for some time and in different forms, I deliberately

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[8] I included the term conditions in an attempt to capture phrases in the literature such as, but not limited to, supportive conditions, conditions fostering, workplace conditions, structural conditions, etc….

sought and included international chapters and articles. To make the literature review manageable, these citations are limited to empirical works published after 1990, the approximate start of TLC implementation in American schools.

I also included scholarly books, chapters, and articles from source references, as well as seminal articles. By seminal articles, I mean articles that are referenced in multiple empirical works and/or those addressing significant aspects of an author's conceptual framework, regardless of publication date. I repeated this iterative process with subsequent articles until references became redundant.

Teacher Learning Communities (TLCs)

TLCs are more than a group of teachers working together. The nature of teachers' joint work determines whether their group qualifies as a TLC. Several scholars offer lists of characteristics to help researchers and practitioners distinguish which groups of teachers operate as TLCs (e.g., Bolam et al., 2005; DuFour & Eaker, 1998; Grossman et al., 2001; Kruse et al., 1995; Secada & Adajian, 1997; Talbert & McLaughlin, 1994). Members of TLCs do not engage with one or two of the defining characteristics, they engage with them all. For example, just because teachers collaborate with other teachers, an element of TLCs defined by Kruse et al., the group of teachers is not automatically a TLC. Teachers can collaborate and not belong to a TLC. Continuing with Kruse et al.'s definition, a TLC would include shared values and norms, a collective focus on student learning, deprivatized practice, and reflexive practice if the group of teachers operate as a TLC.

As TLCs develop, the nature and depth of teachers' engagement with these defining characteristics changes and intensifies. To gauge this level of development,

some scholars offer rubrics (e.g., Grossman et al., 2001; McLaughlin & Talbert, 2006; Sergiovanni, 1994). These rubrics provide researchers and practitioners with a way of identifying groups along a continuum of TLC development.

Before discussing TLC characteristics and rubrics, I explore the core concept of TLCs – community. Community conjures many meanings to researchers and readers alike. Grossman et al. (2001) note the linguistic thicket associated with many recent educational innovations. I believe scholars have something very specific in mind when they include the word *community* within teacher learning community (e.g., DuFour & Eaker, 1998; Sergiovanni, 1994). By analyzing the meaning of community in the context of a TLC, I distinguish how scholars' conceptions of community are different from other social constructs. These differences imply certain relevant foundational characteristics.

Concept of Community

Merriam-Webster (2011) defines community as, "a unified body of individuals". While this definition has the potential to stimulate multiple concepts ranging from a specific location (e.g., community of College Park) to a group of professionals linked by a common field of study (e.g., community of education policy researchers), scholars have a more specific meaning in mind when discussing the type of community within TLCs. Grossman et al. (2001) caution school reformers who are quick to label their educational innovations as communities. For example, they note how some virtual communities grant "membership" to any individual paying the appropriate fee on the website. Undoubtedly, scholars mean something different when referring to the type of community within TLCs.

DuFour and Eaker (1998) emphasize how the type of community within TLCs includes caring, support, and mutual responsibility between members for learning. In the

context of a TLC, community represents a group of individuals linked by a common professional purpose (Sergiovanni, 1994). Sergiovanni claims that the individualistic and bureaucratic nature of schools hinders the development of community within them. The norms of autonomy, privacy, and egalitarianism, which some scholars identify as the traditional norms present in United States schools, serve as evidence for Sergiovanni's claim (Lieberman, 2009; Lortie, 1975; Murphy, Smylie, Mayrowetz, & Louis, 2009). Sergiovanni argues that schools would benefit from a shift toward community and away from these traditional norms.

Scholars describe the norm of privacy, sometimes referred to as the norm of non-interference, as the force that prevents teachers from scrutinizing the classrooms of their peers (Lortie, 1975). Murphy et al. (2009) suggest that the norm of privacy breeds a culture of isolation among teachers. Rather than engaging in reflexive discourse with each other, teachers in United States schools keep to themselves when it comes to their professional work. In TLCs, teachers critically engage with each other. In order for teachers to do so, they must overcome the norm of isolation. Teachers must also overcome the egalitarian norm, which can serve as an obstacle to teachers' collaborative activity and reflexive discourse. Lieberman describes the egalitarian norm as teachers' belief that they are equally effective concerning their professional practice (Lieberman, 2009). In order for teachers to benefit from each other's' strengths, they need to be able to recognize their weaknesses. When teachers recognize that they each have different levels of potency with different students and topics, they can support each other's professional practice better. Murphy et al. propose that the norms of privacy and

egalitarianism hinder teachers' desires to participate in TLCs, which requires the type

reflexive dialogue and deprivatizing practice that I describe above.

Characteristics of TLCs

More than the "flourish of a researcher's pen" (Grossman et al., 2001, p.943)

distinguishes a TLC from a group of teachers. To qualify as a TLC, groups of teachers

must engage in joint work in specific and comprehensive ways. Grodsky and Gamoran

(2003) note how different scholars' definitional concepts for TLCs are more similar than

dissimilar. When differences exist, they are minor.

For example, while Kruse et al. (1995) emphasize deprivatized practice and

reflexive dialogue, Secada and Adajian (1997) do not. On the other hand, Secada and

Adajian include collective control over important decisions, while Kruse et al. do not.

Another example of a minor difference lies within the approach Talbert and McLaughlin

and Dufour and Eaker take in defining TLC. While still offering lists of characteristics,

these authors conceptualize TLCs by focusing on the concepts of professionalism and

community. Grodsky and Gamoran explain these differences by describing the

overlapping characteristics. For instance, despite the omission of collective control as one

of their five elements of TLCs, Kruse et al.'s description of shared values and norms

overlaps enough to make the definitions comparable. Part of Kruse et al.'s element of

shared values and norms includes shared decision-making. Secada and Adajian's

collective control over important decisions is synonymous with shared decision-making.

As previously stated, although I have selected Kruse et al.'s (1995) five elements

of TLCs as a starting point for this study, any of these frameworks would be appropriate.

In Figure 2 below, I summarize the definition of Kruse et al.'s five elements of TLCs:

shared norms and values, a collective focus on student learning, teacher collaborative

activity, deprivatized practice, and reflexive dialogue. In the following subsections, I

analyze the literature on each of these five elements.

Figure 2: Summary of Elements of Teacher Learning Communities

1) *Shared norms and values* – A sense of common values and expectations of and for each other.
2) *A collective focus on student learning* – An undeviating concentration on student learning.
3) *Teacher collaborative activity* –The sharing of expertise and discussion of the development of skills related to instructional practices.
4) *Deprivatized practice* – The sharing and trading of the roles of mentor, advisor, and /or specialist.
5) *Reflective dialogue* – A self-awareness about one's work as a teacher by engaging in in-depth conversations with other teachers about teaching and learning.

Shared norms and values. Researchers suggest that TLCs share a sense of

common values and expectations of and for each other. Within a TLC, the language and

actions of teachers demonstrates common beliefs and values about teaching, learning,

responsibilities, TLC purpose, and TLC position within the school environment (Louis et

al., 1996). DuFour and Eaker (1998) propose that TLCs do this by developing and

committing to a common vision. They are not alone; many empirical studies find that a

clearly articulated and shared vision is essential to forming TLCs (Elmore, 2007;

Huffman, Hipp, Pankake, & Moller, 2001; Hulpia, Devos, & Van Keer, 2009;

McGuinness, 2009; Newmann, King, & Youngs, 2000). These studies suggest that

teachers should discuss and come to consensus on their values and expectations for each

other and for their students. Louis et al. (1996) find that a stronger sense of community

leads to more shared responsibility for student learning. Although studies connecting

teacher responsibility to student learning are rare, evidence suggests that collective responsibility for student learning relates to improvements in student performance (Lee & Smith, 1996; Louis & Marks, 1998).

As discussed above, Kruse et al.'s (1995) shared norms and values overlaps with Secada and Adajian's (1997) emphasis on collective control over decisions. Shared decision-making between teachers and school leaders is essential for developing TLCs (Huffman et al., 2001; Robinson & Timperley, 2007). The devolution of bureaucracy associated with a move from hierarchical and directive decision-making models toward shared decision-making increases opportunities for staff to share opinions, take risks, and develop a shared vision within TLCs (Harris, Leithwood, Day, & Sammons, 2007; Louis & Marks, 1998; McGuinness, 2009).

A collective focus on student learning. Louis et al. (1996) suggest that an undeviating concentration on student learning is a core characteristic of a TLC. Other scholars agree that in order to influence teacher practice and student learning, the joint work of teachers needs to focus on the substantive matters of teaching and learning (DuFour & Eaker, 1998; Huffman et al., 2001; Little, 2002). Nelson and Slavit's (2008) work on collaborative inquiry groups provides one example of how teachers' willingness to participate in collegial conversation is not enough to influence the substantive matters of teacher practice and student learning. To achieve this influence, the collaborative work and shared decision-making within TLCs must also align with student outcomes. Hawley and Sykes' (2007) four-phase model of continuous SI provides a second example of how the collection and analysis of student learning data is essential to TLC success. The authors suggest that the combination of a) reliance on evidence of student learning

and b) the collaborative cultures typical of TLCs assists schools in mastering the process of continuous SI.

In the current high-stakes accountability climate of NCLB (U.S. Department of Education, 2001), standardized assessment scores tend to be a popular source of evidence for student learning (e.g., Hollins et al., 2004; Supovitz, 2002). But a collective focus on student learning can extend beyond assessment scores to include other student work such as, but not limited to, projects, writing samples, and journal entries. Statistical analysis of standardized tests scores, while useful in some respects, restricts the way researchers understand student learning to numerical means and effect sizes. Valli, Croninger, Chambliss, Graeber, and Buese (2008) find that the accountability connected to standardized tests causes schools to narrow the curriculum, group students by ability, teach to the test, and reorganize around the requirements of testing. While these activities may raise test scores, they may not lead to more meaningful or desirable forms of learning. Additional modes of assessment provide a more robust understanding of how TLCs influence student learning.[9]

Teacher collaborative activity. TLCs provide teachers with the opportunity to share expertise and skills related to their own instructional practices (Kruse et al., 1995). Collaboration leads to teachers' mutual support of each other and develops a sense of shared responsibility (Louis et al., 1996). The specific expertise and skills that teachers share with each other are not as important as the focus of collaboration. When teachers

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[9] Eisenman, Hill, Bailey, and Dickison (2003) present an example of how TLCs assess student learning without using standardized assessments. In their study, four high school teacher teams implemented an interdisciplinary project with their classes. Although the success of the majority of projects was not realized because of unpredicted and distracting factors associated with each team's situation, the authors found the projects reduced teacher isolation and increased opportunities for student learning. Analysis of non-standardized student learning artifacts, like this, can assist researchers in understanding how TLCs influence student learning.

focus on matters of teaching and learning, collaboration has the potential to influence teacher practice and student learning (Little, 2002). By working together and sharing responsibility for student learning, teacher collaboration can influence student learning (Lee & Smith, 1996). When teachers develop shared commitments, however, Scribner et al. (2002) warn that groupthink may develop and stifle the progress of TLCs. Scholars suggest that teachers retain a degree of individual autonomy along with the collegiality associated with TLCs (Scribner et al., 2002; Sergiovanni, 1994; Wells & Feun, 2008).

Research also suggests that teachers are more likely to collaborate about things that interest them. For example, one case study illustrates how mandated collaboration reduced teacher effectiveness (Meister & Nolan, 2001). Five teachers were required to create an interdisciplinary learning community for freshmen. While school leaders gave teachers the freedom over how to merge their curricula and create projects, creating a freshmen team was neither the teachers' idea nor their priority. These teachers lacked the desire to overcome obstacles to this TLC's success, including the loss of individual planning time. Although there was some initial success with certain units created by teachers, all teachers eventually fell back on their former practices. This case study represents a classic case of the kind of collaboration Hargreaves (1994) terms "contrived collegiality".

Deprivatized practice. Scholars traditionally characterize teaching as a highly private practice anchored in the norms of autonomy, privacy, and egalitarianism (Lieberman, 2009; Lortie, 1975; Murphy et al., 2009). In TLCs, teachers deprivatize their practice by opening classroom doors to their peers and sharing instances of their planning, instruction, and assessment with each other. Teachers share the roles of mentor,

advisor, and/or specialist with each other (Kruse et al., 1995). When teachers share their practices with their colleagues this way, their instructional practices can change (e.g., Ermeling, 2010; Pang, 2006; Vescio et al., 2008). Within TLCs, teachers routinely share matters of practice and participate in joint work resulting from observations of those practices. This exchange of instructional practice flows from teachers' work within the TLC to their classrooms and back again. Getting teachers to share instructional practices is difficult; therefore, a contextually dependent array of supportive conditions needs to be in place to encourage them to do so (Clement & Vandenberghe, 2000; Grodsky & Gamoran, 2003; Little, 2003).

   Reflexive dialogue. Louis et al. (1996) define reflexive dialogue as "self-awareness about one's work as a teacher" (p.761). Teachers within TLCs engage in in-depth conversations with each other about teaching and learning to examine assumptions about instructional practice and increase self-awareness (Kruse et al., 1995). Reflexive dialogue is essential to the collaborative work of TLCs. Dialogue that is devoid of reflection is not likely to influence instructional practices (Supovitz, 2002). Teachers may engage in reflexive dialogue with themselves, with colleagues, and with the larger school community. While teachers in any school can engage in internal reflexive dialogue, TLCs provide teachers with additional and regular opportunities for reflection with colleagues and the larger school community.

   Teachers who critically reflect together have access to multiple conceptual frameworks that they would not have had otherwise (Butler et al., 2004). Teachers can use these frameworks to co-construct knowledge with peers. The inquiry cycle (Nelson & Slavit, 2008), action research (Aubusson, Steele, Dinham, & Brady, 2007), critical

friends (Curry, 2008), and lesson study (Lieberman, 2009) are four possible models that TLCs may utilize to engage in reflexive dialogue about instructional practice and student learning.

Scholars suggest that reflexive dialogue is easier to develop collaboratively than individually. For example, Nelson (2009) demonstrates how the inquiry model, while difficult to develop collaboratively, is nearly impossible to develop individually. Accepting that knowledge construction is a social process (Rogoff, 1990; von Glasersfeld, 1995), the benefits of engaging in reflexive dialogue collaboratively seem evident. Completing an inquiry cycle alone robs the individual of an opportunity to co-construct meaning. Having peers involved in reflexive dialogue permits the social exchanges necessary for the co-construction of knowledge.

Summary of characteristics of TLCs. Each of Kruse et al.'s (1995) elements of TLCs—shared values and norms, a collective focus on student learning, teacher collaborative activity, deprivatized practice, and reflexive dialogue—helps ensure that TLCs have an opportunity to influence teacher practice and student learning. Simple engagement with these elements does not necessarily equal effectiveness. It is possible for a group of teachers to engage at such a superficial level that their efforts do not qualify as a TLC. Likewise, some TLCs may engage with four elements completely, but only engage with the fifth element superficially. Each instance of a TLC operates within these five elements in a unique way that is specific to its context and participants. Although Kruse et al. do not provide a rubric for assessing the level of TLC present within a teacher group, there are several authors who do (e.g., Grossman et al., 2001; McLaughlin & Talbert, 2006; Sergiovanni, 1994).

Levels of TLCs

Three sets of scholars offer rubrics for assessing the level of TLC present in the joint work of a group of teachers (Grossman et al., 2001; McLaughlin & Talbert, 2006; Sergiovanni, 1994). Grossman et al. and Sergiovanni both describe three levels of TLC. McLaughlin and Talbert describe five levels of community, with the first two representing a type of traditional community preceding TLC. Although each scholar labels their rubric differently, the descriptions of the stages are congruent.

McLaughlin and Talbert characterize three different types of TLC school communities: traditional (weak) community, strong traditional community, and professional community. Each type of community differs in its culture, professional norms, and organization policies. McLaughlin and Talbert are the only authors in this group that offer a separate rubric for evaluating traditional communities. Their detailed descriptions of the different levels of professional community, along with their characterization of weak and strong traditional communities, make it an appealing framework for assessing the depth and nature of interaction between teachers and the elements of a TLC. At the beginning of the study, I superimposed these rubrics over Kruse et al.'s (1995) five elements of a TLC (See Table A). At the conclusion of the study, I modified this rubric to address the characteristics of a TLC identified by participants during the study (see Table L in Chapter IV).

Table A: TLC Level Rubric for the Five Elements of a TLC

Element of TLC	Traditional Community	Strong Traditional Community	Professional Community		
			Novice	**Intermediate**	**Advanced**
Shared Norms & Values	Some individual operate under norms and values, but these are either diverse or non-communicated.	Individual teacher teams may be able to articulate norms and values, but they may not be widely shared.	A common set of norms and values has been created and can be articulated. Norms count more than rules.		
			Collaborative norms and a focused effort exist.	School community members begin sharing norms and using shared language.	Collective accountability for student success is widespread. Innovation and variance are valued and explored.
Collective Focus on Student Learning	Belief that students play passive roles in content learning. Assessment is through text-based projects, quizzes, and tests.	Belief that students play passive roles in content learning. Some groups of teachers may put students in active learning roles. Assessments are used to sort students.	Belief that students play active roles in content learning. The bell curve is rejected and mastery learning is widely implemented. Students have choice and their learning is assessed through standards-based performance assessments.		
			Experimentation with indicators, content standards, and measurement tools. Data is collected but superficially analyzed.	Indicators for student learning are identified and measurement tools are created. School members use data to inform decisions.	Student learning data for decision making is integrated into school community practice.
Teacher Collaborative Activity	Professional expertise is guarded and sharing is limited.	Professional expertise is based within discipline knowledge, some sharing occurs, but it restricted to small groups of teachers.	Professional expertise is collective and freely shared across levels and disciplines.		
			Teacher teams begin to wrestle with improving classroom-based and school-wide issues.	Work is divided among members of the collaborative team for maximum benefit of the collective.	Successful team protocol replicates across and among different levels and disciplines.
Deprivatized Practice	A norm of privacy isolates teachers. Professional development does not permeate classroom instruction.	The norm of privacy gives way to the pressures of high-stakes accountability as best practices are shared around student testing and course assignment.	Collaboration is widespread as school community members share across levels. The focus of teams is on student learning and instruction.		
			Teams collaborate beyond high-stakes accountability best practices to address classroom-based issues.	Teams have genuine conversations about student learning, pedagogy, and assessment.	Teachers are committed to making their craft public. Genuine conversations about student learning, pedagogy, and assessment are common.

Reflexive Dialogue	Exists during formal observation and evaluation meetings between teachers and supervisors. Professional development viewed as an event. Outcomes superficial.	Exists during pre- and post-observation conferences. Genuine efforts are made for teachers to adjust their own practice.	Work within the school community generates knowledge of practice and eventually increases professional growth and student learning. Professional development is viewed as a process that directly influences teacher practice.		
			Individual reflection begins between different members of the school community.	Individual reflection occurs between all members and begins to reflect a collective commitment.	Individuals openly question collective norms and values and their application to student learning and discipline.

Teacher groups that operate as McLaughlin and Talbert's (2006) traditional (weak) communities believe that their students differ in cognitive ability, transmit information to students passively through techniques such as lecture or "sit and get," use textbooks and support material, curve grades, and assign homework from the book. Teachers in these settings are isolated from each other in their classrooms and guard expertise from each other. Resources and class assignments are based upon seniority where the best teachers have the preferential classes (honors, advanced placement, IB, electives) and the newest teachers have the least desirable classes (remediation, lower level, state assessed).

McLaughlin and Talbert's strong traditional community members are similar in that they also believe teachers differ in cognitive ability, transmit information to students passively, and curve grades. Here, however, they actively involve upper level students in learning. Teachers and school leaders "sort" and "screen" students in these communities and teach content sequentially. Teachers collaborate around state-mandated assessments. School leaders assign resources and class assignments to students based on the academic expertise of the teachers. McLaughlin and Talbert find that typical (weak) community and strong traditional community are the most common forms of community found in schools. I attribute the prevalence of traditional communities to the assumption that they

are easier to sustain than compared to TLCs. Unfortunately, traditional communities

frequently incorporate assumptions that fail students, such as "students as passive

learners" and "students differ in ability to succeed academically" (McLaughlin & Talbert,

2006, p. 19). Operating under those assumptions, the responsibility for learning rests

more heavily on students than teachers and some students will never attain academic

success

McLaughlin and Talbert classify three levels of professional community: novice,

intermediate, and advanced. Novice communities wrestle with data collection and

analysis. As novice communities move toward intermediate, teachers become more

comfortable with data and view school problems collectively. Many communities never

make it to this point, but if they do, they may begin to clarify shared goals and shared

values, which may lead to a strong common vision. While schools at the intermediate

level have analyzed data and begun to formulate collective initiatives to improve, they

may lack the skills to implement these actions in the individual classrooms. Advanced

communities have begun to function fully as communities of inquiry; that is, they can

collect and analyze data, formulate a shared plan for action, and begin to ask advanced

questions about student outcomes.

Sergiovanni's description of professional community is consistent with

McLaughlin and Talbert. For example, Sergiovanni notes that developed community

requires more than using buzzwords, writing fancy mission statements, and organizing

teachers into teams. Advanced levels of professional community require meaningful

activity with a deep commitment to shared norms and values by community members.

Although compatible with McLaughlin and Talbert's (2006) novice, intermediate, and advanced levels of professional community, Grossman et al.'s (2001) description of beginning, pseudo, and mature TLCs provides additional insight into the intermediate level. Grossman et al. suggest that as communities begin to come together at the pseudocommunity level, people have a tendency to play community. Within this type of community, there is an illusion of consensus. Unlike mature learning communities, pseudocommunities lack follow-up, leave ideas vague, avoid conflict, and allow members to agree without second thought. Although individuals are acting together in pseudocommunities, there is no real community present. Because teachers' classrooms are hidden realms in pseudocommunities, these types of TLCs often lack the potential to transform teaching and learning.

Grossman et al. (2001) suggest that after a period in a pseudocommunity, group members begin to play unauthorized roles and create tension for other group members content with the illusion of consensus. These unauthorized role-plays lead to the breakdown of group processes, but also provide opportunities for groups to engage in meaningful discourse about conflict that could lead to advanced levels of professional community. McLaughlin and Talbert's (2006) descriptions of intermediate and advanced professional communities are compatible with Grossman et al.'s; however, the attention to how group members play community is a nuance that I incorporated into my rubric. Aubusson et al. (2007) apply Grossman et al.'s rubric in their case study on community building but substitute the term "transition" for "pseudo" because they feel the latter conveys negative connotations. Using McLaughlin and Talbert's term "intermediate" similarly would likely avoid negative connotations.

All three groups of scholars agree that TLCs operating at the advanced level have the highest chance of influencing teacher practice and student learning. The challenge is the movement of a professional community from the intermediate to the advanced professional community level where teacher learning occurs and TLCs recognize their full potential by influencing core matters of teaching and learning. Before proceeding to a discussion on the supportive conditions that facilitate or hinder the development of TLCs, I analyze evidence within the body of literature confirming or refuting whether TLCs can influence teaching and learning.

The Optimistic Premise of TLCs

Of the 27 studies examining changes in teacher thinking, practice, and/or student learning resulting from teachers' participation in TLCs, 16 focus solely on teacher change. Of these 16, 6 investigate changes to teacher instructional practices. Ten studies explore the connection between TLCs and student learning. Of these 10 studies, eight include an analysis of teacher behavior. The other two studies primarily assess student achievement data while considering teachers' attitudes through surveys and interviews. When combined with the four literature reviews (Adajian, 1996; Darling-Hammond, 1997; Newmann & Wehlage, 1995; Vescio et al., 2008), the studies in this review suggest that TLCs have the potential to influence teaching and learning. In what follows, I analyze these 27 studies and 4 literature reviews, which explore the link between TLCs, teacher change, and student learning.

Evidence of TLCs influencing teacher views and practices. Researchers examine both teacher behavior and teacher attitudes when exploring the relationships between TLCs and teacher change. In their literature review on the impact of learning

communities on teacher practice and student learning, Vescio et al. (2008) analyze 11

studies. Only five of their studies examine specific changes to teacher behavior. The

other six rely on teacher self-reports and provide no significant detail on changes to

instructional practices. In addition, the absence of information regarding teacher

practices prior to participation in a TLC weakens findings from five of the studies. The

results of my literature review are consistent with Vescio et al.'s findings: about half of

the studies document changes in teacher thinking but are not specific about changes to

instructional practices and/or lack a base of comparison.

Many studies searching for changes to teacher thinking explore the possibility of

individual and organizational learning resulting from teachers' participation in TLCs.

Butler et al. (2004), Kain (1996), Leithwood, Steinbach, and Ryan (1997) look for

individual learning resulting from teachers' participation in TLCs. For example, by

examining the interplay between the social and individual learning processes in TLCs,

Butler et al. find that participation shapes teachers' conceptual knowledge. On the other

hand, Curry (2008), Gitlin (1999), Hulpia et al. (2009) look for organizational learning

resulting from teachers' joint work within TLCs. As one example, Curry examines how

TLCs serve as resources for school reform and instructional improvement. By combining

teacher and school leader interviews with observations and document analysis, Curry

finds a relationship between the nature and quality of organizational learning and TLC

activities.

The work of Nelson (Nelson, 2009; Nelson & Slavit, 2008) finds that teachers'

joint work within inquiry-based TLCs leads to changes in teachers' beliefs about teaching

and learning. Little's (2002, 2003) research illustrates how TLCs supply teachers with

the intellectual, social, and material resources for learning and innovation in practice. Little finds that teachers make their experiences and artifacts from their own classrooms available to the TLC. In addition, Adajian's (1996) review of mathematics TLCs found similar positive relationships. Her review detailed positive findings on teacher change from the National Center for Research in Mathematical Science Education's study on professional community and reformed mathematics instruction, the Urban Mathematics Collaborative, and Stories of Excellence. In each of the projects Adajian reviews, teachers report changes in their thinking and practice.

In Adajian's (1996), and Vescio et al.'s (2008) literature reviews, all studies found positive evidence when looking at changes to teachers' thinking resulting from involvement in TLCs. Despite this finding, I share Vescio et al.'s skepticism that changes in teacher thinking leads to changes in behavior. For example, Lieberman (2009) examines how lesson study can combat the traditional norms found within American schools. She finds that participation in a lesson study TLC helps teachers develop their skills, knowledge, beliefs, and philosophies of teaching and learning. While Lieberman suggests that these changes influence teacher practice, she fails to provide any documentation when making this claim other than teachers' self-reports.

Studies that explicitly look for the link between teachers' thoughts and behavior do not always find it. Levine and Marcus (2010) and Plauborg (2009) locate changes in teacher attitudes but do not confirm changes in behavior. The authors of these studies were able to document changed discourse regarding teacher practice but were unable to find actual changes in teacher practice as a result. Plauborg attributes either a flaw in observation method or lack of teacher learning for the missing relationship between TLC

activity and practice. In addition, Supovitz's (2002) survey investigation of 79 schools within a district attempting to implement widespread TLCs found no clear effects on individual and group instructional practices. Supovitz's findings suggest that teachers did not change their thinking from the district's initiative.

Nonetheless, many studies do find evidence of changes to teacher practice from participation in TLCs. Studies conducted by Bolam et al. (2005), Ermeling (2010), Grodsky and Gamoran (2003), Hecht and Roberts (1996), Hollins et al. (2004), Louis and Marks (1998), McLaughlin and Talbert (2006), Pang (2006), Timperley (2005), and Visscher and Witziers (2004) find that participation in a TLC changes teachers' classroom practices. For example, in a study of 10 economics teachers in Hong Kong, Pang implements a variation of lesson study by combining elements of design experiments involving innovation and pedagogical theory. Pang reports that teachers demonstrated complex ways of teaching economics by considering pedagogical approaches that are more critical. One teacher specifically reported a shift in teaching the critical examination of economic policies and issues to the diverse perspectives representing societal and economic values and standards. When schools achieve professional community, the quality of classroom pedagogy is moderately higher.

Another example comes from Louis and Marks' multi-site study on the impact of TLCs in 24 schools (8 elementary, 8 middle, and 8 high school). In their model, the authors attribute 36% of the variance in the quality of classroom pedagogy to the presence of professional community in the school. In addition, Timperley's (2005) investigation of a New Zealand TLC engaged in an action research project illustrates how some of the studies finding no relationship may have flawed research designs. In this

study, teachers initially resisted examining student data for a target population of students because they did not believe those students could learn. Eighteen months later, teachers began to examine student data and change their instructional practices. This study suggests developing a TLC to a level that can influence teacher practice and student learning may take longer than what some of the studies above planned in their research designs.

Ermeling's (2010) qualitative study of a high school TLC offers a plausible method of locating change in teacher practice from TLC activity. Ermeling uses an *a priori* approach rather than the more typical *post hoc* analysis, which is subject to false positives.[10] He employs the qualitative equivalent of a tracer variable. Because none of the members of the TLC had experience with addressing student misconceptions, Ermeling chose evidence of this as his variable to determine or "trace" change. Any evidence of addressing student misconceptions during classroom instruction located in his study would be indicative of collaborative activity affecting teacher practice. In Ermeling's study, evidence of teachers addressing misconceptions with students confirms that TLC activity can result in change.

Evidence of TLCs influencing student learning. I found 10 empirical studies connecting teachers' participation in TLCs to student learning. In all but two of these cases, the authors investigate changes in teachers' instructional practices, discussed in the previous section. In the other two, researchers focus on changes in teacher thinking (Lee & Smith, 1996; Miller & Rowan, 2006). In each of the 10 studies, researchers combine

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[10] When researchers locate changes in teacher practice using *post hoc* analysis, TLCs may not necessarily have led to that positive result. The change in teacher practice may have occurred due to a variety of professional experiences (e.g., teachers' graduate work, other professional development). The risk for false positives increases in *post hoc* analyses lacking control groups, which would contrast groups with similar professional experiences except for their work within TLCs (Ermeling, 2010).

questionnaires, interviews, and/or observations with statistical analysis of student work (see Appendix A for specific details). Although most of these studies incorporate both quantitative and qualitative methods, only two studies measure student learning in a manner other than standardized test scores.

I located three studies that illustrate no relationship between teachers' joint work within TLCs and student learning. First, Visscher and Witziers (2004) conducted a quantitative study of math department TLCs, which surveyed 175 teachers across 39 schools in the Netherlands on several concepts including perceptions and department meeting topic analysis. The study links the math assessment data from third year (15-16 years old) students to each school. In this study, Visscher and Witziers find no significant difference in test scores in the schools with TLCs versus the national average ($r^2 = 0.01$).

Second, Miller and Rowan (2006) compare reading and mathematics student achievement data from two national longitudinal databases – National Educational Longitudinal Study of 1988 (NELS:88) and Prospects: The Congressionally-Mandated Study of Educational Opportunity – against three indicators of school leadership: collegiality, shared decision-making, and supportive leadership. Both data sets contain longitudinal information on student achievement in reading and mathematics as well as teacher questionnaires. Together, the data sets represent over 28,000 students and 9,000 teachers. Weak main effects (*ES* < 0.020) in their statistical analysis led Miller and Rowan to conclude that there was no correlation between this type of school leadership (common in TLC initiatives) and student achievement.

Third, Supovitz's (2002) four-year study evaluated the implementation of a district-wide, team-based schooling initiative in 79 schools. Supovitz uses survey data

from over 3,000 teachers and school leaders to determine the effectiveness of top-down

collaboration. Teachers willingly formed collaborative teams as directed but

concentrated merely on superficial issues. In fact, only 30% of team meeting time

focused on instruction. Teachers spent the rest of their time on paperwork or

administrative tasks. Much of the dialogue of collaborative teams lacked reflection and

failed to influence instructional practice. With a small effect size ($ES = .10$) on

performance of students in team based schools, there is no evidence that the time teachers

spent on instructional practice influenced student learning.

While I located three studies showing a lack of relationships between teachers'

participation in TLCs and increased student achievement, other literature reviews found

mostly positive results. For example, in Vescio et al.'s (2008) literature review, all eight

studies looking at student learning showed an increase in learning resulting from

teachers' participation in TLCs. As stated previously, I located four of those studies for

this literature review (Bolam et al., 2005; Hollins et al., 2004; Louis & Marks, 1998;

Supovitz, 2002).[11] The other four studies included by Vescio et al. find between a 25%

and 40% increase in standardized assessment scores at the proficiency level related to

teachers' participation in TLCs. Although their review of this research is persuasive,

Vescio et al.'s draw attention to methodological issues that may diminish the strength of

the collective findings. In several of the reviewed studies, the description of the

methodology omitted important information including the number of teachers

participating in interviews and the nature of interview questions. Vescio et al.

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[11] Vescio et al. (2008) most likely include Supovitz (2002) as positive evidence because some TLCs in this study have higher effect sizes than the average; e.g., fourth grade writing ($ES = .23$) and sixth grade science ($ES = .21$). Because these effect sizes are small and represent outliers, I do not include Supovitz's results as evidence for a positive relationship between TLCs and student learning.

acknowledge the robust qualitative analysis of Bolam et al. and Louis and Marks and criticize the minimal quantitative analysis in other studies.[12]

The majority of studies investigating a link between TLCs and student learning use some combination of research methods and data sources that include standardized assessment results. Bolam et al. (2005), Hollins et al., (2004), and McLaughlin and Talbert (2006) each combine the statistical analysis of standardized assessments with qualitative data analysis. For example, in Hollins et al. (2004) interviews, observations, document collection, and students' scores on the Stanford Achievement Test, 9th edition (SAT-9) indicated that TLCs could positively influence student learning. Hollins et al. followed urban California elementary teachers as they participated in a five-step study-group designed to change the way they perceive and conduct their work. The authors document how teachers' discourse during TLC meetings shifted from disassociating from students culturally and socially to discussing their own backgrounds and students' situations. The TLC discussions shifted from defending their practices to sharing suggestions and collaborating on new approaches. Because of these discussions, teachers were able to implement new instructional practices including a new writing project about the principle of honesty and new lessons on comprehension, vocabulary, decoding, and inferences. The authors could have strengthened their findings if they had shown that teachers who were not collaborating had less improvement on the SAT-9 scores.

Despite this limitation, Hollins et al. argue that TLC activity has the potential to increase student achievement. Their study links teachers' work within TLCs to changes

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[12] Vescio et al. (2008) acknowledge that achievement tests assess a narrow range of learning and may fail to capture the breadth of impact of TLCs. However, they argue that this reason does not excuse researchers from analyzing student achievement data. Instead, they propose that researchers supplement student achievement data with qualitative case studies. The authors note how these types of case studies do not yet exist.

in teacher practice and increases in student learning. Bolam et al. (2005) and McLaughlin and Talbert (2006) locate similar findings. Bolam et al. compared TLC indicators from 393 school questionnaires to student and teacher outcome data using multilevel analysis. Bolam et al. report that TLCs demonstrating increased student learning measures collaborate on student learning. They delimit multiple examples showing how teachers' involvement in TLCs influences teacher practice: joint planning of classroom activities, joint problem solving, aligning instruction pace between classes, and using jointly developed resources with their classes among other. Bolam et al. include extensive information regarding their methods and support quantitative analysis with extensive appendices. McLaughlin and Talbert report data from several studies analyzing strong TLCs in high school departments and elementary schools. They carefully review findings over multiple years and provide thorough descriptions of school sites and methodologies (e.g., the nine different schools within the five-year Bay Area School Reform Collaborative project). McLaughlin and Talbert illustrate how TLCs within these schools stimulate changes to teacher behavior that eventually lead to increased student learning. One of the secondary schools' math departments in their study believed the traditional math curriculum failed to help their students learn. So they changed their practice and increased student learning by jointly redesigned courses and lessons. In another example, McLaughlin and Talbert describe an elementary school TLC that collaboratively revised curricula by align lessons with academic and personal outcomes. As a result, teachers in this TLC altered instructional approaches to specific students in their classes. Each study incorporates a strong research design that convincingly links changes in teacher practice (resulting from involvement in TLCs) to increases in student learning.

In another example, Lee and Smith (1996) find that the collective responsibility common to TLCs can influence student learning. Using over 1,000 middle schools and 22,000 students in the NELS:88 longitudinal databases, Lee and Smith compared students' eighth and tenth grade standardized math, reading, history, and science scores against teacher questionnaires. Lee and Smith found statistically significant differences between student gain scores in schools with high collective responsibility among teachers, across all four subjects, even when controlled for by different demographic instances. They also found that achievement gains are more equitable in schools with higher collective responsibility for student learning. Lee and Smith reported moderate effect sizes between .30 and .38 for each of the tests. These results led them to find that achievement gains are higher in schools where teachers take collective responsibility for students' academic successes or failures. Newmann and Wehlage (1995) review several other studies using the same data sets used by Lee and Smith. They draw a similar conclusion: TLCs affect classroom practice, social support for learning, and mathematics and social studies achievement.

Researchers suggest that the strength of a TLC correlates with the level of student achievement (Bolam et al., 2005; Hollins et al., 2004; Louis & Marks, 1998). For example, Louis and Marks found that student achievement was higher in schools with strong TLCs. They attribute 85% of the variance of student achievement in mathematics and social studies to the strength of TLCs in those schools (*ES* = .26 for schools with strong TLCs over other schools). In addition to standardized test results, Louis and Marks used a set of intellectual standards, developed by the Center on Organization and Restructuring Schools (CORS), as an alternative and applied these principles to the

analysis of student work. Louis and Marks based these achievement measures on three dimensions of performance: analysis, disciplinary concepts, and written communication. Researchers applied rubrics to collections of student work in each area. Critical of the non-representative sample used by Louis and Marks, Grodsky and Gamoran (2003) repeated their study with 50,923 teacher questionnaires and corresponding 10,831student achievement scores from the 1993-1994 Schools and Staffing survey. Their findings confirmed Louis and Marks' conclusions.

Hecht and Roberts (1996) is the only other study in this cluster that measures student learning without reliance on standardized assessment scores. The authors investigate how teacher teaming and technology integration within TLCs influences teacher practice, quarterly course marks, and overall GPAs. Hecht and Roberts find that students in team teaching treatment groups outperformed in almost all quarterly course grades and GPAs. Similarly, Darling-Hammond's (1997) literature review of cross-school learning communities involved in the Center for Collaborative Education increased student learning through non-standardized assessment measures. Vescio et al. (2008) also indicate that TLCs have the potential to influence student learning beyond achievement on assessments. Attendance and graduation rate, in addition to student achievement on assessments, are two results commonly identified as outcomes for public schools (e.g., National Education Association, 2010). Although she does not specifically explain how, Darling-Hammond finds that when schools reorganize into collaborative non-bureaucratic models, students are more likely to attend school and graduate. She reported how some schools that implement cross-school TLCs through this program improved some attendance rates by over 30%. In addition, other schools showed

increases in graduation rates and acceptance to college with their minority populations.

Perhaps these TLCs led to changes in the content and pedagogy of teachers' instruction

that encouraged students to attend and participate in daily classroom activities. Further

research in this area may shed light on this relationship.

Summary of the optimistic premise of TLCs. Vescio et al. (2008) ask whether

the collective results of their literature review offer a definitive answer to the question

"does the literature support the assumption that teacher participation in TLCs influences

instructional practice and increases student learning?" Despite the small number of

empirical studies, Vescio et al. write, "The answer is a resounding and encouraging yes"

(p. 87). I agree that the research presented here offers robust support that participation in

TLCs has the potential to shift teachers' practices and influence student learning.

Scholars report evidence that TLCs sometimes influence teachers' thinking; however, the

studies representing a lack of relationship and those relying solely on teachers' self-

reports prevent me from unequivocally agreeing with Vescio et al. (e.g., Hindin et al.,

2007; Levine & Marcus, 2010; Miller & Rowan, 2006; Plauborg, 2009; Supovitz, 2002;

Visscher & Witziers, 2004).

I attribute some of the neutral findings to how people define key concepts such as

teacher change or TLC. For example, while Visscher and Witziers (2004) showed no

empirical relationship, a closer look at their questionnaire data illustrates how their

conception of TLC differs from what I presented at the beginning of this chapter.

Although they include measures representing shared norms and values (i.e., consensus

and decision-making) and teacher collaborative activity (i.e., consultation and

cooperation), they omit measures representing a collective focus on student learning,

deprivatized practice, and reflexive dialogue. If the mathematics departments in their study did not exhibit some level of these three characteristics of TLCs, I would not expect to find evidence of increased student learning.

In addition, it is also possible that certain studies failed to find a change to teacher practice because they did not examine the level of TLC. For example, Plauborg (2009) attributes the lack of relationship between TLC activity and practice to either research design or a lack of teacher learning. What Plauborg has not considered, but what is possible, is that this particular TLC may be operating at a novice level that is unlikely to lead to changes in teacher practice or student learning. It is difficult to tell the level of TLC in this and other studies (e.g., Hindin et al., 2007; Levine and Marcus, 2010).

Methodologically, many of the studies examining the impact of teachers' work within TLCs on student learning use large-scale data sets (e.g., Bolam et al., 2005; Lee & Smith, 1996; Louis & Marks, 1998; Miller & Rowan, 2006; Supovitz, 2002) and, thus, have all of the advantages of representative sampling and statistical power that accompany such work. However, another explanation for neutral results could be these studies' conceptual frameworks. For example, eight of the 10 empirical studies attempting to link teachers' participation in TLCs and student learning focused on standardized assessment. Perhaps these researchers' conceptions of student learning are too narrow. Expanding the types of artifacts collected to analyze student learning only occurred in two studies (Hecht & Roberts, 1996; Louis & Marks, 1998), both of which illustrated positive findings.

Conversely, the presence of positive relationships could be erroneous. For example, publication bias may inflate the number of studies illustrating positive results

(Strike, 2006). TLCs may not influence teacher practice and/or student learning without significant supportive conditions in place. Perhaps TLCs are not pervasive because the cost and time effort required are unrealistic. In the first chapter, I presented an overview of three school conditions that facilitate the work of TLCs: the degree of trust, opportunity for collaborative reflection, and availability of time. So, as an example, while a few teachers in Hindin et al.'s (2007) case study brought practice issues back to TLC meetings, others did not. Although there is not enough information to determine whether there was also a lack of trust between those group members who brought issues back and those who did not, Hindin et al. suggest that this TLC had not yet developed shared beliefs about teaching literature and the related expectations for student learning. At the conclusion of their study, they recommend additional time for this group to further deprivatize practice and develop shared beliefs.

Finally, research design may have skewed results. Miller and Rowan (2006) concede that their generalized measures of supportive leadership may be to blame for their findings. Miller and Rowan recommend that future investigations utilize specific measures of leadership such as principal's attention to organization and evaluation of instruction. On the other hand, while Hollins et al. (2004) found positive relationships between teachers' participation and student learning, they share research design dilemmas. Hollins et al. failed to document teachers' instructional practice before involvement in TLCs and did not compare data to those teachers not participating. Both of these considerations could have significantly affected their study.

While it is not *unequivocally* clear whether TLCs can influence teaching and learning, this literature review supports two conclusions. First, TLCs have the potential

to positively affect teaching and learning when certain conditions are in place (Adajian, 1996; Bolam et al., 2005; Darling-Hammond, 1997; Ermeling, 2010; Grodsky & Gamoran, 2003; Hecht & Roberts, 1996; Hollins et al. 2004; Lee & Smith, 1996; Louis & Marks, 1998; McLaughlin & Talbert, 2006; Newmann & Wehlage, 1995; Pang, 2006). Second, the level of development of a TLC directly relates to its influence on student learning (Bolam et al., 2005; Hollins et al., 2004; Louis & Marks, 1998). Therefore, the preponderance of evidence in this area of research suggests that school reformers and school leaders should seek to support the development of TLCs in order to influence student learning. In the next section, I analyze school conditions from this body of literature and how each condition facilitates or hinders the development of TLCs.

Conditions Influencing the Development of TLCs

In the instances where TLCs exert influence on teacher practice and student learning, I find that school leaders and professional developers supported teacher teams with a unique combination of supportive conditions. What are the conditions that influence the development of TLCs? How do these conditions facilitate or hinder teachers' activity within TLCs?

Thirty-seven empirical studies analyze school conditions influencing the nature and depth of TLC development (see Appendix A). In this section, I examine this body of literature to identify and describe how these school conditions interact with teachers' joint work within TLCs. I explain how the presence or absence of these school conditions facilitates and/or hinders their operations. I also draw on 13 additional empirical studies, which provide information on teachers' practice, professional development, and school leadership. The 16 studies illustrating changes to teacher practice and student learning

through teachers' involvement in TLCs reviewed above, plus other literature located through these searches, provide insight about the ways in which school conditions interact with TLCs.

I divide this section into three major categories: leadership, professional development, and workplace design. I selected these categories after reviewing a list of recommendations and findings in this body of literature. As I compiled that list, it became clear that TLCs required supportive leadership, supportive professional development, and a supportive context in order to reach higher stages of development. I organize each of the recommendations for supportive conditions into one of these major categories. While all of the conditions may affect the development of TLCs, I focus attention on those that a school-based leadership team could alter.

In Table B, I list the leadership, professional development, and workplace design conditions from the body of literature. Some of these conditions facilitate the mechanics or operations within TLCs. Other conditions directly influence the nature and depth of work within TLCs. For example, while schools may organize human resources so that teachers have common planning time, the influence on the development of TLCs is indirect. TLCs need some common time for teachers to be able to collaborate. Providing this time facilitates the operations of TLCs, but does not guarantee that teachers will collaborate on matters of teaching and learning. On the other hand, developing a shared purpose within a TLC may directly influence the work of TLCs. When teachers agree to focus on formative assessments, for example, the nature of their collaborative work can change. Indirect conditions can facilitate or hinder the work of TLCs by influencing their mechanics. In addition, indirect conditions often facilitate direct conditions. For example,

although a TLC may develop a common purpose (a direct condition) is unlikely to influence the work of TLCs without time to collaborate (an indirect condition). I will make distinctions between direct and indirect conditions throughout the analysis.

Table B: Conditions Influencing the Development of TLCs

Leadership Conditions	Professional Development Conditions	Workplace Design Conditions
• Degree of Trust • Negotiating Consensus & Managing Conflict • Shared Commitments • Shared Decision Making	• Continuous Delivery • Job-Embedded Design • Collaborative & Reflexive Opportunities • Aligned to Student Outcomes & Teacher Interests • Induction of Members	• Time • Human Resources • School Cultural Factors • External Factors

School Leadership Conditions

This body of literature is replete with studies linking school leadership to the success or failure of TLCs. Researchers identify school leadership as a critical condition for the development of TLCs (Bryk & Schneider, 2002; Drago-Severson & Pinto, 2006; Grodsky & Gamoran, 2003; Huffman et al., 2001; Mullen & Hutinger, 2008; Thompson, Gregg, & Niska, 2004). These researchers suggest that school leaders must execute skillful and precise leadership in order to foster TLCs. Huffman et al. (2001) write, "Without a doubt, the most critical factor in [establishing learning communities] is the leadership of the principal" (p. 459). Principals have the ability to move TLCs forward, kill them quickly, or kill them slowly by neglect (Murphy et al., 2009). By analyzing this body of literature, I explain how particular aspects of school leadership facilitate and/or hinder the development of TLCs. This analysis of school leadership conditions includes: discussions of the degree of trust, negotiating consensus and managing conflict, shared commitments, and shared decision-making.

Degree of Trust. Many of the empirical works reference trust as an important prerequisite for the development of advanced levels of TLCs (Aubusson et al., 2007; Grossman et al., 2001; McLaughlin & Talbert, 2006; Sergiovanni, 1994). For example, Aubusson et al.'s (2007) study of action learning and peer observations within two TLCs, demonstrates that building trust between peers and with school leaders leads to collaboration and reflexive dialogue between members of TLCs. In their qualitative study of 24 teachers, Grossman et al. find that more advanced levels of TLCs allow TLC members to uncover instances of conflict and negotiate consensus. Tschannen-Moran (2009) suggests that when teachers demonstrate caring by negotiating differences, they are demonstrating higher levels of trusts with their peers.

Only one literature review and one empirical study explicitly link trust to teachers' work within TLCs. In their literature review of studies analyzing the CORS data, Newmann and Wehlage (1995) identify trust as a resource essential to the establishment of TLCs. The CORS data analyzed by Newmann and Wehlage combines sources of evidence from the Schools Restructuring Study (SRS), National Educational Longitudinal Study of 1988 (NELS:88), the Study of Chicago School Reform, and the Longitudinal Study of School Restructuring. The SRS data set included case studies and student achievement data from 24 significantly restructured public schools evenly divided between elementary, middle, and high school levels. NELS:88 data set included a nationally representative sample of survey data from teachers and students and student test data in mathematics, science, reading, and history for grades 8, 10, and 12 from over 800 schools. The Study of Chicago School Reform included survey data from 8,000 teachers and 400 principals from 50 schools and 6 3-year case studies of 12 elementary

schools. Finally, the Longitudinal Study of School Restructuring included four-year case studies of the professional communities of eight schools involved in restructuring. In addition, the combined sample includes a representation of schools at different stages of restructuring. Newmann and Wehlage's rich combination of in-depth case studies and survey data bolsters their finding that trust is essential to TLC development. However, because the CORS and SRS data sets focus on restructured schools, Grodsky and Gamoran (2003) criticize them as being non-representative.

In their qualitative study of the formation of TLCs, Wells and Feun (2008) find that trust is a critical resource in establishing TLCs using a more representative sample. Wells and Feun use surveys and interviews in 24 high schools to study the development of TLC characteristics (e.g., supportive leadership, shared values, shared personal practice). Findings from Newmann and Wehlage (1995) and Wells and Feun (2008) explain how trust between teacher members and school leaders is important in order to facilitate joint work within TLCs. The evidence directly linking trust to teachers' activities within TLCs appears limited; however, many studies treat the degree of trust as a prerequisite condition for other TLC characteristics. In addition, seminal work (Bryk & Schneider, 2002; Tschannen-Moran, 2009) on school leadership builds a convincing case for trust within the positive relationships among teachers, school leaders' reform efforts, and student achievement.

Other studies show how lack of trust has the potential to hinder the development of more advanced levels stages of TLCs. When low degrees of trust exist within TLCs, teachers are not likely to take the kinds of risks necessary to develop TLCs. In their investigation of integrated team teaching and technology, Hecht and Roberts (1996) note

that teachers who feel threatened fall back on prior instructional practices. In addition, in their review of literature, Hammerness, Darling-Hammond, Bransford, Berliner, Cochran-Smith, McDonald, and Zeichner (2005) show that teachers require trust in order to share their practices without feeling threatened by peers. In other words, teachers are not inclined to deprivatize practice without high degrees of trust.

Teachers can feel intimidated when school leaders or peers ask them to open up their practices. Among concerns that sharing practices will be one-dimensional and lack return, teachers may also fear ridicule from peers and supervisors. One TLC participant put it this way, "If you tell others about [your instructional ideas], they pilfer it right under your nose. They take it over and it feels no longer yours" (Clement & Vandenberghe, 2000, p. 90). Effective relationships based on trust are essential to overcoming teachers' fears and decreasing teacher isolation, which restricts the development of TLCs (Bezzina, 2006).

Research on school leadership supports trust as an essential resource for local reform. In a qualitative study on how principals organize resources to support local reform, Cosner (2009) observed that teachers who perceived trust are more willing to seek feedback, to seek help, to speak up about concerns, to innovate, and to span boundaries. She found that teachers who perceived higher levels of trust were more willing to participate in honest discourse. Cosner purposefully sampled high school principals regarded as having expertise with the development of organizational capacity. She contends that the limited amount of empirical evidence explaining ways principals support the development of organizational capacity justifies her selection criteria. Although I agree, continuing this line of research with additional representative samples

would strengthen her findings. Still, honest discourse is particularly important in collaborative environments where teachers' exposure to criticism and conflict is often high (Little, 1990). School leaders have a responsibility not to wound or threaten teachers as they engage in honest discourse.

Beatty's (2007) review of Australian school leadership notes that a data-driven, performance-focused approach has the potential for a number of dysfunctional side effects. To prevent wounding teachers and decreasing trust, this research suggests that school leaders model self-reflection with their own leadership. Remaining open to conflicting opinions, actively seeking dissenting views, maintaining humility, and not taking conflict personally will help school leaders manage the emotional stress of leadership and build trust with teachers. Murphy et al. (2009) add that the principal's transformation into someone who constantly self-reflects is necessary to cultivate trust. Would teachers self-reflect and remain open to different ideas in their own TLCs for leaders who do anything less? School leaders who ask teachers to engage in activities that they are not willing to do themselves will likely discourage teachers' efforts.

Finally, empirical studies on school leadership also find positive correlations between the presence of trust in schools and student achievement. For example, in an intensive longitudinal analysis of 400 Chicago elementary schools, Bryk and Schneider (2002) find that the amount of trust between school leaders and teachers within schools correlates to the academic achievement of its students. After spending about 4 years in 12 different school communities, Bryk and Schneider situate trust within the social exchanges in schooling (e.g., teachers with students, teachers with parents). They organize trust around four specific considerations: respect, personal regard, competence

in core role responsibilities, and personal integrity. As trust increases within these four factors, the sense of risk associated with change decreases and social exchanges that facilitate learning increases. The authors support their findings with in-depth case analysis of the 12 elementary schools and extensive quantitative information. In addition, the elementary schools are representative of the full range of elementary schools in Chicago.

In their analysis of 66 Virginian middle schools, Tschannen-Moran and Barr (2004) illustrate how practices, such as teacher involvement in decision-making, removing barriers to instruction, and influence with school leaders, build trust and lead to higher levels of student achievement. The authors compared measures of teacher efficacy obtained from their use of a collective teacher belief questionnaire and results from Virginia's SOL tests to measure student achievement. Their thorough description of their data collection instruments and methodology increases the credibility of their findings. Tschannen-Moran (2009) charges principals to develop trust with their teachers by demonstrating caring, maintaining integrity of the highest degree, being open with information, and sharing power by delegation without micromanagement.

Although weighted heavier on restructuring schools, Newmann and Wehlage's (1995) sources of evidence are strong. When I consider their findings with other more representative studies (e.g., Wells & Feun, 2008) and other work on school leadership (e.g., Tschannen-Moran & Barr, 2004) the results are compelling. The degree of trust can significantly affect the willingness of teachers to engage in TLC activity, such as collaboration, deprivatized practice, and reflexive dialogue. In addition, empirical research links trust to increases in joint work within TLCs and student achievement.

Without trust, it is likely that teachers' engagement in TLC activity will be superficial. This research suggests that school leaders can build trust by demonstrating caring, practicing honest discourse, modeling self-reflection, staying open to conflict, sharing power, and actively seeking dissenting views. Uncovering instances of conflict and negotiating consensus are two additional ways of building trust, which I discuss in the next section.

Negotiating consensus & managing conflict. When school leaders ask teachers to form TLCs, disagreements over the nature and direction of joint work are likely to surface (Newmann & Wehlage, 1995). Several studies argue that conflict is inevitable during the formation and implementation of TLCs and suggest mechanisms for negotiating consensus (e.g., Achinstein, 2002; Calderon, 1999; Levine & Marcus, 2010; Little, 2003). These four studies conceptualize the role of conflict as a catalyst or obstacle for the development of advanced levels of TLC activity. Trusting relationships help teachers use the conflict as a constructive tool for their work.

Achinstein (2002) describes the concept of circles of group membership as an obstacle for bolstering TLCs' trusting relationships. She explains that teachers tend to draw circles around themselves that include some and exclude others. When teachers existing in different circles work together, they may engage in border politics. Teachers may "pull back" from collaborative activity to preserve their own resources. For example, an art teacher may be hesitant to share poster materials with a social studies teacher because she fears running out of supplies for their own classes. Circle memberships and border politics create outsiders. In order to overcome the challenges of group membership, scholars suggest that school leaders and TLC members surface and

deconstruct pre-existing group identities. Using the previous example, if school leaders

are aware of the conflict over poster supplies, they may be able to provide a solution to

supplement the art teacher's supplies and promote school-wide sharing of resources.

Achinstein's study of two school communities implementing TLCs found how one

school was able to successfully address circles of group memberships and move forward

with their TLC. In the other school, circles of group memberships reinforced the norm of

isolation and decreased the potential for the TLC to influence teacher practice and student

learning.

When TLC work leads teachers to surface their individual beliefs, some may

"hunker down" as Achinstein suggests. Sometimes individuals may also resist building

community in negative ways. Bottery's (2003) observations of school leadership in the

United Kingdom demonstrate how teachers' consistent negativity hindered their TLC's

work. In their qualitative study of how teacher teams learn, Leithwood et al. (1997) find

that low functioning TLCs have up to five times more negative comments than high

functioning TLCs. The research in this area suggests that school leaders increase the

potential to build trusting relationships by creating emotionally safe spaces, full of

positive comments, where teachers and school leaders can express, respect, and value

openness to conflicting opinions.

For example, Little's (2002) investigation into two high school TLCs illustrates

how participation within each team can open up and shut down opportunities for teacher

learning. In some cases, groups build trusting relationships by surfacing conflicts and

developing consensus. In other cases, TLCs resist negotiating consensus by quickly

dismissing conflict in favor of addressing other issues. Little attributes this tension to the

multiple purposes – intellectual, social, vocational, and civic – teachers seek to accommodate when they come together in TLCs.   Little's example highlights how school leaders and teachers should carefully attend to instances of conflict so that TLC members have the opportunity to negotiate consensus. She suggests that school leaders can create policies and practices to support professional development resources for TLCs. For example, participants in the less successful TLC in her study said that they competed for resources. How can school leaders ensure that these instances are productive opportunities for building trusting relationships rather than for derailing TLC development?

Calderon (1999) suggests that school leaders can negotiate consensus and manage conflict by focusing on relationship building between teachers and school leaders. In her account of the Bilingual Cooperative Integrated Reading and Composition, Calderon explores the nature of consensus building and development of shared norms. Calderon reports her findings from a dual language program TLC where bilingual and mainstream teachers worked together toward cultural understands and equity. The TLC in this study held two-hour monthly meetings to question, study, experiment, implement, evaluate, and change teacher practice in order to increase student achievement. Calderon attributes the team's success to its ability to set rules for how to talk about reform and for how to follow these rules when negotiating consensus. She finds that 95% of teachers and school leaders report relationship building as an important first step to improved teaching and student learning. In her study, many teachers reported that this was the first time they cared about their peers, especially those with different views. Despite these ideas, the

absence of information about Calderon's role and her specific methodology make it difficult to determine the strength of her findings.

Managing conflict and negotiating consensus have the potential to influence the nature and depth of teachers' work within TLCs directly. The research suggests that school leaders must 1) work to develop build trusting relationships between the diverse members of TLCs, 2) maintain a positive and accepting stance when negotiating consensus, and 3) focus on the relationships between teachers and school leaders. By building trusting relationships, school leaders and principals can work together to do something in spite of disagreement and conflict. In fact, it is unlikely that TLCs will reach the more advanced levels of activity that have the potential to influence teacher practice and student learning without surfacing conflict and achieving consensus. Many scholars focus their discussions of negotiating consensus around one of the five characteristics of TLCs: shared values and norms.

Shared commitments. Examples of how shared commitments influence the development of TLCs are plentiful in this body of literature. Although authors use different terms to discuss shared commitments (e.g., vision, purpose, goals), their collective findings illustrate the importance of shared commitments to the work of TLCs. Five empirical studies and four literature reviews find that shared commitments influence TLC development, teacher practice, and/or student learning. Finally, one empirical study provides a concrete example of how not having shared commitments can derail the work within TLCs.

Huffman et al. (2001), Leithwood et al. (1997), McGuinness (2009), Newmann et al. (2000) and Thompson et al. (2004) find that shared commitments contribute to the

ability of TLCs to develop and influence teaching and learning. For example, in their study of nine urban elementary schools, Newmann et al. find that schools with clear goals around sharing have higher levels of student achievement than those that do not. In a qualitative study of a school staff in Ireland, McGuinness concludes that the staff's shared vision contributed to the development of TLCs within that school. McGuinness suggests that school leaders hoping to foster TLCs work toward developing shared commitments. In their study of how TLCs develop, Huffman et al. find that schools with the highest level of readiness to support TLCs have staffs that share clearly articulated visions. In this study, teachers and school leaders jointly develop their shared visions by examining student work. Leithwood et al. and Thompson et al. make similar findings in their studies.

After reviewing similar empirical studies, Adajian (1996), Darling-Hammond (1997), Newmann and Wehlage (1995), and Vescio et al. (2008) attribute shared commitments to TLC development and/or to increases in student achievement. For example, in her review of mathematics TLCs, Adajian suggests that shared goals and coordinated effort is a requirement of strong TLCs, which will influence teacher practice and student learning. Similarly, Newmann and Wehlage link teachers' shared purposes within TLCs to increased student achievement on mathematics and social studies tests. Like the other authors, Newmann and Wehlage list shared commitments as a condition that supports the development of TLCs.

One empirical work illustrates how the lack of a shared vision can obstruct teachers' work within TLCs. In a study of secondary schools' professional development in Australia, school leaders expected teachers to complete 12 hours of independent

professional development throughout the year (Melville & Yaxley, 2009). Despite best intentions, this mandated individual professional development time was ineffective for most teachers. Only one teacher in the department reported a change in his practice because of the professional development time. School leaders realized teachers need more direction from school leadership on the expectations and abandoned this professional development initiative.

As illustrated by Melville and Yaxley (2009), shared commitments can have a direct influence on the nature and depth of teachers' work within TLCs. Without shared commitments, the work of TLCs is likely to be disjointed and superficial. In their investigation on the factors influencing team decision-making, Scribner et al. (2007) find that teams have more success when they share clearly defined purposes. The process of building shared commitments can assist teachers and school leaders in negotiating consensus. By surfacing individual beliefs, the process of developing shared commitments can increase teacher buy-in to the purpose and direction of a TLC. Being part of a TLC, however, does not mean that teachers forsake their autonomy.

The research in this section suggests that teachers simultaneously share commitments while retaining autonomy. For example, even though a group of teachers within a TLC may agree to develop, implement, and analyze formative assessments, teachers will likely resist giving every student the same formative assessment item on the fifth day of instruction during the first ten minutes of class. The research predicts that teachers are more likely to develop shared commitments when they retain some control on how to integrate those commitments into their own practice. Teacher autonomy is important for similar reasons in shared decision-making, a discussion I continue later.

Shared decision-making. One way that school leaders can work toward shared commitments and building trust is to practice shared decision-making. To distinguish the term from shared leadership, I define shared decision-making as school leaders encouraging teachers to make certain instructional decisions on their own. For example, in the context of TLCs, an example of shared-decision making could be goal setting and action planning. Teachers could, in consultation with school leaders or on their own, set goals and create action plans. Typically, these decisions would occur within established boundaries. For example, school leaders would probably not afford an English TLC the latitude to make budgetary decisions for the entire school. They may, however, be allowed to make budgetary decisions on their professional development fund allotment.

I do not take shared decision-making to mean that school leaders involve teachers in every day-to-day decision. For practical purposes, the requirements of running a school sometimes outpace deliberation. After all, school leaders are formally charged with operating the school. Even when school leaders encourage teachers to make certain decisions for the entire school or their TLC, disagreement on decisions is inevitable. That does not mean school leaders leave those teachers behind. If school leaders desire to help teachers to make certain decisions, they should respect those decisions and hold all teachers accountable.

Some scholars suggest that TLCs are more likely to influence teacher practice and student learning when teachers have collective strength to assertively select and, in some cases, reject innovations that do not fit their purposes and circumstances (Gitlin, 1999). In his qualitative study of 14 teachers in two elementary schools, Gitlin (1999) positions teachers as more than the objects of reform – he states they are instruments *for* reform.

After analyzing observations, school artifacts, and interviews, he suggests that teachers share the authority to make decisions affecting the nature and direction of school reform itself. Other scholars note how participatory structures of leadership, like shared decision-making, do not appear as powerful ways to increase student achievement.

Miller and Rowan (2006) found weak main effects of shared-decision making on national reading and mathematics scores in their analysis of national student achievement data. While they suggest that participatory leadership styles may influence student achievement when combined with other conditions, researchers have not yet identified those other conditions. In their review of micropolitics literature, Malen and Cochran (2008) illustrate that principals have a power advantage over teachers despite participatory leadership models. They conclude that teachers only have freedom within the boundaries set by the principal. This constrained freedom reflects what I have defined in the example of the English TLC above. Still, there are scholars who support expanding the boundaries for teacher professional freedom. Five empirical studies and two literature reviews support Gitlin's findings that TLCs are more likely to reach advanced levels of development when teachers are involved in some degree of shared decision-making. Other scholars caution school leaders from constraining teachers' professional boundaries by overusing shared decision-making. Four empirical studies caution school leaders from seeking the collective commitments brought about by shared decision-making at the expense of teacher autonomy.

Hulpia et al. (2009), Louis and Marks (1998), Marks and Louis (1999), Scribner et al. (2007) find that shared decision-making in certain areas (e.g., purpose, goals, resource allocation) increases a TLC's ability to influence the substantive matters of

teaching and learning. For example, Marks and Louis's (1999) mixed-method study of 24 restructuring schools illustrates the relationship between TLC development and teacher involvement in decision making. The authors describe this connection as strong and consistent, especially in the domains of teacher work life and student school experience. Marks and Louis suggest that decisions should balance the needs of individuals and organizations. They find that isolated groups of teachers with little or no consideration for other teachers in the school have the lowest level of readiness to develop into TLCs. In other words, school-based leadership teams that are able to facilitate the development of a shared commitment to a common vision are more likely to understand the needs of the organization. When making decisions, school leaders may use the shared vision as a guide for ensuring that the decision is consistent with the needs of the organization. Teachers who understand and share a commitment to the vision can also weigh their individual decisions against the organization's and choose alternatives that mutually support both goals when possible.

As I discussed above, involving teachers in certain decisions is not appropriate (e.g., budget, district policies) or not timely (e.g., opportunities, funding). Sometimes teachers may not understand and/or resent these decisions. Hulpia et al. (2009) explain that teachers prefer clear and consistent communication with school leaders. In their study of teachers' perceptions of leadership characteristics and organization commitment, Hulpia et al. find that there are positive relationships between clear communication from school leaders, teacher participation in decision-making, and the amount of teachers' organizational commitment. In their study of district-level professional development, Desimone, Porter, Birman, Garet, and Yoon (2002) find that teachers need to be involved

in decision-making processes associated with their professional development. TLCs are no exception. Desimone et al. suggest that school leaders proceed cautiously to assure that there is genuine buy-in to the nature and direction of the work within TLCs. Otherwise, school leaders diminish their TLC's chance for influencing teacher practice and student learning.

In their review of initiatives with positive student outcomes, Robinson and Timperley (2007) also find that shared decision-making in certain situations influences student learning. Having reviewed the impact of professional development on teacher learning from 17 international studies (*ES* = moderate to large), the authors conceptualize leadership as a dialogical process between the leaders' and teachers' theory of action (see Figure 3). They indicate that once teachers and school leaders reach an agreement within this dialogical process, they could make a joint decision on whether or not to change. Their model depicts the type of involvement in decision-making that is necessary for an initiative to gain adequate consensus. Even though none of these studies review TLC initiatives, findings from another literature review suggest that this type of model is applicable to the development of TLCs. In her review of urban TLCs, Darling-Hammond (1997) finds that shared decision-making is a common characteristic of TLCs capable of influencing student outcomes.

Figure 3: Leadership Model for Collaborative Decision-Making. (Robinson & Timperley, 2007)
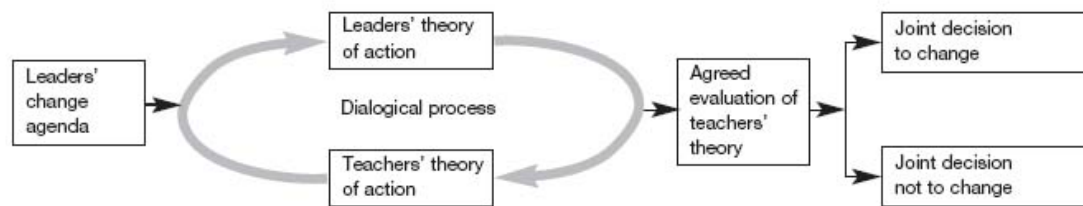
Robinson and Timperley's concept of shared decision-making implies a partnership between school leaders and teachers. Some studies regarding teacher collegiality within TLCs, however, suggest that school leaders proceed cautiously when attempting to reach consensus. Four empirical studies illustrate how the balance of collective commitments with teachers' individual autonomy is important to the success of TLCs.

Although school leaders and reformers attempting to increase collegiality within TLCs may view autonomy as a deficit, the research in this area indicates that teachers need both. For example, Murphy et al. (2009) propose that when team members authorize individuals to work on certain tasks autonomously, their actions strengthen the collegiality of the team. In their qualitative study of four middle school teacher teams working to implement mandated interdisciplinary units, Crow and Pounder (2000) find that the team's autonomy helps the entire team develop cohesively. Teachers in these teams had greater discretion than other teachers in how they grouped students for instruction and scheduled instructional time. Similarly, Clement and Vandenberghe's (2000) investigation of a Belgian TLC leads them to conclude that different interactions between collegiality and autonomy have different outcomes on the work of TLCs. For example, collegial interactions could serve as a source for autonomous work that can, in turn, lead to collegial interactions. It is important to note, however, that the link between

autonomy and collegiality is not necessarily complementary. TLCs can have independently high or low levels of autonomy and collegiality. Because of the highly variable and contextual nature of TLCs, Clement and Vandenberghe find that they cannot prescribe the most effective combination of autonomy and collegiality for all situations.

Scribner et al. (2002) examine teacher learning in urban high schools within a district under intense pressure from the governor, mayor, and state department of education to improve student achievement. The authors interview teachers to investigate how school leaders balance autonomy and collective commitment. They focus on three areas of practice; how formal and informal learning experience informed their practice, organizational factors that influenced their work and learning practices, and the manner in which teachers and principals negotiated teacher learning and work practice. The authors find that fostering TLCs is a micropolitical process that requires careful attention to the tension between shared identities and individuality. While reformers and school leaders ask teachers to commit to a collective set of ideals, the body of research in this area suggests that they not ask teachers to give up individual autonomy. In many cases, teachers are still the only experts within the building on their particular teaching assignments and have no other content expert for collaboration in that setting.

An implication of Scribner et al.'s (2002) findings is that principals are arbiters of the tension between interdependence and independence. Sergiovanni (1994) states, "Healthy I's depend upon healthy we's" (p. 67). The principal serves as the fulcrum between the teachers' sense of "I-ness" and "we-ness" (see Figure 4 below). If other TLC members and school leaders encourage teachers to maintain "I-ness" within the community, they will be less resistant to the substantive work necessary for more

advanced TLCs. Wells and Feun (2008) concur. Findings from their three-year

investigation of a TLC lead them to suggest that the role of the school leader includes

setting expectations for teacher collaboration, removing obstacles to it, and trusting

teachers to choose specifics for their TLCs' action plans.

Figure 4: Principal's Role as Fulcrum between Teacher Autonomy and Collective Commitment. Adapted from Scribner et al. (2002).

I'ness
Need for Autonomy

We'ness
Need for Collective Commitment

The
Principal
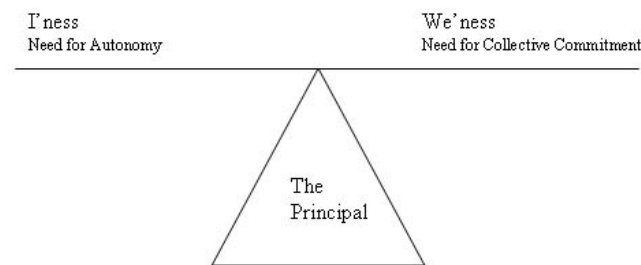
Many factors can cause tension between teachers' work within TLCs and their

own classrooms. For example, pressure to cover the curriculum can create tensions.

Teachers may feel a responsibility to the work with TLCs, which creates a tension

between that work and their classrooms' needs. A side effect for teachers choosing to

work with their TLC could mean that they have to invest additional time to complete

their individual classroom tasks (e.g., running copies, grading, planning lessons). The

context of standard-based accountability can amplify this pressure (Boardman &

Woodruff, 2004). Teachers may become emotionally fatigued and abandon the work of

TLCs in favor of their classrooms' needs. In Butler et al.'s (2004) two-year study of a

researcher-facilitated TLC, researchers helped teachers engage in interactive discussion

to guide their instructional practices and monitor student outcomes. Findings from this

study illustrate how pressures to complete their own classroom work and participate in

TLC activity compete for their attention. Although the researchers find that teachers

involved in this qualitative case study generally gained new insights on instructional

practice, they caution school leaders to be mindful of the tensions teachers face. Where possible, school leaders should consider combining teachers' collaborative work within TLCs with their classroom work.

Summary of school leadership conditions. Without establishing higher degrees of trust between teachers and school leaders, United States' teachers may not achieve more advanced levels of TLC activity (Murphy et al., 2009). In order to develop higher degrees of trust, school leaders need to keep in mind the norms that are pervasive in United States schools. The norms of privacy, non-interference, and egalitarianism block teachers from reaching activities such as deprivatized practice and reflexive dialogue. To address these norms, researchers suggest several conditions school leaders can implement. The research (in this area) suggests that trust contributes to school leaders' abilities to negotiate consensus and manage conflict, develop shared commitments, and engage in shared decision-making. Throughout the previous discussions on school leadership conditions, the argument is compelling – trust is essential to the development of TLCs.

As discussed, the degree of trust, negotiating consensus and managing conflict, shared commitments, and shared decision-making all have a direct influence on the nature and depth of TLC activity. Most of these conditions are within the typical sphere of control of a school-based leadership team, although school leaders are more likely to influence trust rather than create it. I believe that a typical school-based leadership team can alter (or influence) any of these conditions, although doing so is a difficult and complex task.

Many of these school leadership conditions are interrelated and ultimately help develop trust between teachers and school leaders. Developing supportive conditions, like shared commitments and practicing shared decision-making, may build trust between school leaders and teachers. Other conditions, such as negotiating consensus and managing conflict, require the simultaneous development of trust between teachers and with school leaders in a recursive way. As school leaders and TLC members establish trust, TLCs continue to participate in shared decision-making and work toward deeper levels of TLC activity (Tschannen-Moran & Barr, 2004). Similarly, as TLCs participate in shared-decision making, school leaders and TLC members continue to build trust.

The research in this section suggests that as teachers feel comfortable sharing their instructional practices with each other, school leaders can equip them to collaboratively investigate, evaluate, modify, and reflect on their teaching practices. By deprivatizing practice and engaging in reflexive dialogue, TLCs have the potential to impact teachers' instructional practices and student learning. In the next section, I analyze this body of literature with a focus on the professional development conditions that facilitate or obstruct the development of TLCs.

Professional Development Conditions

Increased professional development from standards-based accountability movements like NCLB (U.S. Department of Education, 2001) does not necessarily mean an increase in the quality of teacher-learning opportunities within the professional development delivered (Mullen & Hutinger, 2008; Rinke & Valli, 2010). Scholars suggest that school leaders hoping to provide quality professional development capable of changing teacher practice use several research-based professional development

principles. They note how traditional professional development programs fail to build teacher and school capacity. Newmann et al. (2000) attribute the failure of the traditional professional development programs to their violations of the key conditions for teacher learning: a focus on student outcomes, opportunities for collegial inquiry, and connections to external expertise. In addition, Newmann et al. suggest sustained and continuous professional development. School leaders desiring to foster TLCs, therefore, should adhere to a professional development program that incorporates these conditions.

Other researchers suggest additional professional development conditions that may facilitate the development of TLCs. For example, Hawley and Valli (2007) synthesize research on effective professional development to suggest a set of learner-centered professional development design principles. I synthesize these and other recommendations, into five categories: 1) continuous delivery, 2) job-embedded design, 3) collaborative and reflexive opportunities, 4) alignment with student outcomes and teacher interests, and 5) induction of new members. Professional development programs addressing these conditions are likely to influence teacher practice (Grodsky & Gamoran, 2003; Hawley & Valli, 2007; Newmann et al., 2000).

Continuous delivery. The literature search failed to return any empirical studies about TLCs that explicitly examine the nature of professional development delivery in the process of TLC development. However, two literature reviews and three empirical works comment on the value of continuous delivery on professional development's ability to foster TLCs. This research recommends that professional developers and school leaders conceptualize professional development as a process. In their literature review, Hawley and Valli (2007) find that continuous professional development has

greater potential to influence teacher practice than episodic and disconnected professional development events.

In their review of professional development influencing the development of TLCs, Lieberman and Miller (2007) note how many districts choose to implement professional development in an expedient fashion. Workshops, speakers, or courses are common choices for this approach (Lieberman & Miller, 2007). In their qualitative study on the social and individual learning processes within TLCs, Butler et al. (2004) comment that professional developers who use professional development as an event conceptualize teachers as "technicians" whose job is to implement a standard set of algorithms of teaching instead of professionals who make complex and contextual decisions through high-level intellectual activity. In their two-year study, Newmann et al. (2000) find that sustained professional development influences teacher practice more than episodic professional development. This research suggests that professional developers create continuous teacher learning opportunities with members of TLCs as they attempt to foster TLCs. Additionally, Melville and Yaxley's (2009) study of a failed professional development initiative states that short-term professional development work defines teaching as a simple, unskilled occupation.

Studies that trace the development of TLCs for several years (e.g., Wells & Feun, 2008) indirectly illustrate how individual and group learning within TLCs is a slow process. The transformation of teachers' knowledge and practices through professional development programs, like those designed to foster TLCs, requires time (Bezzina, 2006; Timperley, 2005; Wells & Feun, 2008). Referring to the life-long learning of teachers, Knight (2002) captures the notion of continuous professional development when he

states, "Professional development becomes never-ending, like a religious struggle to escape sin" (p.230).

Continuous professional development is likely to influence the development of TLCs. Like other professional development initiatives, if school leaders present TLCs as an "event" rather than a "process", teachers' practice may remain unchanged. Teachers likely will require consistent support through professional development to engage with TLCs, especially since they go "against the grain" of the norms of privacy and egalitarianism. Consistent professional development is not enough, however, to facilitate the development of TLCs. In addition, research indicates that school leaders combine consistent professional development with other conditions, such as a job-embedded design.

Job-embedded design. Historically, outside experts have delivered professional development in isolation of teachers' work environments (Hawley & Valli, 2007). Outside experts range from district-level employees to privately contracted individuals who do not hold a teaching assignment within the school. As a result, teachers' interactions with these outside experts are often singular, seemingly irrelevant episodes. In their qualitative study on how teachers' collaboration through action research serves as professional development, Burbank and Kauchak (2003) find that teachers have difficulty implementing ideas distant from their own classrooms. In another qualitative study of general professional development, Scribner (1999) argues for professional developers to pay more attention to the multiple contexts of teacher work. Scribner finds that different contexts favor different types of learning activities. For this reason, professional

developers embed professional development within the context of teachers' work within their own schools.

In addition to this, Hawley and Valli (2007) recommend an experiential component of professional development. They suggest that teachers *experience* the content and skills school leaders expect them to learn so that they can try out new skills and approaches in their classrooms. Combining this experiential component with teacher-led professional development and collaborative implementation may be even more fruitful. Butler et al. (2004) confirm the importance of teachers having the opportunity to observe peers and facilitators that model new pedagogical techniques.

When members of teachers' own school communities conduct professional development, their intimate knowledge of the context increases the credibility of the professional development program. Rather than taking back learning from an outside context to their own classroom, Lieberman and Miller (2007) recommend that professional development becomes part of the teachers' routine work in the school. Elmore (2007) adds that teachers are most likely to change when they are in the presence of people who have experience with the same contextual issues and instructional practices. For these reasons, an internal model for the delivery of professional development is more likely to provide the continuous improvement that school leaders seek within TLCs.

One example of an internal model for the delivery of professional development is collaborative action research. Collaborative action research involves teachers in ways that validate their roles as producers of knowledge (Burbank & Kauchak, 2003). Teacher knowledge generated on the job for the purpose of improvement matches what Cochran-

Smith and Lytle (1999) characterize as "knowledge-*of*-practice". Teachers engaging in collaborative action research can contribute to knowledge-*of*-practice. This type of knowledge is more relevant and accessible for teachers than formal knowledge developed by researchers or practical knowledge developed by individual teachers in their own classrooms. Cochran-Smith and Lytle characterize knowledge developed by researchers as knowledge-*for*-practice and the tacit knowledge of teachers as knowledge-*in*-practice. Because knowledge-*of*-practice is data-driven, considers alternatives, and is generated for the purpose of improvement, it is most likely to influence teacher thinking and teacher practice (Cochran-Smith & Lytle, 1999).

Ensuring that development program is job-embedded and experiential does not directly affect the nature and depth of teachers' activity within TLCs. Although job-embedded professional development can facilitate the development of TLCs, the focus of the professional development may not align with substantive matters and the shared commitments of TLCs. When it does, job-embedded professional development is likely to influence teachers' TLC work. In addition, school leaders seeking to develop advanced TLCs would be wise to implement job-embedded professional development programs such as in-house data-driven decision making aligned to their own student assessments. When they do, this body of research suggests that teachers are more likely to produce knowledge that is relevant and accessible to their instructional practice and the work of the TLC. Job-embedded professional development facilitates another condition that school leaders may include in their professional development programs: reflexivity. Teachers will find it more beneficial to reflect on their own contextual practices than

those proposed by outside experts because it is more relevant to their daily work with students.

Collaborative and reflexive opportunities. My search produced only one literature review (Little, 1990) addressing the benefits of collaboration related to TLCs. Four other empirical studies incorporate collaboration within their discussions of self-reflection. None of the works reviewed in this section explicitly link collaborative and reflexive professional development to the development of TLCs. However, in their review of professional development that influences teacher practice, Hawley and Valli (2007) suggest that professional development should provide opportunities for teachers to engage with each other collaboratively. Collaboration and self-reflection, two elements of a TLC identified by Kruse et al. (1995), can contribute to the nature and depth TLC activity. A logical argument is that professional development programs incorporating collaborative and reflexive opportunities are likely to have greater impact than those that do not because teachers have an opportunity to learn from others. In support, Hawley and Valli recommend that professional development programs provide collaborative, problem-solving opportunities for teachers. They state that without collaboration, individual change may be possible, but school change is not.

In order to satisfy the demands of daily classroom life, most teachers engage in superficial levels of collaboration such as storytelling (i.e., forays in search of specific ideas, solutions, or resources) and sharing (i.e., open exchange of ideas, opinions, and materials) (Little, 1990). These teachers sporadically seek out specific ideas, solutions, and resources from peers by sharing a quick exchange of stories. For example, when teachers teach new courses for the first time, they may seek curricular resources or

lessons from more experienced peers. Alternatively, when teachers encounter a difficult student, they may reach out to those who have had that student before for ideas on classroom management. Some teachers may develop relationships with each other by sharing and/or telling stories about their lessons and students. Little suggests that neither sharing nor storytelling is likely to open up teacher practice and reduce isolation. When these relationships deepen to levels where teachers share responsibility and conduct joint work, their collaboration may influence substantive matters of teaching and learning. Therefore, professional development that incorporates opportunities for teachers to develop shared responsibilities and conduct joint work may strengthen TLCs.

When professional development models collaboration, teachers may be more likely to transfer those collaborative processes to their TLCs. Professional developers can model this work by providing opportunities for rethinking ideas, values, and practices (Nelson, 2009; Nelson & Slavit, 2007). For example, in his study of nine TLCs, Nelson (2009) finds that the development of an inquiry stance transformed teachers' beliefs about learners, learning, and instructional activities. In his study of a Malta TLC, Bezzina (2006) finds that commitment to critical and systematic reflection on instructional practice is the hallmark of being a professional teacher. When professional developers incorporate inquiry within their professional development programs the opportunity developing inquiry within TLCs increases. Other researchers suggest that collaboration amplifies the benefits of self-reflection. When teachers work independently, they often lack the psychological support they need to persist at implementing innovations (Adajian, 1996). Nelson and colleagues (Nelson, 2009; Nelson & Slavit, 2007, 2008) propose collaborative inquiry as a practice that encourages the type of reflexive dialogue hoped

for through TLC. In a mixed-method study of teachers involved in inquiry groups, Nelson and Slavit (2008) find that the inquiry cycle is a difficult task for teachers. They suggest that the self-reflection needed for inquiry is easier for teachers to develop within groups. Butler et al. (2004) find that teachers who collaborate have a richness of conceptual understanding (brought about by multiple viewpoints), a sustained commitment to innovation, the ability to co-construct knowledge with peers, and a forum for self-regulation.

Creating opportunities for reflection, especially collaborative self-reflection, in professional development programs may have the potential to influence the nature and depth of work within TLCs directly. As teachers grow comfortable engaging in self-reflexive professional development activities, they may be more comfortable doing it on their own within TLCs. In addition to providing collaborative opportunities for teachers, scholars also recommend alignment of professional development programs with student outcomes and teacher interests.

Aligned to student outcomes and teacher interests. Elmore (1996) attests that the closer reform innovations are to the core issues of teaching and learning, the more likely they are to achieve their goals. By core, Elmore is speaking of, "how teachers understand the nature of knowledge and the student's role in learning, and how these ideas about knowledge and learning are manifested in teaching and class work" (p.2). Elmore presents structural arrangements, physical layouts, relationships among teachers, successful student learning, and communication as issues that touch upon the core matters of teaching and learning. Professional developers attempting to foster TLCs that focus on these core issues may be more likely to achieve their goals. In addition,

research suggests that teachers are more motivated to engage in the work of TLCs when they choose their own purposes (Scribner, 1999). Ideally, teachers are interested in student learning. However, due to the norms of privacy, non-interference, and egalitarianism, teachers are sometimes reluctant to engage in collaborative activity regarding student learning. The dilemma is how to provide a professional development program that simultaneously incorporates the core issues of student learning and teacher interest when they are not the same.

Scholars suggest that professional development should be based on the discrepancy between actual student performance and goals for student learning (Hawley & Valli, 2007). Other approaches, such as the pursuit of new teaching strategies, curricular approaches, and organizational designs, often serve as goals in and of themselves (Newmann & Wehlage, 1995). When professional development focuses on student learning, they are more likely to focus on what educators *need* rather than what they *want* to learn. In schools with high levels of readiness for becoming TLCs, professional development flowed from information about student performance (i.e., student test scores) (Huffman et al., 2001). In order for TLCs to influence teacher practice and student learning, this research suggests that teachers base instructional decisions on analysis of student outcomes (e.g., Darling-Hammond, 1997; Little, 2002; Marks & Louis, 1999). However, as I discuss later, focusing on student test data alone can lead to overly narrowed curriculum, to grouping students by ability, to teaching to the test, and to reorganizing school activities around the requirements of testing (Boardman & Woodruff, 2004; Valli et al., 2008).

Scholars also suggest that professional development should involve teachers in the identification of what they need to learn (Hawley & Valli, 2007). Teachers are often more motivated to learn things applicable to their individual professional practices (Scribner, 1999). Hawley and Valli suggest that teachers are more likely to take instructional risks and assume new roles when they are involved in the process of selecting a focus for professional development. In her literature review, Adajian (1996) suggests that when teachers define goals, TLCs often function at higher levels. But what happens when teachers want to collaborate, but don't choose to look at student outcomes?

Two studies highlight the tensions when teachers' interests do not align with student outcomes. In her investigation into a TLC engaging in action research, Timperley (2005) found that a group of five teachers were reluctant to engage with student data within their TLC. Timperley reports that this group of teachers did not believe that they could influence student outcomes for a particular group of students during the study. Because of this belief, these teachers did not view analysis of achievement data as relevant to their practices. While these teachers eventually began using data to change their instructional practices (18 months later), their reluctance and the time investment of school leaders and a consultant illustrate the tension. In addition, Supovitz (2002) finds that teams with an instructional focus showed evidence of higher achievement on their student tests than teams with a non-instructional focus (although this effect was still small $ES = .23$). In this study, district leaders deprived teachers of the choice to form TLCs congruent with their own interests and purposes.

Hawley and Valli (2007) recommend that school leaders create cultures where teachers desire to learn by analyzing student outcome data. Timperley's study indicates it

may take several months before school leaders can create the safe spaces to motivate

teachers to examine student outcomes. In addition, Hawley and Valli recommend that

school leaders protect teachers from unnecessary and unproductive involvement in

professional development initiatives. As shown by Supovitz, when school leaders force

teachers into initiatives without perceived relevance, teacher change is unlikely. Drawing

from the previous section on school leadership conditions, it seems that the logical first

step in focusing the work of teachers on student outcomes is for school leaders to build

trust and to develop shared commitments around common vision, mission, and goals that

emphasize a collective focus on student work.

The alignment of professional development to teacher interest will not necessarily

guarantee changes to the nature and depth of TLC activity. However, if teachers choose

to align their joint work within TLCs to student outcomes, this alignment may directly

influence TLC development. Professional developers can simultaneously align

professional development to teacher interests and student learning to capture both sets of

benefits. While it may not seem, on face, to be a problem, this is a challenge for school

leaders. While teachers are all about helping students learn, the norms of privacy, non-

interference, and egalitarianism are powerful obstacles to overcome in TLCs. By

carefully developing trust and constructing shared commitments, school leaders may be

able to provide professional development programs aligned to both teacher interest and

student learning.

Induction of members. Giles and Hargreaves' (2006) investigation into the

sustainability of local school reform initiatives documents the tendency for early TLC

success to fade. One way school leaders can combat this trend is to provide a

comprehensive professional development program that includes an induction component for new TLC members. Teacher membership in TLCs likely changes from year to year, and incorporating new members can hinder or accelerate teacher growth. Inducting members into a TLC requires a balance between the power of tradition and the openness for change. New members of existing teams risk becoming "immigrants" or "captives" based on how they are inducted into the existing team (Kain, 1996). Kain characterizes the former as those who join the group willingly and the latter as those who have no choice. In both cases, the TLC may minimize the potential contributions by these new members unless they are inducted in a positive way.

Kain's (1996) case study presents an example of the type of controversy created by disagreements from new teachers in established groups. The study details a group of new teachers who do not accept an established philosophy on grading. The controversy spurs critical conversations about a re-evaluation of traditional school practice. Kain finds that new members and veterans of this TLC can serve important purposes. While new members of teacher teams can create positive turbulence, veteran members can mentor new teachers and induct them into the TLC.

Whether addressed by school leaders or not, the induction of new members into TLCs directly influences the nature and depth of TLC activity. The induction process has the potential to derail or increase the level of extant TLC activity. This research suggests that school leaders work with TLCs to implement a professional development program that plans for new member induction in a way that both fruitfully continues the work of the TLC and capitalizes on the potential of new members.

Summary of professional development conditions. Professional development

that focuses on student outcomes creates two beneficial scenarios. First, focusing on

student outcomes may direct the nature of teachers' joint work within TLCs toward

substantive matters of teaching and learning, an area of utmost importance for TLCs

(Little, 2002; Marks & Louis, 1999). I am not suggesting, however, that TLCs should

align solely with standardized assessments. A more robust representation of student

learning is appropriate. Second, teachers may feel more comfortable when their joint

work focuses on student work rather than their own instructional practices. For teachers

engaged in TLCs, focusing on instructional practice may be the most threatening of all

(Lieberman, 2009; Murphy et al., 2009); yet a focus on student work is a less threatening

way to begin conversations about teaching practice (DuFour & Eaker, 1998). As

illustrated by Timperley (2005) and Supovitz (2002), without the necessary time and

input, TLCs likely will not influence teacher practice. Adding a job-embedded condition

to professional development may increase teacher interest in the work of TLCs by

ensuring relevance to students.

Alignment of professional development is not the only condition directly

influencing the nature and depth of teachers' TLC activity.   Collaborative and reflexive

opportunities embedded into professional development programs also may have the

potential to influence TLC activity. For example, Little (1990) suggests that joint work

has the potential to affect teacher practice and reduce teacher isolation. When

professional developers put opportunities for collaboration and reflection in action, either

through collective inquiry (e.g., Nelson & Slavit, 2007) or through collaborative self-

reflection (e.g., Adajian, 1996), they may also create opportunities for joint work. As

noted in that section, I was unable to locate studies directly linking collaborative and/or reflexive professional development to the nature and depth of teachers' TLC work. Researchers could bolster my argument for the benefit of collaborative and reflexive opportunities by conducting studies that explicitly explore possible relationships.

Delivering continuous and job-embedded professional development aligned to teachers' interests may only indirectly influence the nature and depth of teachers' work within TLCs. For example, while professional development may include collaborative inquiry, there is no guarantee that teachers will choose to focus on matters of teaching and learning. Instead, they may superficially focus on peripheral topics. The absence of continuously delivered and job-embedded professional development is more likely to derail TLC activity than to change teachers' practice and student learning.

School-based leadership teams can alter all of the professional development conditions described above. The most challenging condition is the appropriate alignment of professional development with student outcomes and teacher interest. Teachers may not automatically choose to develop or participate in a professional development program that focuses on student learning because they may fear embarrassment, discomfort, or judgment from peers or supervisors. If school leaders meet prerequisite conditions, like the degree of trust, shared commitments, and shared decision-making, they are more likely to meet this challenge. Scholars sometimes refer to the next cluster of conditions as "structural conditions." I use the concept "workplace design conditions" to incorporate some contextual issues like collegiality and power dynamics unique to each instance of TLC development.

Workplace Design Conditions

Workplace design conditions may facilitate or hinder TLCs. Whether workplace design conditions serve as advantages or obstacles for establishing and sustaining TLCs often depends on how teachers, school leaders, and professional developers address them. In this section, I discuss the design of the workplace regarding time, human resources, school cultural factors, and external factors.

Time. Within the 37 studies in this literature search examining the nature and/or depth of TLC development, researchers consistently presented time as the most frequently noted obstacle. As an essential condition, time facilitates the development of TLCs to advanced levels (e.g., Cochran-Smith & Lytle, 1999; Murphy et al., 2009; Stoll & Temperley, 2009; Wells & Feun, 2008). Wells and Feun conclude that time is the most common reason why TLCs do not change teacher practice or student learning. They suspect that teachers are heavily distracted with the everyday business of teaching and too busy to move forward on collaborative efforts.

Research suggests that teachers require time built into the school day for opportunities to work within TLCs. School leaders who expect teachers to engage in a TLC after school may have unrealistic expectations. In many cases, school leaders ask teachers to form TLCs outside of their school day and in addition to their routine workload. In these cases, TLCs become an add-on role. In his review of literature on TLCs, Smylie (1994) finds that add-on roles tend not to be comprehensive or powerful enough to provide opportunities necessary to change established patterns of teacher thinking and practice. To avoid creating TLCs as add-on roles, school leaders can build

time within the school day for TLC activity and remove other time-consuming duties from teachers.

Additionally, school leaders may want to protect certain time within the regular school day for TLCs. Many tasks compete for teachers' attention during their contractual duty day. Leithwood (2007) reports that about half of teachers' 50-53 hour work weeks are devoted to instruction, and the remainder includes hall monitoring, bus duty, lunchroom duty, and excessive paperwork. When staff becomes preoccupied with administrative and managerial tasks, intellectual priorities slip (Newmann & Wehlage, 1995). Without allocation of adequate time and other resources, teachers will fall back on regular practices and abandon their joint work within TLCs (Hecht & Roberts, 1996).

Tschannen-Moran (2009) notes that TLCs require common time built into the workday for teachers to reach more advanced levels of activity. Cosner (2009) notes how certain high-functioning principals built trust among staff by reserving time during the contractual workday for joint work within TLCs. To increase time, school leaders allowed late start times for classes on certain days and offered the opportunity for TLC retreats. In addition, school leaders reorganized school-wide faculty meetings into smaller group activities designed to meet the needs of TLCs. Teachers reported that this made them feel like their voice mattered and that they had more time for interacting with each other collaboratively. Going a step further, Tschannen-Moran (2009) recommends that principals arrange joint planning time into the master schedules for collaboration, communication, and peer coaching.

Without time, TLCs are not likely to develop; but ensuring time does not guarantee development. Finding a way to reduce the non-instructional commitments of

teachers could potentially free time for instructional tasks, like effective teacher collaboration. Again, the highly variable nature of TLCs enhances the difficulty in predicting the right recipe of resources needed for development. Certainly, time directly influences the nature and depth of TLC activity. School leaders can manipulate other workplace design conditions, like adding or redistributing human resources, in an attempt to allocate more time for teachers' work within TLCs.

Human resources. I define human resources as the personnel working in schools. I differentiate between internal human resources and external human resources by the nature of an individual's employment. I consider internal human resources as those employed by the school on a regular basis (e.g., principals, teachers, instructional assistants) while external human resources are those working for some entity other than the school system (e.g., researchers, professional developers, external facilitators). Internal human resources are often permanent fixtures within the school whether full or part-time while external human resources only temporarily work within the school during a particular timeframe. The way that school leaders deploy these resources may potentially support the development of TLCs. Six empirical studies investigate the use of human resources to support the development of TLCs.

Drago-Severson and Pinto's (2006) study is the only study investigating the use of internal human resources to support TLCs. The researchers use interviews and document analysis to explore ways to deploy internal human resources to reduce teacher isolation and increase support for learning communities. Drago-Severson and Pinto find that when principals utilize instructional assistants and substitutes to help free teachers for out-of-classroom learning activities, they create opportunities for teachers to collaborate. They

suggest that teacher aides may reduce teachers' reluctance to use substitutes and can provide more consistency when teachers are absent from the classroom.

One benefit of having teacher aides in the classroom on a regular basis is the opportunity for professional dialogue regarding instructional practice. Having teacher aides increases the opportunity for adults to work together on matters of teaching and learning. Although Drago-Severson and Pinto's (2006) ideas are creative, they are not necessarily stronger options than providing teachers with common planning time. Drago-Severson and Pinto acknowledge that these strategies are contextual. The absence of the teacher in the classroom may negate any benefits achieved through the release time. After teaching for seven years, I suspect that these teachers may lose more time than they may gain writing sub plans and dealing with the results of their absence.

The remaining studies investigate the use of external human resources to support teachers' joint work within TLCs. Building effective collaborative networks requires significant allocation of time, energy, and resources, which may not be sustainable given the many competing requirements (Kennedy, 2005). Butler et al. (2004), Gitlin (1999), Nelson (2009), Nelson and Slavit (2007) and Supovitz (2002) suggest that facilitators are necessary to overcome these circumstances and achieve advanced levels of TLC activity. For example, teachers in one case study reported facilitator support as a major reason for success (Butler et al., 2004). The collective findings of this research suggest that facilitator support helped teachers retain interest, learn new instructional practices, and create a reflexive forum for debriefing.

Gitlin (1999), however, expresses a concern that TLCs with facilitator and/or participant-researcher partnerships could be less flexible. These teams may be

constrained by the facilitator's agenda, knowledge base, and/or interests. To limit this risk, Gitlin (1999) suggests that facilitators turn over increasing control to the TLC as it develops. Butler et al. (2004) find that facilitators can successfully wean support from established TLCs without detriment to established teacher groups. While it may be difficult to know when to back off, Butler et al. suggest looking for evidence of institutionalized initiatives that no longer require intensive support. I suspect that this is easier said than done. It seems likely that the efficacy of facilitator-supported TLCs might quickly wane when the facilitator leaves the group.

The last study investigates ways that interactions between internal and external facilitators may influence teachers' collaborative work. Burbank and Kauchak (2003) explore the ways professional development school (PDS) partnerships may open up quality experiences for veteran teachers. Although not focused on a TLC, Burbank and Kauchak found preservice and veteran teachers engaged in collaborative action research mutually benefit from that collaboration. While their report of preservice teachers learning from veteran teachers is not surprising, the nature of the veteran's is. Could the veteran teachers' unequal power dynamic with preservice teachers have caused veteran teachers to collaborate more readily? Mentoring novices may provide safer opportunities for veteran teachers to critically reflect and collaborate.

The use of internal and external human resources only indirectly influences the nature and depth of teachers' work within TLCs. School-based leadership teams may have restricted ability to alter time and human resource conditions. Carter's Run High School is part of a district where human resources and school hours are restricted by the district. There is some flexibility (i.e., planning time allotment, instructional assistant

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deployment) but there are also limitations to the assignments of personnel and the arrangements of the school day.

   School cultural factors. I restrict the definition of school cultural factors to those that may influence the development of a TLC. In this section, I focus on three such factors located in the literature: the role of school leaders in setting school climate, the degree of collegiality between teachers, and the presence of power relationships. Although I discuss five empirical works in this section, only one of them explicitly connects to TLCs.

   Although I have already extensively discussed how trust between teachers and school leaders' influences the development of TLCs, the role that principals play in setting a school climate deserves attention. In Rinke and Valli's (2010) investigation of professional development programs in three elementary schools, the principal's attitude toward professional development factored heavily into the teachers' perceptions of the quality of professional development. In turn, teachers' perceptions of quality influenced these schools' climates. In each school, the district mandated the professional development program. In one school, the principal said, "Hopefully we'll make our 10% and 11% AYP and won't have to spend 10% of our funds on PD (professional development)" (Rinke & Valli, 2010, p. 673). In another school, the principal resisted the professional development plan because she was annoyed with the developer assigned to her school. The authors report that teachers disengaged from professional development in these two sites. The principals had not created a productive school climate. In the third school, however, the principal's positive attitude toward professional development facilitated deep thinking about student learning. This principal viewed teachers as

stakeholders in their own learning and designed professional development around their feedback. This study suggests that the principal's attitude and the relationships between the professional developer and principal may influence teachers' engagement with (and the quality of) professional development. Of course, not all professional development sessions warrant a positive response; but this study illustrates how a principal's positive response may set the tone for a more positive school climate. That positive school climate may facilitate the development of TLCs.

Collegiality is also an important prerequisite for TLCs to develop shared purposes and to make shared decisions. Clement and Vandenberghe's (2000) qualitative study of 39 Belgian teachers suggests that while collegiality is essential to TLC development, collegial relationships do not automatically lead to teacher learning. Through analysis of Israeli schools' teacher lounges, Ben-Peretz and Schonmann (1998) propose the teacher's lounge as a site for professional community and collective learning. Although teacher lounges seem an unlikely space for the enactment of community, the researchers attempt to document evidence of organizational learning[13] and of the development of culture within these sites. Ben Peretz and Schonmann argue that teacher lounges are cathartic spaces for teachers to validate each other's experiences informally. The value of small talk and the exhibitions of genuine care captured in these cathartic experiences may act as a precursor for critical conversations about teaching and learning. Little (2003) describes forays in search of specific ideas, solutions, or resources similar to these cathartic

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[13] Stringfield (1998) defines organizational learning through eleven qualities of high reliability organization: a belief that failure to achieve organizational goals would be disastrous; clarity regarding goals; aggressive recruitment of staff, then constant training and retraining; performance evaluations that are taken seriously; monitoring is mutual without loss of autonomy and confidence; alert to surprises or lapses; powerful databases on dimensions relevant to organizational goals; formal, logical decision analysis; initiatives that identify flaws in standard operating procedures; hierarchically structured but at times, collegial decision-making; and invariably valued by their supervising organizations.

experiences as "storytelling". Storytelling, she says, is a precursor to higher levels of collaborative activity such as sharing and joint work. I suspect this link is possible, but far from automatic.

Finally, power dynamics between school leaders and teachers influence work within TLCs. I did not locate studies specifically noting power dynamics between a school leader and a member of a TLC. I did find two studies examining the power dynamics associated with TLC facilitators. Drennon (2002) explores tensions between her role as a facilitator and her belief in democratic leadership. Drennon notes the tension between the group members' desire for her to lead and her personal commitment to shared decision making. By telling the group what she wants them to do, she betrays her commitment to shared decision making. At some point, the facilitator must make a decision. Gitlin (1999) notes an identical tension in his role as facilitator in his study. Drennon suggests that it is critical to identify the tensions facilitators face in developing TLCs. By surfacing and confronting these tensions, she believes she can create a stronger TLC. Formal authority over teachers complicates this tension for school leaders attempting to facilitate TLCs.

Greenberg and Baron (1993) define power as the ability to guide others to needed behaviors. The nature of formal organizations, such as schools, necessitates a system to guide teachers and students to needed behaviors (e.g., learning). Therefore, school leaders use power to coordinate teacher behavior for the sake of student learning. Superintendents and local boards of education appoint principals and grant them legal authority over other school actors in their schools. Often, this legal authority includes the responsibility for student learning and the supervision/evaluation of personnel in schools.

Nevertheless, this legal/legitimate source of power represents only one type that school leaders use to accomplish these goals. French and Raven (1959) present five different sources of power: legitimate power, reward power, coercive power, referent (charisma) power, and expert power.

Altinkurt and Yilmaz (2012) note the similarity of power source classifications in the literature and use French and Raven as a framework for their investigation of school leaders' power sources and teacher behavior. In their study, they surveyed 282 teachers in primary schools in Western Turkey. Altinkurt and Yilmaz report that, according to teachers, school leaders use the legitimate power the most, followed by expert power, coercive power, referent power, and reward power, in that order. Through t-test, ANOVA, and multiple regression analysis, they determined that power sources only accounted for about 1/5 of the total variance in teacher behaviors. In fact, only coercive power influenced teacher behavior. The authors explain that they defined coercive power in this study as informal verbal warnings to start class or dismiss students on time.

Altinkurt and Yilmaz's findings support Miller and Rowan's (2006) conclusion that participatory structures of leadership do not increase student achievement. Although not specifically studying participatory structure of leadership, Altinkurt and Yilmaz recommend that school leaders use expert, referent, and reward power sources. Because school leaders hold formal authority over other school actors, teachers may feel pressure to work within TLCs. In her first review of studies of micropolitics, Malen (1995) illustrates how principals may suppress conflict and exclude interests from other school actors. For example, principals have the capacity to control the agenda and manage information flow. Principals may even align teachers' committee memberships to support

their own purposes and stifle dissent. In these situations, teachers may align with principals to protect their own preferred professional practices. Teachers may not feel comfortable discussing or seeking criticism about aspects of their instructional practices if they fear reprisal in their evaluation process. It is plausible that school leaders purposefully and/or inadvertently employ these and similar tactics to enforce needed behaviors.

Continuing this line, Lipman (1997) suggests that the rhetoric of empowerment and collaboration may be veiled attempts to gain teachers' assent to decisions made elsewhere. She suggests that school leaders may use empowerment and collaboration to legitimate decisions and blur contradictions between competing interests. For TLCs, her criticism is realized during instances of what Hargreaves (1994) describes as "contrived collegiality." Lipman suggests that for teacher participation to make schools more liberatory for teachers, school leaders need to analyze how they unfold and reproduce openly dominant interests. Within a particular TLC, which members' ideas dominate? Do leaders make decisions on a TLC's purpose or work at the expense of marginalized teachers and students? For the success of school reforms, Lipman suggests paying attention to how educators play out and reproduce dominant interests.

One example is when a TLC chooses to ignore a particular subgroup of student assessment data because of a small number of students. A more subtle example: do teachers within a TLC consider the ways they reinforce dominant ideology through their grading policies? Do teachers subtract points for papers not signed by parents or for incomplete homework assignments that require computers students may not have? After all, teachers are required to hold a bachelor's degree and most occupy an established

socioeconomic status. Do they inadvertently assume that students have the same access to parents and technology that they did? Lipman notes that economics, politics, ideologies, and cultural influences play roles in teachers' participation in school reforms like TLCs. She recommends that teachers and school leaders open up school reform efforts to disenfranchised students, teachers, and members of the community. Lipman's critique illustrated why the research of, and work within, TLCs should include analysis of power dynamics and the reproduction of dominant ideologies. In Chapter III, I outline the strategies that I will use to attempt to uncover instances where school leaders' influence teacher behaviors through power relationships and/or reproduce dominant ideologies.

In an updated review of studies of micropolitics, Malen and Cochran (2008) conclude that principals hold a relative power advantage over teachers in both formal and informal arenas. School leaders seeking to foster TLCs may find it extremely difficult to escape these power advantages, even when they try to incorporate shared decision making and teacher choice into their plans. Miller and Rowan (2006) suggest that other conditions will help participatory structures of leadership achieve positive results. At this point, however, the literature does not explicate these other conditions. Finding these conditions is not the purpose of my study; but my findings may illustrate how supportive conditions influence the development of TLCs.

The research in this section suggests principal's attitudes, teacher collegiality, and power dynamics can influence teachers' joint work within TLCs. The principal's attitude and level of collegiality within a school directly influences the nature and depth of teachers' work within TLCs. Similarly, the influence of power relationships, whether uncovered or hidden, also directly influences the work of TLCs. If school leaders and

members of TLCs disregard non-dominant discourse, TLCs may not reach more advanced levels of activity. School-based leadership teams may be able to alter school culture; however, some "invisible" aspects will always remain beyond reach.

External factors. Both school districts and legislative mandates have the potential to influence teachers' joint work within TLCs. A school's district has the potential to create conditions benefiting or hindering the development of TLCs (Desimone et al., 2002; Firestone, Mangin, Martinez, & Polovsky, 2005). In this section, I review seven empirical studies that examine a) the conditions that facilitate school district influence on schools, b) how districts influence teacher change, and c) how districts attempt to replicate what they consider successes. Only Supovitz's (2002) study explicitly examines district initiatives to implement TLCs.

School districts can influence the work of teachers within schools. In his study of how district officials describe their beliefs about teacher learning, Spillane (2002) reports that districts commonly shape schools and classrooms through four formal channels: curriculum guides, curriculum materials, student assessments, and professional development. The influence of district leaders' is contingent on their ability to follow the school leadership and professional development conditions already discussed in this paper. For example, in a study of U.S. school districts, Desimone et al. (2002) find that the extent to which districts align their activities toward their vision affects the level of influence held over their schools. They also recommend that districts make data-driven decisions, set goals and objectives, and hold professional developers and teachers accountable for reaching these goals and objectives.

In their qualitative study of district influence on teacher practice, Firestone and Martinez (2007) find that districts have influence when they involve teacher leaders in professional development planning and implementation. In an earlier study seeking to determine how district officers influence teaching through professional development, Firestone and colleagues (2005) suggest that districts can increase their influence by creating a district vision, emphasizing professional development in support of that vision, and deploying human resources effectively. In addition, Desimone et al. (2002) suggest that districts plan professional development that is continuous, provides active learning opportunities, and includes collective participation.

Some studies illustrate the impact of district initiatives on teacher thinking and teachers' instructional practices. In their study of three school districts, Firestone et al. (2005) find that the greatest teacher-reported influence on teaching practice results from districts with the most coherent focus on helping teachers develop deeper knowledge. The authors recommend that professional development focus on topics close to the classroom: content knowledge, pedagogical content knowledge, or special education. Based on their qualitative study on mathematics and science teachers, Gigante and Firestone (2007) further argue that focusing only on support tasks such as hall monitoring, bus duty, lunchroom duty, and excessive paperwork does not contribute to teacher learning.

Another set of external conditions that affect the development of TLCs are legislative mandates. For example, standardized assessment brought about by NCLB, ignited a reevaluation of professional development, especially with the availability of billions of dollars in funding from the federal government for professional development

(Mullen & Hutinger, 2008). Some of the resulting changes benefited the development of TLCs. Rather than stand-alone workshops, high-quality professional development embedded in daily practice and directly linked to student learning is now the focus (Mullen & Hutinger, 2008). But other changes may obstruct the development of TLCs. For example, the pressure for schools to achieve proficiency levels means that many focus solely on data from accountability assessments at the expense of other measurable student outcomes (Boardman & Woodruff, 2004).

Viewing student outcomes solely as achievement data from these accountability assessments not only narrows curriculum and leads to instructional methods that support test achievement, but it also has the potential to unravel highly functioning TLCs (Boardman & Woodruff, 2004; Giles & Hargreaves, 2006; Ingram, Louis, & Schroeder, 2004; Newmann & Wehlage, 1995; Skerrett, 2010; Valli et al. 2008). In their study on the impact of standardized testing on teachers' ability to learn new teaching methods, Boardman and Woodruff (2004) note how accountability measures force teachers to focus on tested material at the expense of other curricular items. They also find that teachers rarely use new instructional practices unless those practices align to support student performance on accountability tests. If a TLC's common purpose involves implementing new instructional practices aligned to student performances through other measures, this could be a major impact.

Wolf, Borko, Elliott, and McIver (2000) present a counterexample of a successful TLC in their study on meeting the demands of the Kentucky Instructional Results Information System assessments (KIRIS). In determining the effects of the recent implementation of KIRIS on professional relationships, school structures, and students'

and teachers' understandings of the assessment, the authors find those faculties who met the challenges of KIRIS were able to: reflect critically on the reform; commit to student achievement; and support each other through trust, talk, and shared decision making. Wolf et al. indicate that schools able to meet these requirements had a higher degree of trust, dialogue about teaching and learning, extensive collaborative planning, and shared leadership. Perhaps schools that have these conditions in place may be able to foster the development of TLCs within the context of standardized assessments.

Citing rare examples like Wolf et al. (2000), some advocates of the standards movement suggest that assessments can fix schools. Skerrett (2010), however, reports that many countries' early gains on student achievement from standardization movement have since flatlined. In these nations, policy makers are moving beyond the standards movement. Skerrett labels this international trend post-standardization and presents China, England, Finland, Wales, and Singapore as examples. These countries place responsibilities on, but also provide resources for, schools and teachers to work together as TLCs. What is interesting is that, with the exception of Finland, the examples provided by Skerrett each incorporate standardized assessment in the post-standardization movement. The difference is the slimming of required curricula and the reduction of standardized assessments. In England, for example, schools can abandon the National Curriculum if they demonstrate that they meet required standards. In addition, England has slimmed down the national curriculum by 30%. In other nations, educators can increase student diversity by replacing standardized assessments with student self-assessments in conjunction with external standardized assessments. These findings

suggest that schools held accountable through standardized assessments without self-assessment components may not develop TLCs.

Although school-based leaders are not likely to have control over either district-level initiatives or legislative mandates, such as accountability-based assessments, these conditions may exert a direct influence on the nature and depth of TLC activity. While some researchers present a case for accountability-based assessments as a supportive condition for TLCs (e.g., Wolf et al., 2000), other researchers disagree (e.g., Boardman & Woodruff, 2004; Valli et al., 2008).

Summary of workplace design conditions. Conditions exist in the workplace regardless of whether they impede or assist with the development of TLCs. To the extent the workplace is flexible, the preponderance of empirical studies in this area suggest that school leaders should support TLCs with resources that influence matters of teaching and learning. Common planning time during the contractual workday is the most compelling resource available to school-based leadership teams to aid in the development of TLCs. On the other hand, deploying human resources and shifting duties has the potential to create more work for teachers and discourage their participation within TLCs. Without time, the development of TLCs is impossible.

Time and human resources indirectly influence the nature and depth of teachers' work within TLCs. An absence of either is detrimental to the work of TLCs, but a presence is no guarantee of development. On the other hand, school culture, district alignment, and standardized assessments directly facilitate or hinder TLC activity. School-based leaders may influence parts of school culture, but parts inevitably remain invisible to them. The district influence and legislative mandates are largely out of school

leaders' control. Power relationships between teachers and school leaders definitely influence the nature and depth of TLC activity. The nature of these power relationships on teachers' joint work is contextual. Unfortunately, researchers tend to ignore power relationships in many of the studies reviewed in this chapter. Attention to power relationships and their impact on the development of TLCs are a few of the major considerations guiding this study.

Because standards help establish the professionalism of teaching, I do not question their utility for TLCs. However, the empirical evidence presented in this section suggests that state-mandated accountability assessments can hinder the development and sustainability of TLCs by reorganizing school activities around testing requirements and by causing teachers to teach to tests. The research suggests that TLCs may not be able to overcome the pressures associated with the high-stakes accountability assessment environment.

Conceptual Framework

Figure 5 illustrates the original conceptual framework that I developed from this literature review. The school-based leadership team in this study worked through an action research cycle to put several supportive conditions in place. Next, TLCs interacted with those conditions as they worked to achieve their goals. In some cases, an altered condition may have no influence. When the altered condition does have an influence on the work of the TLC, I sought to trace that influence to the elements of TLC: shared norms and values, focus on student learning, collaboration, deprivatized practice, and/or reflective dialogue.

I sketched this version to guide the development of my research methods. I meant for this framework to guide and explain the important aspects of the study. However, I also sought to collect and code data independent of the categories that I developed from literature for this conceptual framework. By setting the framework aside, I hoped to open up the possibility for new or nuanced elements of a TLC and supportive school conditions. I knew that operating strictly from the conceptual framework during data collection and analysis had the potential to "blind" me from those new or nuanced elements and supportive conditions. So, I set aside Kruse et al.'s (1995) 5 elements of a TLC and the 13 school conditions (discussed at the start of the study). In this way, I treated the participants' conceptions of TLCs as a school-based condition.[14] I did not desire to impose my framework on participants either as a researcher or as their assistant principal. In both roles, my aim was to work with my fellow school leaders and teachers toward an authentic model of a TLC; that is, one changed by consensus and buy-in from teacher and school leader participants.

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[14] For example, whether the administration and teachers in this study present a unified or disjointed conception of a TLC will be telling regarding the presence of a shared vision. The similarities or dissimilarities may impede or facilitate the development of TLCs at this school.

Figure 5: Conceptual Framework of School-Based Support of TLCs
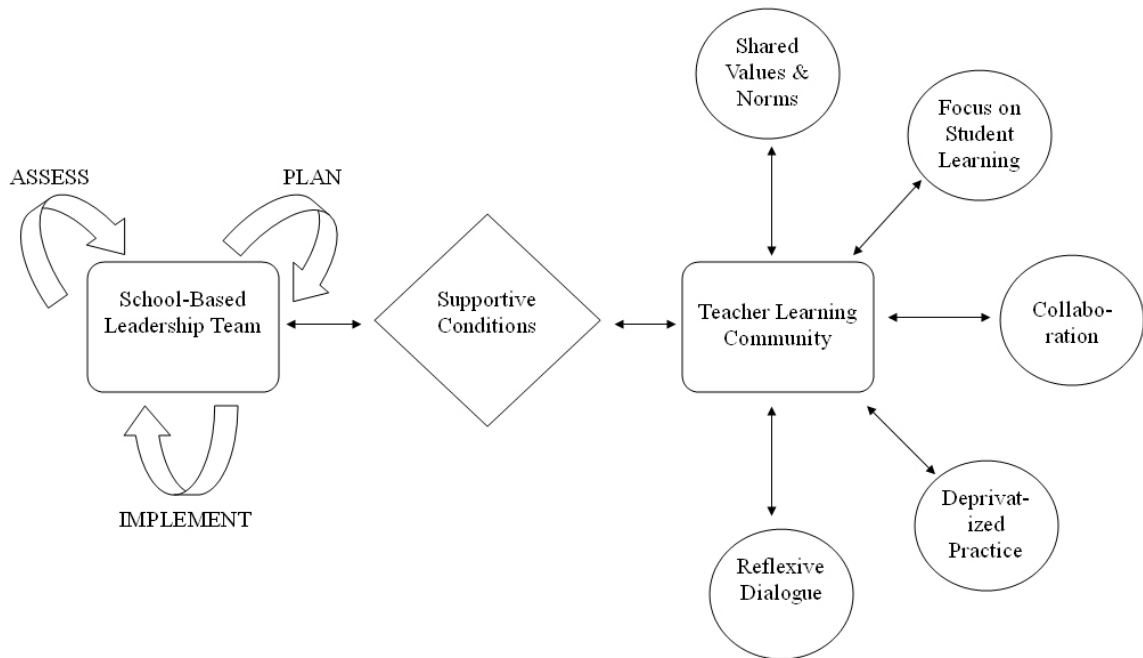
The box on the left of Figure 5 represents the school-based leadership team. The

school-based leadership team includes the principal, two assistant principals, the

academic facilitator, and those teachers given the task of facilitating the TLC. I included

arrows to represent the three recursive steps of an action research cycle: assess, plan, and

implement. The school-based leadership team operated within this action research cycle

throughout the study as they attempted to identify and alter conditions to support and

develop TLCs.

The diamond represents the condition(s) that support the development of TLCs

put in place by school leaders as part of their action research cycle. Because the purpose

of this study is to explore how school leaders identify and alter school conditions in their

attempt to foster the development of TLCs, not all conditions were school-based or

within the sphere of influence of the school-based leadership team. Similarly, while the

body of literature documents the influence of many conditions, I predicted that the *nature*

of the interaction between the school-based leadership team, supportive conditions, and

the TLC would influence whether or not certain conditions facilitated and/or hindered the development of TLCs. For example, while school leaders sought to provide substitute days for TLCs, involving teachers in the selection of dates may lead that substitute day to influence their work more than if school leaders chose the dates for the TLC. Furthermore, I envisioned the interaction between the school-based leadership team and supportive conditions influencing different TLCs within the same school quite differently. Although I intended to identify school conditions with research participants during the course of this study, I began with the 13 conditions identified within this literature base. I modified and/or abandoned components of this list based on research participants' observations throughout the study.

Finally, the box on the right represents the TLC itself. As I discussed in Chapter 1, I define a TLC as a team of three to eight teachers working together in specific ways on matters of teaching and learning within the same educational setting. In this study, TLCs operated as within-school teacher teams (e.g., content departments and cross-curricular teams) within the school. I originally gauged the development of the TLCs through the lens of five TLC elements: shared values and norms, focus on student learning, collaboration, deprivatized practice, and reflexive dialogue (Kruse et al., 1995). Each of the bubbles surrounding and connecting to the TLC box represents one of these five elements.

I purposefully constructed a multidirectional conceptual framework to illustrate that both the school-based leadership team and the teachers within a TLC could identify and alter supportive conditions. To represent the multidirectional nature of this framework, I made all arrows bidirectional. For example, if a school-based leadership

team cannot provide meeting time, a TLC may choose to hold a meeting after school to continue its collaborative activity.

During the study, I traced conditions from the school-based leadership team to the TLC. I then gauged the nature and depth of the TLC's engagement with that supportive condition, with an eye toward the five elements of a TLC. Once participants identify and alter a supportive condition, several possibilities boil down to two basic scenarios that I can trace through my conceptual framework. First, school-leaders or teachers may identify and alter a resource that does influence the work of a TLC. For example, the designation of faculty meeting time for the work of a TLC could provide time for collaborative activity. In this case, each part of the conceptual framework is active: school-leaders identified and altered a condition through their action research cycle (school leaders action research box on left), that supportive condition influenced the work of the TLC (diamond with the TLC box on the right), and finally, collaborative activity was influenced (collaboration bubble). Second, school leaders or teachers may identify and alter a resource that does not influence the work of the TLC. In this case, only the school leaders' action research box and the supportive conditions diamond are activated, but those actions fail to influence the TLC box (and any of its surrounding element bubbles). In Chapter V, I present graphics to illustrate the conceptual framework in both of these scenarios (influence versus non-influence).

Conclusion

This literature review serves as a guide for my study. First, I described in detail my definition of teacher learning community (TLC) including its characteristics, levels, and potential to influence teaching and learning. Second, I explored the school

leadership, professional development, and workplace design conditions in the literature

that may facilitate or hinder the development of TLCs. Finally, I presented the original

conceptual framework (based on this literature) used to begin data collection and

analysis. As stated above, although I have chosen Kruse et al.'s (1995) five elements of a

TLC and have outlined several school conditions that may influence the development of

TLCs, I modified these lists after discussions with my research participants. This study

contributes to the existing literature by offering empirical evidence regarding the

relationships between altered conditions and TLC development. I describe the

methodology used in this study in the next chapter.

Chapter III: Research Methodology

I used a practitioner inquiry, case study approach to investigate how the school-based leadership team attempted to foster TLCs by altering school conditions. In this chapter, I detail why these methodological choices are appropriate for my research questions despite their limitations. After presenting that rationale, I explain site selection, data collection, and data analysis strategies. Finally, I conclude this chapter with a brief discussion of the trustworthiness, additional limitations, and ethical considerations of this study. First, though, I restate my research questions.

Research Questions

My primary research question was: How does a school-based leadership team identify and alter school conditions that facilitate or obstruct the development of TLCs? To assist in the investigation of this research question, I asked four questions:

1) How do school leaders and teachers conceptualize TLCs?

2) How does the leadership team identify and address conditions that affect the development of TLCs?

3) What is the perceived impact, if any, of those efforts on the development of two different TLCs?

4) What are the implications for those findings on our understanding of the relationship between school leaders' efforts to create supportive conditions and the development of TLCs?

Rationale for Case Study Method

Creswell (2007) suggests that qualitative research is appropriate when, "we need a *complex*, detailed understanding of the issue" (p. 40, emphasis in original). In addition,

Maxwell (2005) recommends qualitative research when researchers seek to understand processes responsible for certain events and actions. Vescio et al. (2008) specifically call for in-depth case studies to describe the nature of teachers' joint work within TLCs. Using this particular approach to case study methodology allowed me to delve deeply into the school-based leadership team's action research. By using two embedded sub-units, I compared and contrasted how altered conditions influenced the development of two different TLCs within the same school.

Case study is a form of qualitative research where researchers examine a complex phenomenon within a social context (Merriam, 1998; Yin, 2009). In case studies, researchers limit their investigation to a certain time and space. The time for my study was the 2011-12 school year.[15] The space of my study was Carter's Run High School. For my study, the phenomenon of interest was the relationship between changes to conditions and the work of TLCs. While my point of view is from the school-based leadership team's action research, I worked closely with two TLCs to investigate the teachers' perceptions of how altered conditions influenced their TLCs' work. When the school-based leadership team altered a condition, the nature and depth of teachers' TLC joint work may or may not have changed. Being able to compare and contrast school leaders' and teachers' perceptions helped me more accurately represent the relationship of the altered condition to the work of TLCs.

There are two reasons why I worked with two TLCs in addition to the school-based leadership team. First, Yin (2009) recommends a multiple case study approach over single case studies whenever possible in order to compare and contrast findings

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[15] Specifically, I began collecting data in July 2011 and stopped collecting data in June 2012. I desired to capture school leaders' preparations for and evaluations of the 2011-12 school year.

across different cases. To capture the advantages of cross case analysis within the single-case design, I traced the influence of altered conditions on two different TLCs. By looking at two TLCs, I compared how adjustments to these conditions affected the work of each TLC. Doing so may have strengthened research findings, particularly when school leaders' and members of both TLCs' converged on similar perceptions. Secondly, because I have worked within the context of a state assessment, I was interested in the differences between TLCs that work within this context and those that do not. Are standardized assessments a condition that support the development of a TLC (e.g., Wolf et al., 2000) or hinder its development (e.g., Boardman & Woodruff, 2004; Valli et al., 2008)? By recruiting one team of teachers to work within the context of a state assessment and one that does not, I had a basis for comparison of the influence of altered conditions.

Case study methodology is useful for four reasons: its use in previous research on this topic; its ability to investigate process-oriented research questions; its ability to fill "holes" in the literature; and its ability to produce "thick" descriptions. First, several empirical studies (reviewed in the previous chapter) use the case study method to investigate school leadership's influence on TLCs (e.g., Achinstein, 2002; Clement & Vandenberghe, 2000; Scribner et al., 2002; Scribner et al., 2007). Their successful use of the case study methodology validates my choice to use it. Second, as suggested previously, the case study method is well suited for studying process-oriented phenomena (Merriam, 1998). Case study method is appropriate when, "(a) 'how' or 'why' questions are being posed, (b) the investigator has little control over events, and (c) the focus is on

a contemporary phenomenon within a real life context" (Yin, 2009, p. 2). My research questions fit within these three criteria.

Third, case studies are appropriate for topics where little empirical research exists. Coleman (2007) identifies a gap between leadership research and leadership practice at the school level and expresses concern that researchers have historically neglected to analyze school leaders' efforts at SI. He suggests that school leaders' engaging in research should make it more relevant to the daily needs of practitioners and disseminate it more effectively. By examining leadership practices at the school level, this study has potential to bridge this gap. Finally, the case study method incorporates analysis of multiple data sources in order to provide "thick" descriptions of phenomenon (Stake, 1995). The use of multiple data sources creates a trustworthy picture of how the alteration of school conditions by a school-based leadership team fosters TLCs.

Transparency with the potential limitations associated with my methodological choices is important to the trustworthiness of the design. The major limitation for case study methodology is that it cannot generalize findings across large populations (Yin, 2009). Critics often overstate this limitation as a major weakness. Scholars hoping to make broad statements regarding a school leadership's influence on TLCs would be better suited to select another methodology. Since I am not interested in generalizing findings across large populations, I do not view this limitation as a weakness. Like other scholars, I deny that generalizing findings to populations is a goal for case study methods (Creswell, 2007; Merriam, 1998; Yin, 2009). Instead, case study findings generalize to theory. By producing "thick" and detailed descriptions about the relationships between altered conditions and the work of TLCs, I believe my findings will "speak" to theories of

how these relationships work. I hope that the discourse between my findings and previous findings will enhance the discussions of policymakers and practitioners hoping to foster TLCs.

Rationale for Practitioner Research

I selected my own school as the site for this study because of the opportunity for social change built into the research model. During the study, I served as an assistant principal at the school. Our SIT, department chairs team, and faculty had identified the desire to increase teacher collaboration throughout the 2010-11 school year. During those discussions, I suggested TLCs as a viable organizational model for our professional development and SI processes. Other school leaders and teachers expressed interest in exploring TLCs at our school. This site presented me with a compelling opportunity as a researcher and practitioner. The decision to study my own school, like any purposeful sampling decision, presents opportunities and limitations. I discuss these advantages and disadvantages in this section.

Education scholars use the term "practitioner inquiry" to refer to the array of educational research genres where the practitioner is the researcher, the professional context is the research location, and practice is the focus of the study (Cochran-Smith & Donnell, 2006). Anderson, Herr, and Nihlen (1994) define practitioner research as "'insider' research done by practitioners (i.e., those working in educational settings) using their own site (e.g., classroom, institution, school district, community) as the focus of their study" (p. 2). Researchers engage in practitioner research for a wide range of purposes including, but not limited to, altering curriculum, challenging common school practices, improving instruction or school climate, and working for social change.

Callison (2007) adds that researchers choose practitioner research for the purpose of gaining insight, developing reflexive practice, effecting positive changes in the school environment, and improving student outcomes and the lives of those involved. As a school leader, it is my job to work toward social change within my school by improving instruction, school climate, reflexive practices, and student outcomes. Engaging in practitioner inquiry, therefore, can serve as a tool to help me accomplish my professional responsibilities as a school leader.

Developing my own reflexive practice was the most appealing reason for selecting the practitioner inquiry approach. Several scholars note that practitioner research has the ability to assist in developing reflexivity in their own professional practice (e.g., Alvesson, 2003; Callison, 2007; Coleman, 2007, Kasl & Yorks, 2010). According to these scholars, practitioner researchers may improve their own practice(s) as they will undoubtedly learn more about how they operate throughout the research process. I anticipated that by engaging in this study, I would become a better assistant principal. I continue my discussion on this topic in the next chapter.

Scholars say that another advantage of practitioner research is the researcher's "natural access" to the research site (Alvesson, 2003; Coleman, 2007). The kind of access I had with the school-based leadership team was appealing. My status as a school leader would permit me to gather more information than my researcher peers who were non-school-based leadership team members. While the different type of access to information would not have prohibited any of my researcher peers from conducting this study, I had access to confidential information that the other school leaders likely would guard from outsiders (e.g., teacher evaluations). The practitioner-researcher is not necessarily an

ethnographer in the traditional sense; instead, the researcher is an active participant in the social processes she is studying. Being there sometimes offers a deeper level of understanding than sending out questionnaires or listening to people's stories in an interview situation (Alvesson, 2003). In order to capitalize on this advantage, however, Alvesson suggests that researchers also find a way to step outside of the context and observe tacit cultural knowledge.

Practitioner research offers one strategy to avoid constructing the "natives" as someone clearly different from oneself (Alvesson, 2003; Fine, 1994). While there are always differences between persons (e.g., race, experience, age), the practitioner researcher *belongs* to the research site in some capacity. This belonging may help the researcher more accurately construct the participants. In practitioner research, researchers refer to participants as "we" rather than "they". For example, Fine (1994) recommends that researchers suppress the impulse to translate *for* participants. She suggests that doing so could lead to inflated, confounded, and misunderstood representations of research participants. Because I was also a school leader at the research site, I may have avoided the problem of "othering" with school leader participants. However, because of power relationships with teacher participants, I doubt that I completely escaped this trap. I resume this conversation as I discuss the limitations of practitioner research below.

Practitioner research has certain limitations that influenced my study. Scholars identify three limitations to practitioner research that are relevant: taken-for-granted assumptions, temptation for positive findings, and researcher-participant relationships. First, scholars caution that taken-for-granted assumptions can serve as "traps" or obstacle

to practitioner-researcher (Alvesson, 2003). They warn that leaving tacit knowledge unexamined can lead to impressionistic, biased, and prejudiced research (Herr & Anderson, 2005). Alvesson explains that while the challenge for traditional ethnographers is to avoid "going native", the self-ethnographer must make strong efforts to avoid "staying native". Stepping outside of everyday social systems is difficult work, but it is possible. Drennon (2002) addresses this concern by networking with peers outside of her study's context. I addressed this limitation by implementing several strategies (e.g., keeping a detailed journal of my perceptions and assumptions, using CIT, and using a critical friend). I discuss each these strategies in more detail later in this chapter.

Herr and Anderson (2005) say that another limitation is that insiders are too often tempted to put a positive spin on the data. School leaders often feel pressure to "look good" and drain action research of its ability to problematize or problem-pose. Following Herr and Anderson's advice, I incorporated self-reflection strategies to help me attempt to maintain a neutral stance as much as possible. In addition, I consistently reminded teachers that the school-based leadership team valued critical feedback and sought no reprisals.

The third limitation associated with practitioner researcher is the complex conflict between researchers and their participants. In practitioner research, the researcher's obligation to report accurate findings without fear of people getting angry is a greater concern than in other forms of research. Non-practitioner-researchers may be able to "exit" the research site. Participant-researchers seldom are able to "exit" in the same way. On the one hand, the practitioner-researcher risks providing a flattering view of himself

and his school. On the other hand, findings may hurt the reputation of the practitioner-researcher, the researcher's colleagues, and/or the researcher's organization. As Alvesson (2003) notes, "[these findings] cannot be held at arm's length as is perhaps common in studies of 'other kinds of people'" (p.189). Later, I will explain how I addressed this limitation by using a critical friend to review data collection and data analysis. In addition, I used member checks to ensure that research participants' had an opportunity to check data for accuracy.

Additional Limitations Associated with My Roles

The power relationships between the researcher and teacher-participants in this study extend beyond those typically associated with practitioner research (Kasl & Yorks, 2010). Although I desired to form collaborative relationships with teacher-participants based on democratic ideals, my formal supervisory responsibilities influenced these relationships. Scholars question whether collaborative relations can exist within relations of power. For example, Gitlin (1999) reported that teachers viewed both evaluation and in-service workshops with cynicism because they thought school leaders treated them as "objects" of the process rather than partners in it. Although not a school leader, Drennon (2002) described how asymmetrical power relationships between facilitators and teachers are present within inquiry groups. She notes how group members' roles as teachers, school leaders, facilitators, and part-time staff as well as how their gender, race, class, orientation, personality traits, habits, and skill levels place some at a disadvantage and others at an advantage. School leaders have a power advantage over other actors in a school that gives them the ability to avoid, suppress, and contain conflict (Malen &

Cochran, 2008; Shipps & White, 2009). I took two practical steps to reduce the impact of this limitation on data collection.

First, although I had supervision and evaluation duties related to teacher participants, I deferred decisions and responsibilities related to these participants to other school leaders. My principal released me from formal observations, evaluations, and staff discipline responsibilities for the teacher participants during this study. Because the district prohibits the use of walk-through observations for the evaluation process, I did not request release from that responsibility. I still completed walk-through observations with participants. I also continued to discipline my assigned group of students regardless of their teacher's participation in this study. Classroom discipline sometimes led to tense parent-teacher-school leader conferences. In those situations, I asked teachers whether they were comfortable with me facilitating. I feared that had I automatically deferred those meetings teachers might have perceived lack of support. No teachers requested another school leader for any student disciplinary related situations.

Second, I used an anonymous school-wide survey to provide teachers with a vehicle for honest input without fear of reprisal (Desimone, 2009). Anderson and Herr (2009) specifically recommend surveys as a method for school leaders conducting action research to assure anonymity and efficiency. While I discuss this more thoroughly later, using the survey results to compare and contrast against data from interviews and observations strengthened my findings.

Rationale for Case Selection

I chose my own school, a traditional public high school in the Mid-Atlantic region for the case study site. At the time of the study, this site's enrollment (1080 students) was

higher than the national average (752 students) (see Table C). Nestled in a rural community, the school is not representative of national ethnicity demographics. Carter's Run HS is predominantly white (91.9%) with small Black/African American (4.2%) and Hispanic/Latino (2.2%) populations (see Table C for the national breakdown). The school only services 9.8% of its students under the Individuals with Disabilities Act (IDEA) compared to 13.1% nationally. The number of limited English proficient students, the drop-out rate, and the number of students planning to attend a 4-year college are significantly lower than national averages (see Table C). Carter's Run HS has a slightly higher number of students in the free and reduced meal program at 22.8% compared to the 20.9% national average.

In the area of student performance, average scores at the proficiency level for students at Carter's Run HS are above the Mid-Atlantic State's averages in Algebra, English, and Biology. In addition, while the percentage of graduates who took the SAT was slightly less (43%) than the national average (47%), students at Carter's Run HS outscored the national critical Reading, Math, and Writing average scores (see Table C).

While different in many ways, Carter's Run HS is not significantly extreme, deviant, unusual, or atypical (Merriam, 1998). Yin (2009) suggests that the typical case is appropriate to capture the circumstances and conditions of a commonplace situation. The lessons learned from this case will represent the experiences of a typical public high school embarking on this type of local reform (Yin, 2009).

Table C: Comparison of Carter's Run HS with National Averages 2011-12

Descriptor	Carter's Run HS	National Averages
Enrollment	1080 students	752 students ~
Ethnicity	Am. Indian/AK Native – * Asian – * Black/African American – 4.2% Hispanic/Latino – 2.2% Pacific Islander – * White – 91.9% * Fewer than 10 students	Am. Indian/AK Native – 0.7 % ~ Asian – 4.1 % Black/African American – 15.0% Hispanic/Latino – 23.2% Pacific Islander – 0.4 % White – 53.5 %
Students Served under Individuals with Disabilities Act (IDEA)	9.8%	13.1 % ~
Limited English Proficient	Less Than 5.0%	9.7 % ~
Free and Reduced Meals	22.8%	20.9 % ~
Annual Drop Out Rate	Less Than 3.0%	7.1 % ~
Post-Secondary Decisions	Attend a 4-year college – 38.3% Attend a 2-year college – 30.8% Specialized school training – Less than 5.0% Military – Less Than 5.0%	Attend a 4-year college – 59.7 % ~ Attend a 2-year college – 22.6 % Specialized school training –7.1 % Military – 5.3 %
State Assessment Proficiency Levels	Algebra – 93.1% English – 86.9% Biology – 84.4%	Algebra – 83.6% & English – 81.7% Biology – 81.3%
SAT Participation	43 % of graduates took SAT	47 % of graduates took SAT ~
SAT Scores	Combined Score – 1548 Critical Reading – 517 Math – 520 Writing – 511	Combined Score – 1498 ^ Critical Reading – 496 Math - 514 Writing - 488

~ Data from National Center for Education Statistics (2012).
& State assessment scores from the Mid-Atlantic State Department of Education (2012).
^ SAT scores from the College Board (2012).

I examined the influence of changing conditions on the work of TLCs. To investigate this relationship, I studied a slice of the school-based leadership team's action research. While school leaders worked with 15 distinct teacher teams (see Table D), I only traced teachers' perceptions of how altered conditions influenced the work of two

TLCs. Out of nine disciplinary and six transdisciplinary teams, I selected Math and World Language as the two embedded sub-units for analysis. During my two years at this school, I had developed the strongest rapport with the math and world language department chairs. While rapport was important, the characteristics of these particular teacher teams also made them appealing choices.

For example, during the first round of interviews, school leaders reported that the math department was the closest teacher group fitting their conception of a TLC. On the other hand, the world language department had no history of working together prior to the study. In addition, the math teacher team worked within the context of a state assessment while the world language teacher team did not. In choosing disciplinary teacher teams with different levels of experience and in different state assessment contexts, I hoped to strengthen this study's findings. I could gauge teachers' perceptions of how altered conditions influenced their work from two unique starting points and contexts.

Table D: Transdisciplinary and Disciplinary Teams at Carter's Run HS

Transdisciplinary Teams	Disciplinary Teams *
• Advanced Placement ^ • College & Career Readiness ^ • Character Education ^ • Education That Is Multicultural ^ • Health & Wellness ^ • Science, Technology, Engineering & Math (STEM) ^	• Business, Technology, Agriscience, & Family & Consumer Science ^ • English • Fine Arts • Guidance • Math • Science ^ • Social Studies • Physical Education & Health • World Language

* members of the Special Education department served on various disciplinary teams.
^ denotes two teacher facilitators.

In Table E, I outline participants' membership in the school-based leadership team, Math TLC, and/or World Language TLC. The school-based leadership team included Thomas, the principal, Nadia, the assistant principal, Catherine, the academic facilitator, and the 23 teacher facilitators for each of the 15 teacher teams in addition to me. Many TLCs had two teacher facilitators (denoted by the ^ symbol in Table D above). For disciplinary teams, all department chairpersons served as teacher facilitators. Some department chairpersons also served as teacher facilitators for transdisciplinary committees. For the purpose of this study, my reference to the school-based leadership team only includes the teacher facilitators of the Math and World Language TLCs: Georgia, the math department chairperson/facilitator, and Joan, the world language chairperson/facilitator. The math teacher team consisted of seven teachers: Georgia, Andrea, Betty, Bryan, Elle, Jennifer, and Phoenix. The world language teacher team consisted of three teachers: Joan, the world language chairperson/facilitator, Mia, and Rosita.

Table E: Participants' Membership in Teams

School-Based Leadership Team	Math TLC	World Language Team
Thomas, principal **Nadia**, assistant principal **Ken**, assistant principal **Catherine**, academic facilitator **Georgia**, math department chair/facilitator **Joan**, world language department chair/facilitator	**Georgia**, math department chair/facilitator **Andrea**, teacher **Betty**, teacher **Bryan**, teacher **Elle**, teacher **Jennifer**, teacher **Phoenix**, teacher	**Joan**, world language department chair/facilitator **Mia**, teacher **Rosita**, teacher

Although I originally intended to serve as liaison to the Math and World Language TLCs, on September 8, 2011, I requested permission from my principal to

switch TLC assignments. I requested this switch to distance myself from the TLCs and to focus on the work of the school-based leadership team. On September 9, 2011, I met with the math and world language teachers to explain that I needed their permission to include them as research participants in my study even though I would not be working with their department as their liaison. Nadia, an assistant principal, and Thomas, the principal would work with the Math and World Language TLCs respectively. While I would still observe meetings, these other school leaders would serve as point person for resources, attend team meetings, and co-plan professional activities.

Data Collection

During the study, I collected data using three strategies: interview, observation, and document analysis. For interviews, I used both semi-structured individual and focus group interview strategies. Through the course of the study, I conducted five semi-structured interviews for each of the five school leaders and five focus group interviews for each TLC.   I conducted a brief individual follow-up interview with one of the world language teachers after observing her class. I also conducted one focus group interview of the English TLC in order to investigate the altered condition that they reported influenced them differently. For observations, I observed 10 school-based leadership team meetings and several TLC meetings. I only conducted one classroom observation.[16] Finally, I collected and analyzed documents produced for and by the school leaders and TLCs, including the anonymous Keys 2.0 survey. Document analysis included the analysis of my own reflexive journal and school leaders' reflexive journals throughout the study. I summarize data collection points in Table F below.

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[16] I incorporated the option of observing teachers' classrooms into this study to help me understand their TLC work. I only conducted one such observation. While one other world language teacher invited me to observe her class, my practitioner responsibilities prevented me from completing those observations.

Table F: Data Collection Points

Data Type	Collection Point	Description
Semi-Structured Interviews	School-Based Leadership Team Members	5 each 25 total
	Teachers Members of TLCs	1
	Focus Group Interviews of TLCs	5 each + 1 English TLC 11 total
Observations	School Leader Meetings	10
	Teacher Team Meetings	5 Math 5 World Language
	Classroom Observations	1
	SIT Meetings	7
	Department Chair Meetings	4
Document Analysis	School Leader Meeting Artifacts	Numerous
	TLC Meeting Artifacts	Numerous
	School-Based Leaders' Journals	2 each for 4 participants 8 total
	My Personal Reflexive Journal	1
	Keys 2.0 Survey Data (2011 & 2012)	May 2011 & April 2012 administrations

Semi-Structured Interviews

During the study, I conducted 37 interviews: 26 individual and 11 focus group. I conducted five individual one-hour interviews with each member of the school-based leadership team (principal, assistant principal, academic facilitator, math teacher facilitator, and world language teacher facilitator). I also conducted one 20-minute follow-up interview with a TLC member, Mia, after observing her class. I conducted five focus group interviews each for the Math and World Language TLCs. During the February 2012 department chair meeting, I learned that some English teachers were so pleased with their substitute day activity that they planned to use more. Their report of this condition's influence on their TLC work differed from the Math and World

Language TLCs. In order to gain additional insight on their perceptions, I conducted one single focus group interview with four English teachers two weeks later. The timing of interviews was crucial in this study. In order to trace the influence of altered conditions on the work of TLCs, I scheduled each interview in proximity to changes in school conditions (see Table G).

I audiotaped and transcribed each interview session. School leader and TLC member participants received emailed copies of interview questions (see Appendices B, E, F, G, H & I) one week prior to the sessions to prepare. During interviews, I avoided jargon and used school language. For example, we did not use the term "TLC" to describe teacher teams in the school. Rather than referring to the math teachers' group as "Math TLC", I called them the Math Disciplinary Committee. Participants also had the opportunity to review interview transcripts immediately in order to make corrections to phrasing, content, or meaning.

When I recruited TLC member participants, I reserved the right to call for follow-up interviews. For teacher participants, I explained that I might need to conduct two additional 20-minute individual interviews for one of three reasons: to continue lines of inquiry from focal group interviews, to follow-up after TLC meeting observations, and/or to follow-up after classroom observations (see Appendices C & D: Interview Protocols and Appendix L: Consent Form). Although I could theorize why a teacher said or did something during a classroom observation or TLC meeting, follow-up interviews helped clarify their thinking for me. During the study, I did not call for any individual interviews to follow-up on focal group interviews or TLC meetings; however, I did call for an individual interview with one world language teacher after her classroom observation.

This interview clarified some of the teachers' decisions for me (e.g., why she had

students use the new instructional technology during the lesson). For school leaders,

while I reserved the right to request follow-up interviews for clarification purposes (see

Appendix L), I did not actually request any follow-up interviews. In a few cases, I

clarified certain comments through e-mail.

Table G: Interview Dates Denoting Preceding Altered Conditions

Interviewee	Dates	Preceding Altered Conditions
Thomas Principal (World Language Liaison) Individual Interviews	July 25, 2011	• Keys 2.0
	November 23, 2011	• SIT Retreat • August PD Session (Preservice Week) • September New Technology Arrives • October Faculty Meeting Time • November PD Session • November Substitute Day/Technology PD
	January 27, 2012	• December Additional New Technology • January Department Chair PD Case Analysis
	March 13, 2012	• February PD Session • March Faculty Meeting Time • March Substitute Day/Technology PD
	May 28, 2012	• April & May Department Chair PD- Literature Activity • May Substitute Day/Technology PD • May District Wide Technology Workshop
Nadia Assistant Principal (Math Liaison) Individual Interviews	July 14, 2011	• Keys 2.0
	December 20, 2011	• SIT Retreat • August PD Session (Preservice Week) • October Faculty Meeting Time • November PD Session • December Substitute Day
	January 31, 2012	• January Department Chair PD Case Analysis • January After School Remunerated Time
	March 15, 2012	• February PD Session • March Faculty Meeting Time
	May 30, 2012	• April & May Department Chair PD – Literature Activities

	July 15, 2011	• Keys 2.0
Catherine Academic Facilitator Individual Interviews	December 2, 2011	• SIT Retreat • August PD Session (Preservice Week) • October Faculty Meeting Time • November PD Session
	February 14, 2012	• January Department Chair PD Case Analysis
	March 7, 2012	• February PD Session
	May 21, 2012	• April & May Department Chair PD – Literature Activities
Georgia Math Facilitator Individual Interviews	July 12, 2011	• Keys 2.0
	December 12, 2011	• SIT Retreat • August PD Session (Preservice Week) • October Faculty Meeting Time • November PD Session • December Substitute Day
	February 4, 2012	• January Department Chair PD Case Analysis • January After School Remunerated Time
	February 27, 2012	• February PD Session
	May 23, 2012	• March Faculty Meeting Time • April & May Department Chair PD – Literature Activities
Joan World Language Facilitator Individual Interviews	July 14, 2011	• Keys 2.0
	December 1, 2011	• SIT Retreat • August PD Session (Preservice Week) • September New Technology Arrives • October Faculty Meeting Time • November PD Session • November Substitute Day/Technology PD
	February 12, 2012	• December Additional New Technology • January Department Chair PD Case Analysis
	April 19, 2012	• February PD Session • March Faculty Meeting Time • March Substitute Day/Technology PD • April Department Chair PD- Literature Activity
	May 17, 2012	• May Department Chair PD- Literature Activity • May Substitute Day/Technology PD • May District Wide Technology Workshop
Mia Classroom Observation Follow-up	February 23, 2012	• January Classroom Observation (New Technology)

Math TLC Focus Group Interviews	October 20, 2011	• August PD Session (Preservice Week) • October Faculty Meeting Time
	December 14, 2011 (without Elle)	• November PD Session • December Substitute Day
	February 8, 2012 (without Jennifer)	• January After School Remunerated Time
	March 28, 2012 (without Jennifer)	• February PD Session • March Faculty Meeting Time
	May 29, 2012 (without Andrea)	
World Language TLC Focus Group Interviews	October 24, 2011	• August PD Session (Preservice Week) • September New Technology Arrives • October Faculty Meeting Time
	November 28, 2011 (without Joan)	• November PD Session • November Substitute Day/Technology PD
	January 25, 2012	• December Additional New Technology
	March 14, 2012	• February PD Session • March Faculty Meeting Time • March Substitute Day/Technology PD
	June 3, 2012	• May Substitute Day/Technology PD • May District Wide Technology Workshop
English TLC Focus Group Interview	February 24, 2012	• February Substitute Day

Hammersley and Atkinson (1995) suggest that the goal of semi-structured interviews is to facilitate conversation. Doing so allows respondents more leeway to talk on their own terms than in standardized interviews. I conducted school leaders' initial individual interviews to gauge how participants conceptualized TLCs and school conditions that influence the development of those TLCs (see Appendix E). Through additional interviews, I sought to understand how school conditions interacted with the work of TLCs. I used interviews to investigate which conditions warranted attention, how school leaders altered those conditions, and what differences those adjustments made (see Appendix F). It was difficult to predict the full line of questions at the beginning of the study because school leaders had not yet identified many of the conditions. I wrote the

questions to be flexible enough to ask about specific events and situations as they developed. By employing a semi-structured interview technique, I was able to remain flexible to changing situations (Merriam, 1998).

Merriam (1998) writes, "Interviewing is necessary when we cannot observe behavior, feelings, or how people interpret the world around them" (p.72). In some cases, the information gained from interviews confirmed direct observation and document analysis. For example, after asking a question like, "Have you attempted to modify or create resources or conditions for any of these teams?" I sometimes followed-up with questions like, "Thomas, how about the world language substitute day?" Doing so allowed me to gather information about data I collected from observations and/or document analysis. During ongoing individual school leader interviews, I asked questions designed to investigate relationships between altered conditions and the work of TLCs. Many times, I entered these interviews knowing I wanted to ask about certain conditions that were recently altered (e.g., substitute days, faculty meeting time). Sometimes, school leaders identified conditions that I had not anticipated during interviews (e.g., remunerated hourly time).

For the school leaders' concluding individual interviews, I presented some of my initial findings (see Appendix I). I shared lists of participant-identified TLC characteristics and altered conditions. School leaders had opportunities to suggest connections between, additions to, and/or deletions to each list.

For school leader participants, I also incorporated critical incident techniques[17] (CIT) during a 20-minute portion of the second and fourth interviews (see Appendix G).

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[17] CIT is rooted in the Aviation Psychology Program of the U.S. Army Air Forces during World War II (Flanagan, 1954). Initially designed to investigate disorientation and combat leadership in pilots, its use

CIT is a research tool that asks participants to select and reflect on an "atypical" occurrence (Serrat, 2010). In and of itself, CIT is not a strong strategy to answer my research questions; however, this tool helped me to see things that I might have otherwise overlooked. CIT not only informed the study but also served as a practical tool for the school leaders' action research project. For example, the critical incident accounts offered by Georgia and Joan led to the implementation of department chair professional development. During their second individual interview, Georgia and Joan both related descriptions of how reluctant members "derailed" one of their recent TLC meetings. Tripp (1993) suggests that the knowledge produced through CIT is more than just scholarly knowledge; the knowledge implies action. With this information, school leaders chose to develop and implement professional development during department chair meetings specifically designed to help teacher facilitators address the actions of reluctant teachers.

After writing or describing occurrences like these, the researcher and participant explore assumptions embedded in the incident. Initially, Georgia and Joan described the reluctant teachers as "dissenting members". By questioning their assumptions, both teacher facilitators acknowledged that they could alter their own facilitation practice to engage these teachers further in the work of the TLC. By its very nature, a "critical incident" is different from habits, tacit knowledge, and institutional culture. By analyzing the "critical incident" and understanding why participants consider it "atypical," researchers and participants may gain insight on what they consider "typical". Given the

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has expanded to dentistry, industrial supervision, bookkeeping, education, and others. Flanagan notes the absence of a single rigid set of rules governing CIT data collection and encourages researchers to modify and adapt it to meet the needs of the situation at hand.

practitioner stance of this study, uncovering tacit knowledge was challenging. I chose CIT as an interview strategy because scholars suggest that it can help researchers identify and analyze events that they may not notice through other methods of investigation (Serrat, 2010; Tripp, 1993). In the case of the example that I described above, I am skeptical that I would have noticed that our teacher facilitators were struggling with reluctant teachers without CIT. The other school leaders, including Georgia and Joan, agreed.

Tripp (1993) suggests that by focusing on atypical or unique events, CIT has the potential to uncover underlying trends, patterns, constraints, and relationships not easily found by traditional research methods. Anderson and Herr (2009) specifically recommend CIT as a method for school leaders conducting practitioner research as a way to capture manifestations of institutional culture, which is not a topic of study but may have inadvertently colored analysis. In addition, by critically reflecting on why critical incidents are uncommon events or why outcomes are unexpected, researchers and participants can gain insight on their own underlying assumptions about habits, tacit knowledge, and institutional culture.

During CIT, I found participants were more likely to explain sensitive situations within their TLC than in other interview segments. I believe that participants' reflections on critical incidents served their purpose of identifying underlying assumptions. CIT discourse often served as the initial location for several codes. For example, during Thomas' first critical incident, he described dialogue during a TLC meeting that led him to question the presence of shared values within the school. This question prompted me to write specific follow-up questions for his third individual interview. Without CIT, I

am not certain that Thomas would have had the space to pose his question and I may not have had a way to document it. Eventually, the degree of shared values among Carter's Run teachers led to one of the study's findings. While participants' critical incident descriptions influenced practice (e.g., department professional development) and data analysis (e.g., generating codes and follow-up questions), even partial descriptions of these events may potentially damage relationships between participants and/or other school actors. Therefore, I purposefully chose to omit a table systematically detailing school leader participants' critical incident descriptions. Although CIT served as a useful research tool, the incidents themselves were not necessary to tell this story.

Before conducting CIT interviews, I asked members to complete a journal entry to describe an occurrence concerning the operation of a TLC or a school condition that interacts with a TLC that they consider "atypical" or surprising. After reviewing the incident, I conducted CIT during the second and fourth school leader individual interviews using questions suggested by Serrat and Tripp (see Appendix G).

Kamberelis and Dimitriadis (2008) suggest that focus group interviews are a way of gathering a large amount of rich discourse in a relatively short period. I conducted five focus group interviews with each TLC. I used those interviews to ask teachers about their perceptions of TLCs, the nature of their work within TLCs, and their thoughts on how altered conditions affected their work (see Appendix B). Again, the timing of these interviews was crucial. I scheduled interviews after TLCs interacted with altered conditions (see Table G above). For example, I scheduled the second Math TLC focus group interview immediately following their December 2011 substitute day used for collaborative planning sessions.

During the final focus group interviews, I presented preliminary findings to teacher participants including a list of participant-identified characteristics of TLCs and a list of altered conditions they may have encountered during the study (see Appendix H). During those interviews, I also assessed how changes to various conditions affected their work during the school year.

Kamberelis and Dimitriadis (2008) suggest that focus groups can become sites for collective struggle and social transformation. As TLC members respond to each other's ideas, the focal group interviews may provide the opportunity for them to check each other's assertions (Kamberelis & Dimitriadis, 2008). Prior to the study, I predicted that as teachers respond to each other's experiences, focal group interviews could serve the dual purposes of collecting data and providing an opportunity for members of the TLC to practice reflexive dialogue, one of Kruse et al.'s (1995) elements of a TLC. On the other hand, I acknowledged potential disadvantages of conducting focal group interviews rather than individual interviews. For example, some TLC members might dominate these discussions and inadvertently silence other voices. When I noticed this happening, I directed follow-up questions to certain participants (e.g., "Jennifer, what do you think?"). This was a major reason that I kept the option for two individual interviews with TLC members, even though I ended up not conducting any.

What respondents say in interviews can lead researchers to see things differently during direct observation (Hammersley & Atkinson, 1995). Following Hammersley and Atkinson's research design advice, I hoped to capitalize on the primary advantage of combining interviews with direct observations: using data from each to illuminate the other. Because I scheduled interviews in proximity to when school leaders altered

conditions (e.g., faculty meeting time, substitute days), I entered interviews with a few follow-up questions in mind. Similarly, when I observed altered conditions after interviews, I had a better idea of the connections participants' perceived between those conditions and their work.

Observations

Observations served as a way to study the action research cycle of the school-based leadership. Merriam (1998) presents two reasons for direct observation. First, outsiders may notice things that have become routine for the participants. Although I was not an outsider to the school, I was an outsider to the role of teachers within their TLCs. Second, observations provided contextual information about altered school conditions and the work of TLCs. This information served as a reference point for subsequent interviews and helped identify potential follow-up questions. Directly observing teachers' work within TLCs provided an important leg for data triangulation.

During the study, I observed 10 school-based leadership team meetings, 5 Math TLC meetings, 5 World Language TLC meetings, 7 SIT meetings, and 4 department chairperson meetings. I audiotaped and transcribed relevant portions of 3 school leader planning meetings and 7 weekly school leader meetings (see Table H below). Because the agendas of school leaders included many sensitive topics (e.g., teacher observations, staffing, budget), I only audiotaped the portions of meetings that dealt with professional development, altered conditions, and/or the work of TLCs. I transcribed each audiotaped school leader meeting segment in its entirety. Although we planned to discuss the progress of our TLC initiative at each school leader meeting, crowded agendas and other responsibilities (e.g., discipline, parent meetings, and altered schedules) often meant that

we did not have time. I asked school leader participants to allow me to audiotape all

meetings whether planned or unplanned. While they consented, I found it challenging to

audiotape unplanned meetings. When I was unable to audiotape these meetings, I

immediately made journal entries.

Table H: School Leadership Team Meetings

Meeting Date	Meeting Type
July 13, 2011	Planning Meeting
July 14, 2011	Planning Meeting
July 15, 2011	Planning Meeting
September 12, 2011	Weekly Meeting
September 20, 2011	Weekly Meeting
October 4, 2011	Weekly Meeting
February 24, 2012	Weekly Meeting
March 6, 2012	Weekly Meeting
March 27, 2012	Weekly Meeting
June 7, 2012	Weekly Meeting

Because of my power relationship with teacher participants, I chose not to

audiotape TLC meetings. To maintain trust with participants, I restricted my observations

to field notes. My field notes included notes on the physical setting, participants,

activities and interactions, conversations, subtle factors such as changes in a participant's

speech pattern or body language, and my own behavior during observations (Merriam,

1998). Although I lost verbatim exchanges between teachers because of this decision, the

focus group interviews provided opportunities for teachers to interact and discuss their

work within TLCs at levels necessary to address my research questions (see Appendix

B).

As with school leaders, I also asked teacher participants to allow instances of

impromptu TLC meetings; however, in order to build trust and ensure candor, I reminded

them of their right to meet without me being present. Neither TLC invited me to observe

any unplanned TLC meetings. By respecting their collective decision not to include me and by refraining from second-guessing their judgment, I hoped to promote candid, trusting relations. I observed portions of all announced TLC meetings; however, because I worked as the school leader liaison with other disciplinary TLCs, I was not able to observe any Math or World Language TLC meetings in their entirety.

While I had planned not to request more than two classroom observations per teacher participant, I only actually conducted one classroom observation during the study. I observed one of Mia's Spanish lessons after she invited me to see her new instructional technology in use thanks to her TLC's work. I would have observed more world language classes; however, teacher participants only invited me to observe a few other classes and I could not clear my schedule from other job responsibilities at those times. During the classroom observation that I conducted, I kept detailed field notes. Following Wolcott's (1994) observations by broad sweep strategy, I kept running notes on student and teacher behavior and discourse. I used these notes, and the subsequent interview, to gain a clearer understanding of the relationship of that altered condition and the work of the World Language TLC. Seeing the new instructional technology in action clarified discourse during other observations and focus group interviews.

I used the same strategy described above to observe SIT and department chair meetings. SIT and department chair meetings included reports from TLCs on their goals, action plans, progress, and resources needed. Disciplinary TLCs reported their progress during department chair meetings and transdisciplinary TLCs reported their progress during SIT meetings. Because of crowded agendas and time constraints, disciplinary TLCs did not always report their progress during department chair meetings.

Transdisciplinary TLCs, however, reported their progress during each SIT meeting. Four department chair meetings included a professional development component and served as one of school leaders' altered conditions. Those field notes were helpful when I conducted subsequent school leader interviews to ask how department chair professional development influenced the work of TLCs.

Document Analysis

Yin (2009) states, "…when relevant, the artifacts can be an important component in the overall case" (p. 112). I collected and analyzed several documents relating to school leadership and TLC activities. These documents include agendas and minutes from faculty meetings, professional development meetings, TLC meetings, department chair meetings, SIT meetings (including the SIT Retreat), and school leader meetings. Other documents included materials from these meetings such as chart paper results (from the SIT Retreat and professional development activities), copies of student assessment data, and handouts. I collected e-mail and hard copy correspondence to and from participants for member checks. I also collected participant journal entries (see Table I below), including my own reflexive journal. Finally, I collected school-wide results from the May 2011 and April 2012 Keys 2.0 teacher survey. These documents helped generate interview questions and informed data analysis. I discuss participant journal entries, the researchers' own reflexive journal, and school-wide teacher survey results in more detail below.

Aubusson et al. (2007) use journal entries as an additional means to document teachers' thinking during their involvement in a TLC. For similar reasons, I asked the school leader participants to complete a series of five journal entries during the course of

the study (see Appendix J). I provided copies of suggested journal entry prompts to school leaders at the start of the study, and then every two months thereafter until the conclusion of the study. In the first, third, and fifth journal entry prompts, I asked school leaders to reflect on how altering conditions fostered the development of TLCs. In the second and fourth journal entry prompts, I asked school leaders to describe an "atypical" occurrence related to the operation of a TLC. These two journal entries served as the starting point for the CIT processes included during the second and fourth individual school leader interviews. While I permitted school leaders to respond more frequently in their journals, to my knowledge, none of them did. In fact, only four school leader participants completed journal entries (see Table I below). Each of them only wrote responses to the first and second prompts. I read and analyzed each of their journal entries as additional data sources.

Table I: Submitted School Leader Journal Entries

Participant	Journal Entry Dates
Thomas, Principal	None Submitted
Nadia, Assistant Principal	September 11, 2011 December 5, 2011
Catherine, Academic Facilitator	October 10, 2011 December 2, 2011
Georgia, Math Facilitator	September 19, 2011 December 7, 2011
Joan, World Language Facilitator	September 18, 2011 December 1, 2011

Despite several reminder e-mails, school leader participants did not submit additional journal entries. During the third and fourth individual interviews, I asked whether there were any reasons why they did not complete the remaining journal entries. Participants apologized for not submitting their entries on time and said that they would give them to me as soon as they could. Some participants told me that they had nothing

new to add because they answered their questions during their individual interviews. A few participants, including the principal, said that they simply did not have enough time. The journal entries I did receive were helpful, especially since I received them during the month of September 2011. The first round of entries filled the gap between the first and second individual interviews, July 2011 and November/December 2011 respectively. I had hoped to use the third and fifth journal entries as an additional way to collect data between interviews after school leaders altered conditions. In reality, I may have lost some important data because of missed entries. Because participants were prepared for the CIT segment of their fourth interview, I doubt that missing the fourth journal entry influenced the study much.

Bogdan and Biklen (2007) recommend researcher memos as a useful tool for reflection on theoretical, methodological, and substantive issues raised throughout the research process. They say that beginning researchers do not spend enough time speculating about the ideas they generate. To assuage this potential challenge, I kept a detailed reflexive journal throughout the study. I made entries before the study and then during data collection to record my perceptions and assumptions. I hoped that my journal would illustrate my biases and preconceptions and provide ideas on how to deal with them throughout the study. While consistently writing did not guarantee I would understand all of my biases, I hoped it would facilitate the process more than if I had not employed this strategy. I found that writing in my journal helped me catch my biases. For example, I realized that I believed TLCs could transform teacher practice and student learning. In addition, I uncovered my preferences for peer observations, student work analysis, and common lesson pacing as teacher activities within TLCs. By crystalizing

some of my biases, the journal served as a tool to assist with data analysis as I had expected. At a minimum, I had a basis of comparison between my own thinking and each piece of data. I drew on this chronology of thinking during my ongoing data analysis as a way to explain my own observations and formulate additional follow-up questions. During many of my journal entries, I explored the relationships that I suspected existed between altered conditions and the work of TLCs.

I did not anticipate, however, that my journal's influence would extend into my professional practice. Sometimes, I turned to the journal when I was frustrated with various situations resulting in professional conflict with other school actors. In these entries, I wrote exactly how I felt about situations. Next, I rationalized possible explanations for the professional conflict. By using that process, I was able to separate my personal reactions from my professional opinions. Especially after analysis, I found that I was able to proceed with improved clarity and professional solutions than in situations where I did not use the journal. In most cases, these entries did not fall within the scope of this study, although some did illuminate a few of my biases.

Prior to my decision to study my own school, the SIT sought to implement a survey to gauge teachers' anonymous perceptions of various aspects of the school. School leaders presented teachers with various options including instruments within Bolam et al., (2005), McLaughlin and Talbert, (2006), the Accreditation for Growth Self Study survey (Middle States Association of Colleges and Schools, 2010) and Keys 2.0: Keys to Excellence for Your Schools (National Education Association, 2010). Our school had previous experience with the Accreditation for Growth Self Study survey and the original Keys to Excellence for Your Schools survey instruments. The teachers' main

concern for completing a survey like this was confidentiality while the SI's main concern was data analysis. An appealing option was Keys 2.0 because NEA kept all responses confidential, completed statistical data analysis, and displayed results graphically for this school (see Figure 6 below). For these reasons, the SIT selected the Keys 2.0 survey for implementation. In April 2011, the local education association representative put the issue to vote. The results of that vote met NEA's requirements for faculty approval.

A team of scholars working for NEA developed the Keys 2.0 survey instrument as a revision to the original Keys survey instrument. That team revised and added questions to the original survey resulting in 225 total questions representing 42 indicators (National Education Association, 2010). These indicators were organized within six main Keys: 1) shared understanding and commitment to high goals, 2) open communication and collaborative problem solving, 3) continuous assessment for teaching and learning, 4) personal and professional learning, 5) resources to support teaching and learning, and 6) curriculum and instruction (for a breakdown of each indicator, see Table P in Chapter IV). Researchers piloted the Keys 2.0 instrument with a random sample of 38 schools including 12 elementary schools (5 urban, 6 suburban, 2 rural), 13 middle schools (4 urban, 3 suburban, 6 rural), and 12 high schools (4 urban, 5 suburban, 3 rural). The total number of respondents was 1,491, representing 52 percent of the population. In addition to the questionnaire data, these researchers collected several measures of student data for each school.

The team of scholars conducted factor analyses to determine if and how responses clustered together and a series of linear regressions to determine the extent that indicators of quality correlated to student achievement (National Education Association, 2010).

When NEA reports survey data to schools, they provide means, standard deviation, the average of pilot schools, and the 90th percentile for pilot schools for each of the 42 indicators (see Figure 6 below). In May 2011, 88% of 72 staff members working directly with students (e.g., teachers, counselors, and instructional assistants) completed the survey. In April 2012, 87% of the 78 staff members completed the survey. Both administrations met NEA's 80% response rate requirement to release results. Using raw data, I conducted simple t-tests between the May 2011 and April 2012 results to determine the presence of statistically significant differences between teachers' perceptions at the beginning of the study to the end (see Table P in Chapter IV). The presence and absence of significant changes between the survey's indicators in April 2012 bolstered my findings.

Figure 6: Sample Keys 2.0 Indicator Graphic Results
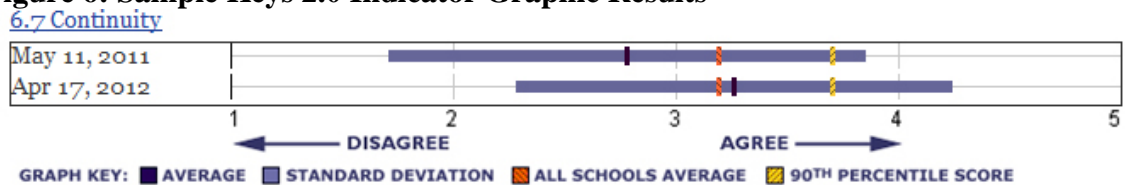
As a tool for the study, the NEA survey had certain advantages over other survey instruments. First, the required 80% response rate from staff equaled a statistically significant response rate if NEA released results. Second, the instrument had an existing degree of validity. This survey instrument had been field tested in 38 schools, used by over 1,796 schools in the United States, and analyzed by other researchers (National Education Association, 2010). Finally, I found that some of the 42 indicators corresponded to specific conditions identified by participants in this study (e.g., Indicator 6.7: *Research conducted at school influences programs and instruction* with the condition *The Study Itself*).

There were also disadvantages. First, some of the 42 indicators did not correlate with conditions identified by participants (e.g., Indicator 6.3: *The curriculum provides opportunities to study topics in-depth*). Second, some conditions identified by participants did not correspond to one of the 42 indicators (e.g., trusting relationships among teachers and with school leaders). Despite these disadvantages, I decided to include this survey in my study because it aligned with my practitioner inquiry stance. The faculty had chosen to use Keys 2.0 for our SI process. Additionally, most of the altered conditions linked with the Key Indicators.

Data Analysis

Merriam (1998) and Yin (2009) carefully note that data analysis is a *process* not an event. Data analysis does not begin at the precise point where data collection ends. Rather, they conceptualize these processes as recursive and suggest that each informs the other. While I locate data analysis within a separate section of this paper, I do not isolate it to a separate section of my research design. Instead, data analysis occurs in tandem with data collection. Merriam (1998) writes, "Data collection and analysis is a *simultaneous* activity in qualitative research" (p. 151, emphasis in original). As I began to collect data, especially in the context of this study's conceptual framework, I developed thematic categories for the components of TLCs and school conditions reported by participants.

Merriam (1998) suggests attending to specific guidelines when deriving categories from data. Scholars suggest that categories should reflect the purpose of the research and be exhaustive, mutually exclusive, sensitizing, and conceptually congruent (Merriam 1998). Merriam draws heavily on the constant comparative method found in

the grounded theory initially presented by Glaser and Strauss (1967). For example, although I initially used codes derived from the literature review during the first round of interviews (e.g., shared norms and values), I soon developed new codes from commonalities that I encountered in subsequent interviews (e.g., common purpose). As I collected more data, I continued to modify these categories. In some cases I split, combined, created, and deleted categories as data collection progressed.

In this recursive manner, I modified categories until I arrived at an endpoint beyond the conclusion of data collection. At that point, I re-coded interviews, observations, and documents to reflect the final set of codes. During the study, new codes often altered my thinking about the conceptual framework (e.g., removing shared norms and values as a characteristic of a TLC and replacing it with common purpose). These changes also prompted me to ask certain follow-up questions during interviews (e.g., questions about newly identified conditions). In Appendix K: Participant Identified School Conditions, I demonstrate how I completed an initial round of analysis of school conditions prior to the final round of interviews. After re-coding, I developed a modified version of my conceptual framework to depict how the modified codes interact visually. In Chapter IV, I present the modified conceptual framework and research findings developed from these interactions (see Figure 8).

Because the case study research design included two embedded units, I completed within-unit and across-unit analysis. Yin (2009) suggests that researchers write each individual embedded unit as a report before beginning cross-case analysis. While earlier drafts of my analysis follow his recommendations, I organize the final version of my analysis around the correlations between altered conditions and the work of TLCs. The

common themes that I located within the Math and World Language subunits strengthened overall findings.

<p align="center">**Trustworthiness**</p>

In qualitative tradition, researchers often draw from a social constructivist epistemology. In that tradition, scholars conceptualize reality as "holistic, multidimensional, and ever-changing" (Merriam, 1998, p. 202). Constructivist researchers are less interested in discovering and explaining truth than in understanding a particular phenomenon. In social constructivist worldview, research participants and researcher construct reality together through their interactions and discussions (Creswell, 2007). Like many social constructivists, I am aware that my position and power as a practitioner and researcher will affect what I come to understand (Foucault, 1977). Rather than seeking an accurate portrayal of an objective reality, I accurately present the mutually constructed reality from participants within this study. I anticipate that my transparency about my beliefs and role as a practitioner-researcher establishes trustworthiness in my research (Guba & Lincoln, 1989). I do not deny or attempt to hide that I am deeply engaged in the processes within this study.

Merriam (1998) writes, "All research is concerned with producing valid and reliable knowledge in an ethical manner" (p.198). This study is no exception. In practitioner research, researchers must probe relationships between themselves, their participants, and the contexts they study. Fine (1998) suggests that researchers analyze the notions of neutrality, universal truths, and researcher dispassion, which influences these relationships. She argues that research is not neutral, and that claims of "neutrality" obscure the researcher's own values and assumptions. Fine calls for researchers to seek

what is happening between them and their participants and challenges researchers to pay attention to whose story they tell, what interpretation(s) they include, and what consequence(s) result from the telling. When researchers understand how these multiple positions interact with the researcher, participants, and the context, Fine believes researchers will obtain data that are more trustworthy.

To increase this study's trustworthiness, data analysis adheres to the following research strategies: triangulation, maintenance of a chain of evidence, checks for rival explanations, member checks, critical friend checks, and detailed reflexive journaling. In this section, I discuss how I used each of these strategies to attend to notions of internal validity and reliability.

Triangulation

For Merriam (1998), understanding begins with accurately representing the phenomenon. To do so, Merriam suggests that researchers use multiple sources to triangulate data, which she defines as "using multiple investigators, multiple sources of data, or multiple methods to confirm the emerging findings" (p. 204). When researchers support findings by presenting multiple lines of evidence (e.g., interview, observation, and document analysis), they may strengthen potential findings by what Yin (2009) terms "converging lines of inquiry" (p. 115). In this study, I used semi-structured interviews, observations, and document analysis as multiple sources of data to confirm or refute thematic categories and findings.

Chain of Evidence

By providing logical lines of evidence, I more clearly illustrate how changes in school conditions facilitated or hindered the development of TLCs. Researchers

recommend carefully connecting the logic behind their findings by laying out pieces of

evidence in a linear way. Providing a chain of evidence increases the reliability of the

research design. Yin (2009) defines reliability this way: "if a later investigator followed

the same procedures as described by an earlier investigator and conducted the same case

study all over again, the later investigator should arrive at the same findings and

conclusions" (p.45). While qualitative studies are so contextually complex that other

researchers could never replicate the entire research design, leaving a chain of evidence

can allow others to replicate data analysis.

Capturing the spirit of "chain of evidence", Merriam (1998) suggests that

researchers leave an audit trail so that outsiders may understand "how data were

collected, how categories were derived, and how decisions were made throughout the

inquiry" (p.207). In accordance with Yin (2009) and Merriam, I maintained data analysis

records that outlined the lines of evidence that informed my findings. These records

account for intermediate steps of data analysis. I present some of these records in Tables

and Appendices referenced in the next chapter. In addition, by explicating the

connections between my case study database and findings, I documented contextual

conditions for data collection including information on time and place. Finally, the

protocol indicates a link to the research question(s) (Yin, 2009). Maintaining a chain of

evidence should have increased the trustworthiness of my study.

Rival Explanations

Using rival explanations is a strategy that involves analyzing data with alternative

theoretical propositions and explanations. Although I suggest that altered conditions

changed the work of a certain TLC, I also present alternative explanations. For example,

although I located evidence to suggest that the reason teacher facilitators continually asked for guidance was because they wanted to make their jobs easier, I also explored other possibilities. Perhaps teachers and school leaders had not yet developed trusting relationships. Alternatively, teachers could have been skeptical that they really had a say in their TLC-related decisions. During data analysis, I determined whether rival explanations fit data better than this study's findings. If I demonstrated that alternative explanations were not valid, I would strengthen my findings (Yin, 2009). Therefore, I continuously sought out rival explanations. In many cases, I presented these alternative explanations to participants during interviews. For example, during an interview segment about my influence as a practitioner researcher on participants I asked, "So would you say that [teacher participants] want to please me by participating?" (individual interview, December 12, 2011). In this case, this participant's disagreement and explanation strengthened my original explanation. To seek out additional rival explanations, I consistently asked, "Could there be another explanation?" during interviews.

To assist, I called on my critical friend to help generate rival explanations and challenge my data analysis and findings. To counter the potential bias toward generating positive results associated with practitioner research (Anderson & Herr, 2009; Herr & Anderson, 2005), I consistently considered the explanation that altered conditions had no influence on the work of TLCs before any alternative explanation.

Member Checks

To ensure that I accurately represented participants, I sought frequent member checks throughout data collection with participants on matters such as phrasing, content, and meaning. Member checks involve taking data and tentative interpretations back to the

research participants to verify accuracy (Merriam, 1998). After each interview, I

provided participants with a typed transcript of that interview and asked them to return 1)

changes or edits to *their* wording (i.e., meaning, syntax, grammar), 2) requests not to use

any of *their* wording in my analysis, and 3) requests to delete any of *their* wording from

the data-set. I asked participants to respond to my request within 2 weeks. I personally

delivered transcripts to participants. To be sure that I had communicated clearly, I

verbally re-explained the member check process in person. Many participants took

advantage of this opportunity to clarify their language through editing. I received no

requests to restrict quoting or to delete of any discourse. At the conclusion of the study, I

provided participants with their direct quotes used within this paper. At that point, many

participants requested that I make clarifications and grammatical changes to these

passages.

While phrasing and content may be straightforward, checking with members on

interpreting meaning can be tricky. Merriam (1998) suggests completing member checks

continuously during the study. To check with participants about my ongoing analysis, I

used three strategies. First, whenever I was confused on the stance of a participant

regarding their language, I spoke with them in person to clarify. When Georgia spoke

about an increased "comfort level" within the Math TLC, it was not clear what she

meant. I followed up with her to clarify and she said that she meant math teachers were

more likely to ask each other for help. She then clarified by providing a few examples.

Second, I asked for feedback on preliminary findings informally throughout the study,

during school leader weekly meetings, and during interviews. For example, if I collected

data that supported a certain explanation, I would ask follow-up questions during

interviews to ascertain comments on that analysis. Finally, I conducted a re-analysis of all data prior to the final round of interviews. From this re-analysis, I compiled lists of participant-identified characteristics of TLCs and altered conditions. Sometimes, I checked for feedback by offering a rival explanation to participants to see if they would agree or correct my interpretation. The information gained from participants during these member checks clarified and sharpened data collection, its analysis, and eventual findings.

Critical Friend Checks

Although all researchers eventually become intimate with their study and require fresh perspectives on data collection and data analysis, scholars suggest that participant researchers also work to surface pre-existing tacit knowledge and understandings (Alvesson, 2003; Anderson et al., 1994). In addition, novice researchers typically struggle to conduct rigorous case studies, especially in the data analysis phase of the research (Yin, 2009). Using a critical friend would help bolster my data collection and data analysis to address these concerns.

My critical friend was a recent doctoral graduate familiar with practitioner research and case study methods. She was not employed at this study's school or district. Additionally, she had no relationship with participants whatsoever. This critical friend was essential for surfacing my own assumptions and tacit knowledge. I regularly sought feedback from my critical friend, who lent me an "outside" perspective during data collection and data analysis. She reviewed and provided feedback about my follow-up questions plus my coding process for a first round individual interview and a second round focus group interview. Additionally, we met to discuss data collection, data

analysis, and preliminary findings twice during the study. We spoke on the phone whenever I had a question about any of these three aspects. During these sessions, she challenged my thinking and helped surface some of my assumptions. I found her input invaluable. Because of these discussions, I was able to fine tune and alter my data collection and data analysis techniques during the course of the study.

Reflexive Journal

Finally, as discussed in the document analysis section, I kept a detailed reflexive journal leading up to the study and running side-by-side with data collection. This reflexive journal clarified my thinking and delineated a record of my emerging understanding of the case. I attempted to identify bias in my thinking by writing and analyzing these memos. For example, in an entry parallel with Georgia's first interview, I reflected that I was skeptical of her completely positive attitude regarding TLCs. During the interview, she requested school leaders' help to engage two "reluctant" math teachers in the Math TLC. In that entry, I wrote, "I wonder whether Georgia is trying to serve as a buffer for her department or whether she genuinely does not know how to proceed. Georgia referenced many times that she tries to keep the peace between her department and the administration. Is she trying to protect her department from additional work associated with TLCs?" (journal entry, July 12, 2011). While I later concluded that Georgia genuinely desired to involve the math teachers in TLC work, this journal entry led me to treat data analysis with a stronger level of skepticism than I may have otherwise. The journal provided a way for me to capture both of these explanations for Georgia's comments immediately. Because of the distance between transcription, member checks, and analysis, I may have lost this initial analysis without the journal

entry. In this manner, I believe my journal increased the trustworthiness of this study. Along with my critical friend, the reflexive journal was essential for surfacing assumptions, tacit knowledge, biases, and understandings.

Ethical Considerations

Throughout this paper, I purposefully chose to use the term "participants" in describing the individuals contributing to data collection. Consistent with Merriam (1998), the use of this carefully chosen identifier implies notions of inclusion and willing cooperation. She writes, "It also serves as a litmus test considering ethics" (Merriam, 1998, p. 132). Herr and Anderson (2005) add that participants deserve to be treated with dignity by researchers and that participants are not a means toward an end. In this section, I outline the steps I took to ensure an ethical stance toward participants, including potential risks and benefits and confidentiality.

Risks and Benefits

Like any other study, participants are likely to feel discomfort or embarrassment when discussing their professional practice. The participants may fear how others will judge their ideas and skills. As discussed, my supervisory responsibilities may have amplified some participants' sense of discomfort because of power dynamics associated with my role. To minimize this discomfort, I used all of the strategies discussed above to build trusting researcher-participant relationships. In addition, as discussed in the limitations section, I was not solely responsible for any participant's evaluation process at any point during the study.

Because participants may fear that voicing their ideas and skills may lead to judgment from other supervisors (e.g., content supervisors) or outsiders, I also had an

ethical obligation to protect their information from unauthorized reviewers. I limited the review of transcripts and audio recordings of interviews and observations to the researcher and the critical friend. During the initial interviews, I shared the steps that I took to protect transcripts and audio recordings on my personal computer including the use of password protected encryption software.

Although school leaders and teachers are likely to have some concern about exposing their own professional practice with each other, participants may have benefited from participation in this study. Collective inquiry associated with the work of TLCs and critical reflection associated with the research process may lead to increased insight into professional practice and experience. As I have stated before, determining whether there were changes to professional practice is outside the scope of this study.

Confidentiality

Throughout the study, I strived to treat participants in an ethical manner by strictly maintaining confidentiality and obtaining consent. Pseudonyms were used during data analysis, interpretation, and reporting in order to protect the identity of each participant and ensure confidentiality. Only the investigators had access to the information linking participants' names with the assigned pseudonyms. Each participant received a copy of the consent form for his or her records. The form was shared with participants prior to data collection, and they received it in person and completed it privately (see Appendix L). In addition to password-protecting folders in my personal computer, I ensured confidentiality by storing hard copy data in a locked file cabinet at home. After five years from the end of this study, I will erase electronic versions of transcripts and other data and shred hard-copy data. I took all measures to ensure that the

data was accessible only to those with authorized to access, i.e., the researchers and my critical friend.

Conclusion

In this chapter, I have presented rationale for the use of qualitative case study methodology to answer my research questions. I have explained how I came to select my own school as the site for this study and how I collected and analyzed data. In addition, I discussed the consequences of my decisions and my plans for establishing the trustworthiness of my study. Finally, I presented some important ethical considerations to safeguard participants.

Herr and Anderson (2005) suggest that many novice researchers make the mistake of researching their own practice because it is convenient and easier, when in fact it requires more work than conducting research at separate sites. I have not chosen this research design out of convenience or ease; rather, I made the decision because the opportunity for change within my school. Anderson and Herr (2009) suggest that school leaders conducting this type of research should not expect comfortable or pretty studies. Having completed the study, I agree with them. Navigating the tensions between my dual roles of practitioner and researcher was difficult at times. In retrospect, I am happy with my methodological decisions. Although they presented challenges, I was pleased to have the opportunity to improve my own professional practice as well as those of other educators.

In the next chapter, I present and analyze the data I have collected in relation to my first three research questions. What follows is the account of how a practitioner learns about his craft and the learning process itself. Additionally, by producing rich

descriptions of how school conditions influence the development of TLCs, my hope is

that this study informs theory, policy, and practice for those researchers, policy-makers,

and practitioners interested in the understanding of and/or development of TLCs.

Chapter IV: Research Findings

The purpose of this chapter is to describe how a school-based leadership team identified and altered school conditions to foster two TLCs. I tell the story of how a team of six school leaders attempted to foster two of these TLCs: the Math and World Language Disciplinary Committees. I begin with a description of the broad SI process in order to provide context for the rest of my analysis. My primary research question asks how a school-based leadership team identifies and alters conditions that facilitate or obstruct the development of TLCs. To assist in answering this question, I asked four more questions. The first question captures how participants conceptualize TLCs. The second question addresses how the leadership team identifies and alters conditions. Once school leaders alter those conditions, the third question asks whether there is any impact on the two different TLCs. In this chapter, I discuss and interpret the data to answer the first three questions. In the next chapter, I answer the fourth question about the implications of those findings on the type of relationships between altered conditions and the development of TLCs.

Description of SI Process

In preparation for Race to the Top, the Common Core, and new teacher evaluations, district leaders reassigned professional development responsibilities from district content supervisors to principals. This shift provided more time for school leaders to engage with teachers through professional development. In addition to the monthly hour-long faculty meetings already within their responsibility, principals could now plan activities for three professional development days and two three-hour early dismissal

days during the school year.[18] The district also shifted district funding allotted to professional development to principals.

During the spring of 2011, prior to the study, our school leadership team started planning the implementation of TLCs as our SI initiative. Our district mandated that principals cover certain topics such as the Common Core, the teacher evaluation process, and grading policies. From the start, we sought to use TLCs as a way for our teachers to tackle whichever professional requirements they wanted. Because of this approach, we viewed the county requirements as compatible to our planned outcomes for fostering TLCs. For example, the district mandated that English teachers pilot parts of the new Common Core curriculum in the spring. Because of this, English teachers chose to include piloting these units into their TLC goals and action plans.

We continued our SI initiative with an extensive gaps analysis of our student data[19] and the selection of a common purpose at the July 2011 SIT Retreat. The gaps analysis is a required component of the Keys 2.0 process. It facilitates a comparison of perceptions (i.e., the Keys 2.0 survey) against present levels of student performance (e.g., SAT scores, attendance rate) for SIT Retreat attendees. By having teachers, students, school leaders, parents, and community members select a common purpose in this manner, school leaders hoped to develop buy-in of that common purpose for the work of each TLC. During the SIT Retreat, attendees selected six transdisciplinary teams to serve as SIT committees. Participants indicated that previous SIT committees had not met regularly, if at all. To address requirements (e.g., the district's required STEM project,

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[18] Two of the three professional development days were part of the August 2011 teacher preservice week. The third day was in February 2012. The two early dismissal days occurred in October 2011 and March 2012.

[19] Outcome data included SAT scores, Advanced Placement scores, Mid-Atlantic State Assessment scores, attendance rates, discipline referrals, and results of a student perception survey.

the district's required Health and Wellness goal) and address other areas of

concern/interest (e.g., Advanced Placement, Character Education), school leaders and

teachers agree to re-organize SIT committees into transdisciplinary teams.[20]

Attendees also decided that teachers would belong to their respective departments

(hereafter, disciplinary teams) in addition to one of the six transdisciplinary teams. A few

weeks later, another group of teachers met and drafted membership for these

transdisciplinary teams. Just prior to teacher preservice week in August 2011, school

leaders identified and met with teachers willing to facilitate disciplinary and

transdisciplinary TLCs. While many of these teachers held formal leadership positions,

such as department chairperson, others did not.

As teachers returned, they met with their disciplinary and transdisciplinary teams

to create goals and action plans aligned to the common purpose identified at the summer

SIT Retreat. Throughout the school year, we devoted faculty meeting time, professional

development time, and funding to support a total of 15 TLCs' work on their unique and

complex goals and action plans (see Table D). TLC action plans included diverse action

steps such as a Chestnut Grove transplant,[21] character education pilot, evening student

showcases, vertical course alignment, peer observations, and student recruitment efforts

to name a few.

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[20] SIT Retreat attendees chose six transdisciplinary teams to serve as SIT committees: Advanced
Placement, College and Career Readiness, Character Education, Education That is Multicultural, Health &
Wellness, and STEM.
[21] The Chestnut Grove transplant involved moving about 30 Chestnut tree saplings to a more viable
location on school grounds. The STEM committee chose this project to satisfy the district's STEM project
requirement. The project involved soil sampling, digging, growth rate statistics, research, landscaping, and
many other activities. Students completed all of the work in this project through classroom activities.
Teachers in the STEM committee coordinated classroom lessons for their own, and other teacher's
classrooms, to complete the work or study the process.

At the end of the year, Thomas, the principal, commented on the uniqueness of our SI initiative. He said that, for him, SIT committees had always been something that people signed up for solely as a contractual requirement. SIT committees had not traditionally operated much at all. We agreed. Putting six transdisciplinary TLCs in place and transforming the operations of departments into disciplinary TLCs was a total change in mindset for our teachers. TLCs represented a different way of doing business at Carter's Run. Each teacher now served on two TLCs: a newly formed transdisciplinary TLC and a re-conceived disciplinary TLC. While teacher participants supported this switch, the transition colored how they conceptualized and operated within those TLCs. A discussion and analysis of data is next, as I explore how school leaders and teachers conceptualized TLCs.

RQ#1 – Participants' Conceptualizations of a TLC

Although I selected Kruse et al.'s (1995) five elements of TLCs as a starting point for this study, I set them aside in order to investigate the first research question: *How do school leaders and teachers conceptualize TLCs*? When I asked participants to define a TLC, two participants provided traditional definitions. Both of them were school leaders. Catherine, the academic facilitator, defined a TLC as a group of educators coming together to address, investigate, or solve a topic or issue that is somehow related to them. Thomas, the principal, defined a teacher learning community as a group of dedicated teachers that come together to analyze and change the way they teach and to influence student learning in a lasting way. He clarified that while he could improve the school profile by changing who taught assessed courses and putting pressure on certain teachers, those changes would be superficial and short-lived. For Thomas, fostering TLCs is a

strategy that can lead to large systematic change. Both definitions are compatible with my own.

In contrast, all teacher participants, the assistant principal (Nadia), and both teacher facilitators (Georgia and Joan) did not offer definitions; instead they listed characteristics in their responses to questions on TLC definition. During almost every interview, the math teachers identified collegiality as a characteristic of a TLC capable of achieving its goals. Nadia discussed the importance of trust as a characteristic of teachers working within TLCs during each of her five interviews and in one of her journal entries. During three of her individual interviews, Joan emphasized the importance of complementary skill sets as individual teachers worked to support each other within TLCs.

One of my goals was to capture changes in how participants conceptualized TLCs. During the second, third, and fourth rounds of interviews, I continued this line of questioning by asking participants what traits a teacher group such as theirs would need to achieve their goals (see Table K below). Participants identified 61 distinct qualities of TLCs during interviews and observations (see Table J below). Prior to the final interview, I reviewed interview transcripts, observation transcripts, and documents for references to each of the 61 TLC qualities. Next, I sorted this list by frequency. Finally, I grouped qualities together by theme and compiled a list of defining characteristics of TLCs: trusting relationships, common purpose, reflexive dialogue, collaborative activity, data-driven decisions, and agency.

Initially, I organized qualities for common purpose into two separate characteristics: common purpose and manageable goals. As I reviewed the list of

qualities for each initial category, I decided to combine manageable goals with common

purpose. I based my decision on two factors. First, participants often used the word

"goal" as a synonym for one of the two Key Indicators that our school had selected at the

SIT Retreat as our common purpose. Second, once I adjusted for this, the frequency of

the remaining qualities fell sharply below the other categories. Conversely, while I only

grouped two distinct qualities under data-driven decisions, the frequency of those

mentions by participants elevated it to comparable status with the other characteristics.

I present the top six characteristics in order by frequency of mention. That does

not mean, however, that I have ranked them in order of significance. Ranking the

characteristics of a TLC by importance is beyond the scope of this study and its research

questions. At the bottom of Table J, I list eight qualities that did not directly relate to any

of the six categories that I developed. Because none of these qualities received more than

two separate mentions, I chose not to create additional characteristics representing them.

Table J: Articulation of Participant-identified and Final Characteristics of TLCs

Final Characteristic	Participants' Qualities of a TLC
Trusting Relationships	Mutual trust, mutual respect, treating each other as professionals, non-threatened by critique, lack of fear, not being defensive, honest critique, overcoming fear of failure, confidence in each other, risk taking occurs, members are open-minded, transparency, sharing different points of view, collegiality, empathy (14)
Common Purpose	Shared purpose, common expectations, united we stand, short/long term goals, goals meaningful to students, student-centered purpose, clear/focused purpose, goals are realistic/manageable, supporting common purpose despite disagreement/buy-in, resolving an issue or problem, new things as purpose/goals (12)
Reflexive Dialogue	Self-reflection, group-reflection, group evaluation, being critical, self-assessment, honest critique (6)
Collaborative Activity	Sharing, willingness to share, working together, joint work, joint work influences teacher thinking and/or classroom practice, members supportive of each other, teachers seeking help from other teachers, complementary skill sets, structured meetings (agendas), rich discussion (11)
Data-Driven Decisions	Data-driven decisions, working with student work (2)
Agency	Everyone has input, everyone's voice is heard, power is shared, leadership is distributed, buy-in for all members, members value participation in groups, members find work meaningful/valid, teacher choice to participate (8)
Characteristics Without Articulation	Positive attitude, creativity/innovation, flexibility, relentless, seeing bigger picture of school, willingness to change, effective teacher leaders (8)

I presented my list of characteristics of TLCs during the final round of interviews. I explained that I developed the list from participants' feedback about teacher groups being able to accomplish goals such as theirs (see Appendices H & I). After asking participants about the presence of these six traits in their own TLCs, I asked whether I omitted important characteristics and/or included unimportant ones. I had hoped to refine the list and confirm or disconfirm choices I had made in the data analysis process. During those discussions, I specifically asked participants about combining or separating manageable goals and common purpose. Participants agreed that the characteristics

should remain combined. Although a few participants described additional traits, I found the descriptions of these traits congruent with one of the six I presented. For example, one participant suggested adding collaborative planning as a trait. During her explanation, she agreed that her notion of collaborative planning fit within my description of collaborative activity. No participants recommended removing a characteristic from the list. By presenting this list to participants and seeking their critical feedback on my data analysis, I hoped to strengthen the findings for this part of the study.

Characteristics of a TLC

Three of the six traits I constructed from participants' responses, common purpose, collaborative activity, and reflexive dialogue, correspond neatly to Kruse et al.'s five elements of TLCs (see Figure 7 below). Participants identified three other characteristics that did not correlate in obvious ways: trusting relationships, agency and data-driven decisions. In addition, participants did not explicitly identify Kruse et al.'s deprivatized practice as one of their characteristics, although a piece of their descriptions of trusting relationships and agency overlap. In what follows, I present summaries of participants' descriptions of each characteristic and explain how each corresponds within Kruse et al.'s conceptualization of a TLC.

Figure 7: Venn Diagram Comparison of Kruse et al.'s (1995) Elements of TLCs
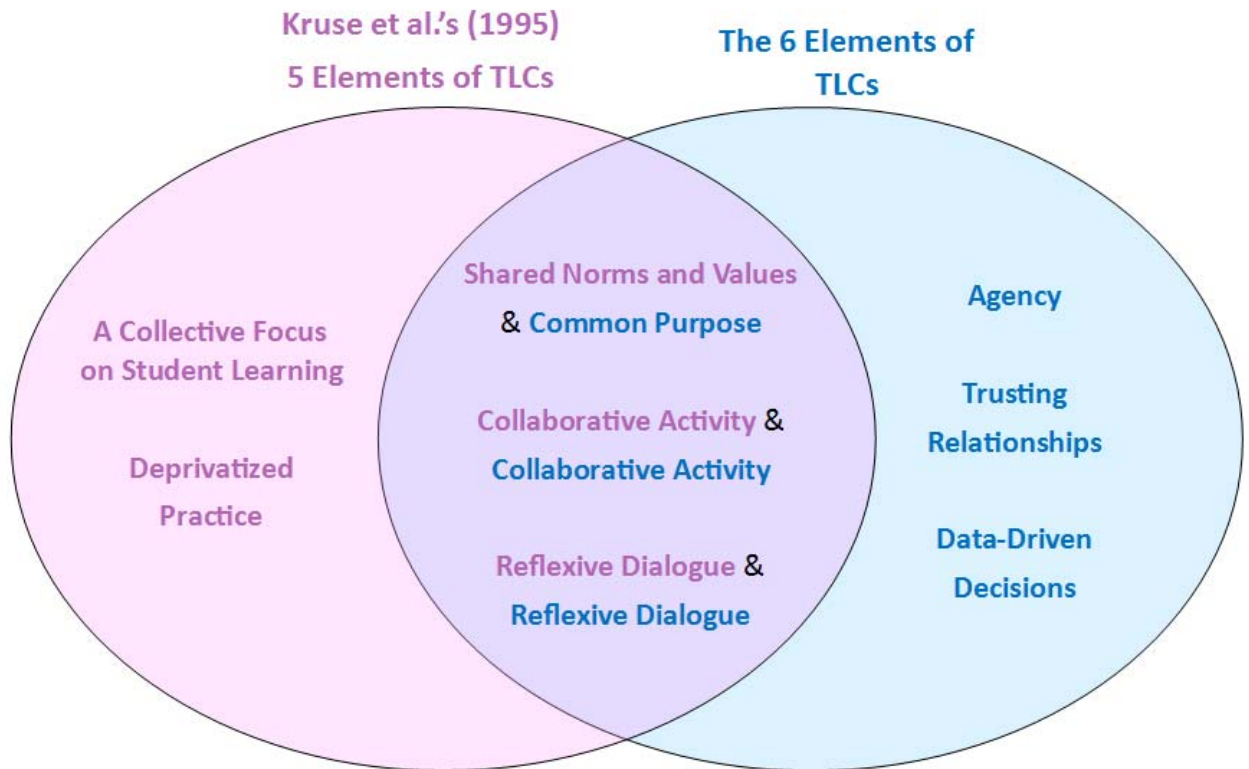
Participants' conceptualizations of these six elements meant that I needed to revise the conceptual framework from Figure 5 (presented in Chapter II). As I discussed in that Chapter, I had always planned to set aside components of the conceptual framework during the study so that I could accurately depict participants' conceptualization of TLCs and supportive conditions. I revised the framework (Figure 8) by adding an additional bubble and revising the other bubbles on the far right, which represent the characteristics of a TLC. These bubbles remain linked to the TLC box. I did not amend any other aspects of the conceptual framework including its function.

Figure 8 – Modified Conceptual Framework of School-Based Support of TLCs
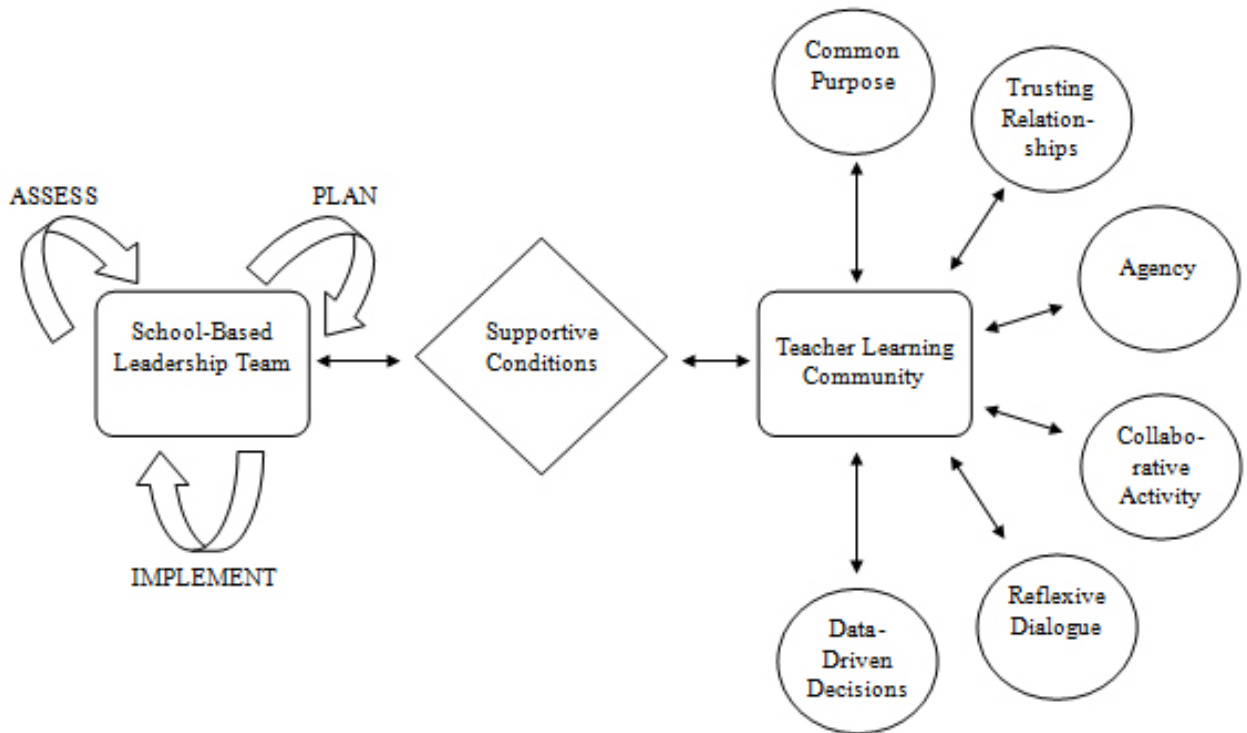
In order to track how altered conditions influenced the development of TLCs, I planned to rate each TLC against a rubric detailing the indicators for each characteristic. I initially presented a rubric based on Kruse et al.'s (1995) five elements of a TLC in Chapter II (Table A). Given the additional characteristics and different explanations of similar characteristics reported by participants, I revised the original rubric by altering or creating descriptors (Table L). At the end of this section, I applied this modified rubric to assess the initial and final development of TLC within the Math and World Language groups. I chose to use the modified rubric for initial and final assessments for two reasons. First, using the same rubric facilitated the types of comparisons that I planned to use to measure TLC development. Second, participants reported the influence of altered

conditions using their language, not Kruse et al.'s. Because I developed the modified

rubric based on their conceptualization of a TLC, the language was congruent.

Table K: Development of Participant's Conceptualization of TLCs

Final Characteristic	1st Round Interviews	2nd Round Interviews	3rd Round Interviews	4th Round Interviews
Trusting Relationships	5, 2	4, 0	3, 2	4, 0
Common Purpose	5, 2	4, 0	3, 0	4, 0
Reflexive Dialogue	4, 2	3, 0	2, 2	2, 0
Collaborative Activity	3, 1	3, 1	2, 1	0, 0
Data-Driven Decisions	3, 1	1, 0	1, 0	2, 1
Agency	1, 1	3, 0	2, 1	0, 0

First number represents school leader mentions (out of five participants)
Second number teacher mentions (out of two TLCs)

Trusting Relationships. Another characteristic identified by participants that

Kruse et al. did not include explicitly on their list is "trusting relationships." Trusting

relationships was the most frequent and most consistent characteristic identified by

participants in the study. Each school leader and both TLCs contributed trusting

relationships to the list of characteristics needed by TLCs to achieve their goals. In fact,

participants presented a description of trusting relationships during the first interview.

While school leaders heavily referred to trusting relationships throughout the study (see

Table K), teachers within TLCs did not bring up trusting relationships again until the

final interview. While it is possible that teachers did not value trusting relationships at a

level high enough to report it as a characteristic during subsequent interviews, I offer an

alternative explanation. Teachers' responses to the question about TLC characteristics

during continuing focus group interviews (see Appendix B) were scant. I asked fewer

follow-up questions of them during this part of the interviews than I did for school

leaders and for other aspects of the focus group interview. Based on teacher participant

responses during the final round of interviews, I hypothesize that, with consistent

amounts of follow-up questions, trusting relationships would have been more frequently

reported during those interviews. I find support for this hypothesis in Table K, which

illustrates how teacher mentions of other characteristics also dropped after the first round

of interviews.

Participants' descriptions of trusting relationships emphasized mutual trust,

mutual respect, treatment as professionals, lack of fear, lack of defensive posturing,

honest critique, openness to critique, transparency, and the ability to share different

points of view. Their descriptions of trusting relationships connect with Kruse et al.'s

description of reflexive dialogue. Participants' language suggests that trusting

relationships facilitate reflexive dialogue. They describe trusting relationships as those

that lack of defensive posturing, promote honest and open critique, and facilitate the

sharing of different points of view. These qualities likely would lead to self-awareness

about one's work that Louis et al. (1996) talk about when they define reflexive dialogue.

From this perspective, trusting relationships facilitate the possibility for reflexive

dialogue within TLCs.

While participants did not use deprivatized practice to describe TLCs at any point

during the study, it is not difficult to extend some of the descriptions for trusting

relationships to Kruse et al.'s concept of deprivatized practice. For example, not being

defensive, giving honest critique, and sharing different points of view could imply that

teachers anticipated sharing their instructional practices with each other. In order to do

so, the right combination of conditions is needed to encourage them (Little, 2003). The participants' descriptions of trusting relationships could easily fit on the list of conditions needed to support activities leading to deprivatized practice. Kruse's deprivatized practice may represent, in part, developed trusting relationships between TLC members. At a minimum, the characteristic of trusting relationships is a precursor of deprivatized practice.

For some participants, I think trusting relationships are completely compatible with deprivatized practice. For example, in his discussion of relationships, the principal suggests that sharing personal instructional practice is a desired result of teachers' work within TLCs. Thomas aims to develop relationships with teachers where they can openly accept constructive criticism and willingly modify their beliefs and practices. He said,

> If you're going to get teachers to analyze each other's work and each other's lesson plans and maybe come in and visit each other's classes and really give true feedback, they can't be afraid to give feedback. And the other person has to be ready to accept that (Thomas, July 25, 2011).

Joan, facilitator of the World Language TLC, agrees –developing relationships facilitates constructive criticism. She said, "I feel very comfortable [collaborating with my TLC]. Some people use criticism as critique to help others improve. But others use criticism for its own sake, that won't work for me" (individual interview, December 1, 2011). For Joan, the creation of trusting relationships promotes genuine concern for each other's personal growth as professionals.

Common Purpose. Participants described common purpose differently throughout the study using phrases like: shared purpose, common expectations, united we

stand, clear purpose, student-centered purpose, and a common purpose despite disagreement. Participants' descriptions of common purpose capture the core of Kruse et al.'s description of shared norms and values. Missing from participants' descriptions of common purpose are more nuanced aspects of common beliefs and values that other scholars capture. Given that this was the first year of participating in TLCs, I was not surprised that participants omitted them. I suspect that these aspects will surface for teams as they continue to work together in their TLCs during subsequent years.

Like trusting relationships, each school leader participant and both TLCs discussed common purpose during the first round of interviews. Despite school leaders' interviews preceding the SIT Retreat, I attribute the attention to common purpose to the selection of two Key Indicators at the SIT Retreat. Discourse about common purpose was consistent throughout the study. School leaders discussed the importance of common purpose during the second, third, and fourth round of interviews (see Table K). While neither TLC explicitly discussed the value of common purpose until the final interview, each discussed and analyzed their goals and action plans during each interview. Frequently, participants used terminology about goals and action plans to refer to the two Key Indicators. For example, Catherine said, "And is [our project] working in the direction of the goals that we've set? Are we trying to get the barriers removed? Are we trying to get parents onboard?" (individual interview, February 14, 2012). Although she speaks toward "goals," she clarifies that she is speaking about Key Indicators 2.2 and 2.3. When this occurred, I interpreted their "goal" language to be synonymous with common purpose.

School leaders expressed hope that teachers would use the Key Indicators to develop well-defined, realistic, and substantial goals that could either be related to teaching and learning (e.g., implementing formative assessments) or solving a teaching and learning problem (e.g., clarifying the second-chance-learning policy). One school leader described a "substantial goal" as one capable of bringing about change. She suggested that these goals not exceed what a TLC could accomplish during the school year with modest support. There is a fine line between substantial and manageable goals, and almost every TLC at this school wrestled to achieve balance between the two.

For Georgia, facilitator of the Math TLC, clarifying the implementation of an ambiguous district second-chance-learning policy provided an immediate opportunity for her TLC's first goal. While the TLC had the opportunity to anchor this goal in student data and/or connect it to changes in instructional practice, it fell short of the type of goal school leaders sought. School leaders preferred that TLCs developed goals linked to one of the two Key Indicators: collaboratively removing barriers to student learning and involving parents in the educational process. This is an example of how TLCs' goals may not necessarily have linked to that common purpose. We agreed, however, that this was an ambitious expectation for our newly formed TLCs.

Reflexive Dialogue.[22] Responses from participants led me to believe that they hoped that they would improve their personal instructional practice from their engagement with their TLCs. They identified self-evaluation, group-evaluation, self-reflection, group-reflection, being critical, and self-assessment as qualities of a TLC

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[22] I characterized reflective dialogue as "self-reflection" during Initial analysis. In fact, I used the term "self-reflection" during final round of interviews (see Appendices I & J). Participants' responses during those interviews highlighted how "self-reflection" failed to capture team members' emphasis on critical discourse with each other accurately. During subsequent rounds of data analysis, I chose to re-characterize self-reflection as reflective dialogue.

capable of achieving its goals. These descriptors are consistent with Kruse et al.'s "reflexive dialogue" as a characteristic of a TLC. During participants' discussions on reflexive dialogue, they referenced the importance of trusting relationships. Teachers, in particular, expressed concern over destructive and harsh criticism from colleagues.

For example, Joan believed the World Language TLC would be more successful in achieving its goals with critical group-reflection. She felt that all teachers have something to learn from one another, but she also recognized that collaborative activity could open up teachers' private instructional practices to negative criticism. She said,

> If we are truly empathetic to one another, and I mean I'm of the mindset where I
> will never stop learning, if I'm surrounded by people like that, then none of the
> vulnerabilities will be used in a negative way. (World Language group interview,
> October 24, 2011)

During her initial interview, Joan said that she wanted to learn whether or not she was teaching something "right" and, if not, learn ways to "fix it"; however, she did not want to expose herself to destructive and judgmental comments from her peers. Her comments are representative of other teacher participants in this study.

Collaborative Activity. In the case of collaborative activity, Table K is misleading. School leader and teacher participants gave examples of collaborative activity in every single interview. At some point during interviews, each school leader participant, except Thomas, explicitly identified collaborative activity as a characteristic of a TLC capable of achieving its goals. The most striking observation of the descriptions and specific mentions of collaborative activity is the transformation of "sharing" language to "joint work" language. I attribute these changes, in part, to my

own participant researcher role. In reviewing my data, I noticed that during school-leader team meetings and in my personal reflexive journal, I increasingly speak about and reflect on the absence of "joint work" within disciplinary TLCs.

The most common form of collaborative activity identified by participants was sharing and the willingness to do so. Participants said that members of a TLC should be supportive of each other when seeking help within the group. In her first interview, Georgia said, "I think the only way to teach is to [collaborate with other teachers on lessons and activities]. I think it just makes everybody better. No matter how long they've taught, I've always learned something from someone else" (individual interview, July 12, 2011). Georgia suggested that the most successful departments were ones sharing instructional strategies, sharing instructional materials, and collaboratively solving problems. Joan emphasized the need for TLCs to consist of members with complementary skill sets. She believed that each team member had specific instructional strengths that supported other members' weaknesses. For Joan, these strengths fit together like a puzzle to assist the entire TLC in achieving its goals. These descriptions of collaborative activity provided by participants are congruent with Kruse et al.'s descriptions of teacher collaborative activity.

Despite their willingness to engage in collaborative activity during initial interviews, teachers at this school traditionally kept to themselves. For Nadia, the lack of sharing and joint work between teachers was difficult to comprehend. She said, "You go into the medical field and lives are at stake. Before anyone makes a life threatening decision, they consult with everybody else they can. We don't do that [in education]. And I don't know why" (journal entry, September 11, 2011).

As the year progressed, teacher participants also identified joint work as a form of collaborative activity. I suspect that joint work surfaced because of my line of questioning during interviews and my comments during department chair meetings. During interviews, I probed for examples of this type of collaborative activity. During department chair meetings, I expressed interest in TLCs moving toward co-planning, co-teaching, and analysis of common assessments as activities. Drawing on Little (1990), I conceptualized joint work as a part of a progression for TLCs beyond sharing.

Data-Driven Decisions. At the beginning of the study, our school leadership team formally discussed the expectation for teacher facilitators to collect and analyze data. While I would have expected these discussions to influence teacher facilitator and TLCs, mentions of data-driven decisions occurred primarily during school leader interviews (see Table K). Within those school leader interviews, Thomas, Nadia, and Catherine mention data-driven decisions more than twice as many times as the teacher facilitators, Georgia and Joan. Even among school leaders, mentions of the importance of data-driven decisions dipped during the middle of the study. Teachers within TLCs rarely identified data-driven decisions as a characteristic that would help TLCs achieve their goals. The absence of data-driven decisions from teachers' descriptions of TLC characteristics may explain the sluggish progress made by TLCs in this study.

What is surprising, however, is the lack of discussion and action about data-driven decisions during the middle of the study, especially considering our communication and plans at the beginning of the study to emphasize it. One explanation for this dip may be that participants were "caught up" in the work of their TLCs. Another explanation may be that participants conceptualized data-driven decisions as periodic rather than

continuous. Although I am skeptical that school leaders conceptualized data-driven decisions as periodic, that explanation is plausible for the teachers whose sole experience with systematic analysis of data in my two-year-experience at that school occurred during the SIT Retreat that summer. Similar to my explanation of joint work in the collaborative activity section, I attribute my influence as a researcher as the cause for the resurgence of data-driven decisions during the fourth round of interviews. I find evidence that I increased my discourse about data-driven decisions during school-leader meetings and in my personal journal.

Participants' descriptions of data-driven decisions partially overlapped Kruse et al.'s description of a collective focus on student learning. In particular, scholars recommend that successful TLCs analyze student outcome data (Hawley & Sykes, 2007; Huffman et al., 2001; Little, 2002). However, a focus on student learning does not always have to be data-driven. Scholars find that a focus on teaching and learning, not necessarily student outcome data, has the highest chance to influence teacher practice and student learning (e.g., Little, 2003; Marks & Louis, 1999; Supovitz, 2002). While I interpreted our expectation that teachers link their TLC work to *student outcome* data, I now recognize the ambiguity in our emphasis of data-driven decisions. Teachers could interpret school leaders' expectations to work with data other than student outcome data (e.g., participation in a faculty Zumba class, number of content area parent newsletters). In fact, many TLCs collect parent involvement data to address their Key Indicator 2.2 goals, but fail to analyze that data for connections to teaching and/or learning (e.g., number of parent conferences without analyzing the influence of those conferences on student performance).

The school leadership team hoped to achieve buy-in by giving teachers choice and flexibility. The team also expected teachers to improve the school's academic profile. Speaking on the tension between teacher choice and expectations, Thomas said, "[I] try to get the staff to believe in the direction [I] believe that the school should be going" (individual interview, July 25, 2011). In order to jockey both of these ideals, he emphasized anchoring decisions in student learning data, remaining open to adjustments, and tolerating errors and shortfalls. He added that when teachers do not look at student learning data, "you might have to guide them a little bit on a stronger level" (individual interview, July 25, 2011). Nadia believed that change, and the need for change, had to come from collaboratively looking at data. From data-analysis, Nadia believed that rich discussions between staff would occur, which could potentially influence teaching and learning.

Agency. Although I collected a significant amount of data from participants indicating the importance of agency, it was the least frequently identified characteristic from this group. Participants more frequently identified agency in the beginning of the study. Each school leader except Georgia commented on the importance of agency at some point during the study. Teachers within both TLCs also noted the importance of agency for their TLCs. During these interviews, participants emphasized the importance of individual teacher involvement in setting goals and action plans within TLCs as a characteristic of a TLC capable of achieving goals such as theirs. Participants described agency as: equal voice, shared power, distributed leadership, total buy-in, and valued group participation. After the third interview, however, there were no additional mentions of agency by participants until the final round of interviews.

While Kruse et al. did not directly identify a similar concept in their list of TLC characteristics, other scholars did. Agency most closely aligns with the notion of collective control over important decisions offered by Secada and Adajian (1997). As I discussed previously, Kruse et al.'s description of shared values and norms includes shared decision making. Because of this, I initially linked Secada and Adajian's description of collective control with Kruse et al.'s description of shared decision making. In the same manner, participants' descriptions of agency also align aspects of Kruse et al.'s shared values and norms. For example, Catherine's says, "I thought the [project] went very well. And that's because we had people who listened to other's voices saying that it was important for students. They saw the value in [the project]" (individual interview, March 7, 2012). Catherine's description of openness and voice resonates with Louis et al.'s (1996) description of teachers coming to consensus on their values and to using shared decision making to describe shared norms and values. Given the emphasis placed on agency by participants, I separated agency from common purpose so that it would bear equal consideration in the assessment of TLC progress.

In addition, Catherine's account links her description of agency within her TLC's project with reflexive dialogue. She continues to explain, "If we have teachers that don't see the value in [the project], then that program's going to be less successful. So the TLC's choices are either to find a way to convince others that [the project] is important, or you will not have [the project]" (individual interview, March 7, 2012). Catherine's description implies that teachers will engage in reflexive dialogue within the TLC and with the faculty at large. Surfacing critical opinions about her project may also lead some

teachers to deprivatize their instructional practice as they explain their viewpoints to each other.

Modified Level of TLC Rubric

Participants' concept of a TLC differs from Kruse et al.'s on three points: the exclusion of deprivatized practice, inclusion of agency, and inclusion of trusting relationships; however, there is overlap. Participants include aspects of deprivatized practice in their descriptions of trusting relationships and agency. Their descriptions of agency also align with shared values and norms and deprivatized practice. In addition, some of the descriptions of the participants' concept are more sweeping and less refined than those Kruse et al. provide (e.g., common purpose as a subset of shared values and norms). In light of these differences, I modified Table A: TLC Level Rubric for the Five Elements of a TLC, illustrated below (see Table L). These revisions were an important step in the study because participants' conceptualizations of TLCs differed from Kruse et al.'s. Participants identified additional characteristics and explained others differently.

First, I sought to make comparisons between the initial and final levels of TLCs using the same rubric. Second, when answering the third research question about perceived impact of altered conditions on the development of the TLC, I wanted an instrument that accurately represented participants' own views of a TLC. Finally, I drew on literature to alter the modified rubric presented in Table L (Grossman et al., 2001; Kruse et al., 1995; McLaughlin & Talbert, 2006; Secada & Adajian, 1997)

In addition to adding agency and adjusting deprivatized practice, I modified language of other elements to reflect participant discourse more accurately. These revisions are included in Table L below. One of the most notable changes to the rubric

was the addition of agency. In addition to the sources cited above, I used literature detailing how TLCs overcome conflict (Achinstein, 2002; Calderon, 1999; Levine & Marcus, 2010; Little, 2003) and address the norms of autonomy, privacy, and egalitarianism (Lieberman, 2009; Lortie, 1975; Murphy et al., 2009). I modeled that language to mold the original rubric's language for deprivatized practice. Next, I revised the language within the deprivatized practice category to represent trusting relationships. I also drew from literature about trust and school leadership (Bryk & Schneider, 2002; Tschannen-Moran, 2009) and how TLCs develop higher degrees of trust (Aubusson et al., 2007; Grossman et al., 2001; McLaughlin & Talbert, 2006; Sergiovanni, 1994).

Table L: Modified TLC Level Rubric for the Six Elements of a TLC

Element of TLC	Traditional Community 1	Strong Traditional Community 2	Professional Community		
			Novice 3	Intermediate 4	Advanced 5
Trusting Relationships	Mutual trust is low or exists only in pockets. A norm of privacy isolates teachers. Professional development does not permeate classroom instruction.	The norm of privacy gives way to the pressures of high-stakes accountability as teachers share best practices around student testing and course assignment.	Trusting relationships are widespread as school community members share across levels. The focus of teams is on student learning and instruction.		
			Teams collaborate beyond high-stakes accountability best practices to address classroom-based issues. Teachers begin to seek input from each other.	Teams have genuine conversations about student learning, pedagogy, and assessment. Teachers seek and give critical feedback without fear.	Teachers are committed to making their craft public. Genuine conversations about student learning, pedagogy, and assessment are common.
Common Purpose	Some individual teachers operate together under a common purpose, but their purposes are either diverse or non-communicated.	Individual teacher teams may be able to articulate a common purpose, but they may not be widely shared.	Teachers and school leaders create and articulate a common purpose. Norms count more than rules.		
			A focused effort to achieve the common purpose exists.	School community members begin sharing their purpose and using shared language.	Collective accountability for student success is widespread. Innovation and variance are valued and explored.
Reflexive Dialogue	Exists during formal observation and evaluation meetings between teachers and supervisors. Professional development viewed as an event. Outcomes superficial.	Exists during pre- and post-observation conferences. Genuine efforts are made for teachers to adjust their own practice	Work within the school community generates knowledge of practice and eventually increases professional growth and student learning. Professional development is viewed as a process that directly influences teacher practice.		
			Individual reflection begins between different members of the school community.	Individual reflection occurs between all members and begins to reflect a collective commitment.	Individuals openly question collective norms and values and their application to student learning and discipline.
Collaborative Activity	Professional expertise is guarded and sharing is limited.	Professional expertise is based within discipline knowledge. Some sharing occurs, but it is restricted to small groups of teachers.	Professional expertise is collective and freely shared across levels and disciplines. Teachers co-plan, observe each other's instruction, and give common assessments.		
			Teacher teams begin to wrestle with improving classroom-based and school-wide issues. Some groups of teachers may begin jointly working together.	Teachers divide work among members of the collaborative team for maximum benefit of the collective. Teachers begin to engage with joint work.	Successful team protocol replicates across, and among, different levels and disciplines. Teachers regularly engage in joint work.

Data-Driven Decisions	Decisions linked to student data are limited or absent completely. Belief exists that students play passive roles in content learning. Assessment is through text-based projects, quizzes, and tests.	Decisions are linked to student data in assessed courses. Belief exists that students play passive roles in content learning. Some groups of teachers may put students in active learning roles. Assessments are used to sort students.	Data consistently influences decision making. Belief that students play active roles in content learning. Teachers reject the bell curve and widely implement mastery learning. Students have choice and teachers assess their learning through standards-based performance assessments.		
			Experimentation occurs with indicators, content standards, and measurement tools. Data is collected but superficially analyzed.	Teachers identify indicators for student learning, and measurement tools are created. School members use data to inform decisions.	Student learning data for decision making is integrated into school community practice.
Agency	Teachers and school leaders avoid professional conflict and disagreement. Norms of non-interference and egalitarianism prevail.	The norms of non-interference and egalitarianism give way to the pressures of high-stakes accountability as teachers seek each other's input to deal with testing and course assignment	Teachers and school leaders each have input on decision making and support decisions even when they disagree with them personally. Teachers and school leaders share decision-making and have collective control over school actions.		
			Teachers and school leaders have opportunities for input beyond high-stakes assessments.	Teachers and school leaders have genuine conversations about professional conflict and disagreement. Some teachers and school leaders shift their mindset from these conversations.	Teachers and school leaders seek input from each other and encourage each other to speak up when they disagree. Professional conflict and disagreement is viewed as a means for growth.

I provided participants with a draft copy of this rubric during their final member check in early September 2012 after data collection had concluded. Participants confirmed that the rubric matched their presentation of TLC characteristics reported throughout the study. Participants did not suggest any modifications to the language or levels within the rubric. Because participants often answered questions about the perceived level of TLC ambiguously, I also asked them to indicate where they thought their TLC should fall on the rubric for each element. Participants made initial and final ratings of their TLCs in September 2012 with this modified rubric. I never provided participants with the original rubric during the study.

I had not planned to give participants the rubric at all; I thought that I would be able to make ratings based on the data I had collected. After data analysis, however, I realized that could not make accurate ratings without more information from participants. In particular, participants' descriptions of their TLC's initial levels for each of the six characteristics were thin. One explanation is that I did not know that participants would include certain conditions at the start of the study. I had to go back and ask participants about certain characteristics that surfaced later during the study (e.g., agency). In hindsight, it would have been better if I had asked participants to rate their TLCs using the modified rubric during the final round of interviews even though asking for feedback and ratings during the final member check was still quite distant from their work, especially for the initial levels. Although I emphasized that they should make their final ratings based on where their TLC was in June 2012, I acknowledge that experiences during the second year of TLC activity may have tainted their responses. In the next section, I apply this rubric to participants' initial perceptions the Math and World Language TLCs.

Initial Description of Math TLC

At the beginning of the study, the seven teachers within the math department perceived themselves as a collaborative group who appreciated each other's diversity and input. Each of these teachers had worked at the school for at least one year prior to the study. The members reported instances of sharing and respect for each other's work. They characterized themselves as a team. I regarded them as a cohesive group that had been using state assessment data to make some instructional decisions. I recruited the

Math TLC for the study because I thought they were the department that most closely resembled a TLC.

Reflecting on the start of the year, Nadia, the school leader liaison, believed that the Math TLC reflected a strong traditional community in all aspects. Math teachers agreed. In September 2012, members mostly rated themselves within the strong traditional category for each element of a TLC, unanimously for common purpose and collaborative activity. A few members rated themselves at the traditional community level for reflexive dialogue and data-driven decisions. Two members rated agency and trusting relationships at the novice professional community level, one rated them at a less progressive level.

Their responses suggest that some of the math teachers had stronger collaborative relationships than others at the start of the study. Their descriptions during focus group interviews support this assumption. For example, when discussing substitute time as a resource, Georgia said, "We were probably more productive than another group would be under those circumstances because we're used to it, we already have that [collaborative] mindset" (Math group interview, December 14, 2011). When discussing collaborative planning during a focus group interview, Jennifer said, "I've done it before, when I taught geometry for the first time, Phoenix and I co-planned" (Math group interview, December 14, 2011).

Within their TLC, varying degrees of individual relationships were present. Teachers recounted several instances of sharing instructional strategies and worksheets throughout their history with the department. Georgia, the math department chair/teacher facilitator, referenced a note card strategy for seating charts that teachers shared and

implemented a few years ago. Other examples of collaboration included sharing of "fill in" activities for days where assemblies or holiday breaks disrupted the schedule. Elle said that while her department had shared in the past during common lunch, it was less likely for this sharing to include instructional strategies.

To provide context for the Math TLC's intentions, I present Table M with the Math TLC's initial goals set in August 2011 and the final version of these goals as of June 2012. During the first faculty meeting when teachers returned in August 2011, the SIT chair presented a SIT Retreat recap to the entire faculty. That presentation included information about the two Key Indicators selected by attendees, the six new transdisciplinary teams, and the revised expectations for departments to function as disciplinary teams. During their August 2011 TLC meetings, math teachers met to develop two goals and an action plan aligned to the Key Indicators. The Math TLC periodically adjusted and refined their goals during the study. For example, they abandoned their plans to create an HSA night in favor of increasing parent e-mail contacts. They also shifted from implementing curriculum and sharing best practices to collaborative planning sessions and peer observations.

Table M: Development of Math TLC Goals

Initial Goals set in August 2011	Final Version of Goals as of June 2012
Goal 1: Collaborate to remove student barriers to learning • Unify and implement an approach for 2nd chance learning • Implement the curriculum (specifically the HSA courses and test preparation) • Share best practices (incorporate peer observations) **Goal 2:** Involve parents • Create HSA night (collaborate with English and biology) • Math newsletter (include questionnaire for parents' concerns, deliver quarterly both electronically and on paper, include important dates, include specific teacher and subject matter, send home electronically)	**Goal 1:** Collaborate to remove student barriers to learning • Unify and implement an approach for 2nd chance learning • Collaborative planning sessions (vertical and horizontal) • Peer observations **Goal 2:** Involve parents • Increase parent e-mail contact • Parent newsletter

Initial Description of World Language TLC

At the beginning of the study, only one of the three world language teachers had worked at the school the year prior. The other two teachers were new to the school; Rosita was in her first year of teaching, and Mia had returned to teaching with several years of experience after a seven-year break. Joan, the department chair/teacher facilitator described the team this way, "I think we just burst out of the egg" (individual interview, July 14, 2011). I was looking for a teacher team that contrasted with the Math TLC. I recruited the World Language TLC for this study because I thought they were a department closest to the traditional community level. I sought to see if an altered condition influenced TLCs at different stages differently.

Thomas, the school leader liaison, rated the World Language TLC at the traditional community level for each of the six elements. The world language teachers

agreed with this assessment. Two teachers rated themselves as traditional community in each category, and one rated at the strong traditional community level. The World Language TLC was brand new, without history. Mia said,

> I think there was a little bit of testing the waters when I came. Coming from a department that was ruled by an iron fist, showing any sign of weakness did count against you. I felt the waters out first. (World Language group interview, October 24, 2011)

Joan agreed. In her first individual interview she said, "There are two brand new people . . . which is exciting, but you know we all have to take time to learn each other" (individual interview, July 14, 2011). She felt that this was advantageous because members lacked preconceived notions of each other. It was not long, however, before the world language teachers began to establish relationships and slowly take risks by opening up their instructional practices to one another. In the same focus group interview, barely two months into the study, members reported that they felt comfortable enough in each other's classrooms to walk in and ask questions.

I present Table N to provide context for the World Language TLC's initial goals set in August 2011 and final goals as of June 2012. The world language teachers also met after the SIT Retreat recap to develop two goals and an action plan aligned with the selected Key Indicators. While the World Language TLC maintained their original goals during the study, they added a goal to integrate new instructional technology into classroom instruction in the fall of 2011.

Table N: Development of World Language TLC Goals

Initial Goals set in August 2011	Final Version of Goals as of June 2012
Goal 1: Collaborate to remove student barriers to learning • Creating performance/formative assessments **Goal 2:** Involve parents • Regional night activity (involve parents by showcasing student work)	**Goal 1:** Collaborate to remove student barriers to learning • Creating performance/formative assessments • Integrate new instructional technology into classroom instruction **Goal 2:** Involve parents • Regional night activity (involve parents by showcasing student work)

Summary

In this section, I described how school leaders and teachers conceptualized TLCs. Participants identified six characteristics of a TLC that they felt were necessary for teams such as theirs to accomplish their goals: trusting relationships, common purpose, reflexive dialogue, collaborative activity, data-driven decisions, and agency. I presented a modified level of a TLC rubric that participants used to assess their initial and final level of TLC. Finally, I summarized participants' perceptions of their initial level of TLC. Next, I describe how school leaders and teachers identify and address conditions that affect the development of TLCs.

RQ#2 – Identification of Conditions

The school leadership team assumed responsibility for providing necessary resources to teacher facilitators and TLCs. We knew that assigning teachers to a transdisciplinary TLC and transforming the work of their departments into a disciplinary TLC could add more work and stress to teachers' workdays. We believed, however, that the added responsibilities would translate into increased efficacy and reduced workload once the TLCs matured to intermediate and advanced stages. To help, we set out to

support the operations of TLCs enough so that its members could focus on the substance of their action plans. Even with the additional burden of working within two TLCs, we hoped teachers understood that their school leaders were fighting for them to have what they needed to accomplish their goals.

We predicted some conditions that TLCs would need to succeed prior to the start of the study. For those conditions, we tried to formulate plans to infuse them into the school year (e.g., time during faculty meetings and PD days, facilitator support, and teacher choice). We also planned to remain nimble by identifying other resources and responding to requests from our TLCs throughout the school year. As expected, participants identified conditions during the study (e.g. technology and technology professional development, substitute time, hourly-remunerated time). From the literature, I predicted that fostering TLCs would be a complex, difficult, and contextual process that would require the alignment of many resources (Clement & Vandenberghe, 2000; Grodsky & Gamoran, 2003, Little 2003). In that regard, my findings are consistent with the literature.

Participants reported over 100 conditions that facilitated and/or hindered their work within TLCs (see Appendix K). Many of these conditions were out of the control of the school leadership team. Some examples include the community context, family/personal issues, informal interactions, lack of snow days, and personalities. Other conditions were only partially under the control of school leaders. Those conditions include buy-in, fear of failure, parent involvement, and traditions. School leaders may be able to alter these conditions, but not directly. For example, school leaders cannot order

teachers to be unafraid of failure; they have to develop safety through a combination of other actions.

Because the purpose of this study is to examine the conditions that school leaders can alter to foster TLCs, I focus my analysis solely on conditions within their control. In Table O, I list the leadership, professional development, and workplace design conditions reported by participants that school leaders attempted to address. While I located many of these conditions in the literature review, some were specific to this school's context. Participants mentioned several conditions that school leaders did not address for purposeful reasons (e.g., school leaders chose to support other budget requests rather than purchasing additional updated textbooks). Only the conditions addressed by school leaders are included in Table O. Finally, participants did not report some of the conditions identified in the literature review as either facilitating or hindering their work. In this section, I will discuss participants' additions and omissions as I answer the second research question: *How does the leadership team identify and address conditions that affect the development of TLCs?*

Table O: Participant Identified Conditions Influencing the Development of TLCs

Leadership Conditions	Professional Development Conditions	Workplace Design Conditions
• Culture of Expectations • Keys 2.0/SIT Retreat • Facilitator Support	• Teacher Choice • Technology & Technology PD • Department Chair PD • The Study Itself	• Time • Common Planning • Coverage for Peer Observations • Power Relationships • Curricular Changes, the Common Core, & RTTT

Four Methods of Identifying Conditions

Participants identified these 12 conditions in four ways: 1) discussions on professional literature about TLCs prior to the study, 2) expert recommendations prior to the study, 3) teacher participants' requests for resources during the study, and 4) school leaders' observations of TLC activity during the study. School leaders identified some of the conditions from an analysis of the literature prior to the start of the study. Once the department chairs and school improvement teams agreed to pursue the implementation of TLCs as our school improvement initiative, I provided school leaders with some basic literature about TLCs.[23] After reading these articles in the late spring 2011, our school leadership team discussed the basic outline for the implementation of this SI initiative. During those discussions, our school leadership team agreed to alter several conditions: time (providing time during faculty meetings and professional development days for TLC meetings and common lunch by department), working collaboratively with teachers to develop a culture of expectations for TLCs, incorporating teacher choice into TLC goals and action plans, supporting teacher TLC facilitators, and using flexibility with goals and action plans to provide a mechanism for teachers to deal with curricular changes, the Common Core, and RTTT.

School leaders learned about one condition from relationships with outside experts. Around that time, I had suggested that our school use NEA's Keys 2.0 process as a model. I initially learned about this process during a graduate course. My doctoral program advisor later reminded me of this process when I discussed my school improvement initiative with her prior to the selection of this site for the study.

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[23] I provided the school leadership team with Little (2007), Grossman et al. (2001), and copies of select chapters from McLaughlin and Talbert (2006). Each school leader in this study was familiar with the work of Richard Dufour from their graduate work and had read Dufour and Eaker (1998).

School leaders learned about some of the conditions through teacher requests during the study: technology and technology professional development, peer observation coverage, and time (substitute time and remunerated time). After attending a world language district professional development activity, the teachers requested new instructional technologies and professional development to support the implementation of that technology. A teacher within the Math TLC requested substitute coverage for peer observations during a focus group interview. The Math and World Language TLCs requested substitute days to gain larger blocks of time to address their goals and action plan steps. The Math TLC requested remunerated time in lieu of additional substitute time when they sought to minimize lost instructional time from substitutes, while continuing with their action plans.

School leaders "discovered" four conditions accidentally during the study: the study itself, common planning, power relationships, and department chairperson professional development. During the study, I realized that the study itself influenced the development of the two TLCs (Math and World Language) and the way that other school leaders (including myself) interacted with their TLCs. During my focus group interviews, I realized that teachers preferred common planning to address their disciplinary TLC action plans. Through discussions with the other school leaders, the following year's schedule more heavily incorporated targeted common planning to support TLCs' goals.

As school leaders reflected on the tension between teacher choice and the culture of expectations, we became aware of some of the ways our power relationships influenced the work of TLCs. When we knew about these instances of tension, we addressed them on a case-by-case basis. In each case, we carefully considered the context

before making a decision to give advice or intervene with teacher choice. Finally, after I conducted preliminary data analysis of the first two rounds of interviews, I found that teacher facilitators were struggling with assisting TLCs. During a school leader meeting, we decided to implement professional development sessions during department chair meetings as a way to support our department chairs, who served as teacher facilitators for disciplinary TLCs.

School Leadership Conditions

Participants identified three leadership conditions that hindered and/or facilitated the work of their TLCs during the study: culture of expectations, Keys 2.0/SIT Retreat, and facilitator support. At the start of the school year, school leader participants had already identified two of these conditions on the advice of an outside expert: culture of expectations and facilitator from the literature and Keys 2.0/SIT Retreat. Participants did not identify the degree of trust, negotiating consensus and managing conflict, shared commitments, or shared decision making as specific conditions that hindered and/or facilitated their work. Although participants did not directly name these concepts, the three conditions that they did identify overlap.

School leaders partially addressed building a higher degree of trust through establishing (and following) a culture of expectations. By using the Keys 2.0/SIT Retreat process, school leaders hoped to build shared commitments around selected Key Indicators. School leaders sought to model shared decision making during the SIT Retreat and provide latitude for continued shared decision making on specific goals and action steps as outlined in the culture of expectations section. Finally, school leaders

hoped they could help teacher leaders understand how to negotiate consensus and manage conflict by providing facilitator support.

Culture of Expectations. School leader participants reported that prior to Thomas's arrival as principal, the previous administration lacked expectations for SI, committees, and departments. Because of this, they believed the staff had stopped meeting within departments and SIT committees had ceased to function. During a school leaders meeting, Thomas said, "I don't think [departments] ever met last year. I don't think they even met after school" (School Leaders group meeting, October 4, 2011). The school leaders wanted to change this trend and reinstitute a strong SI process including regular department meetings. We believed that these processes could positively influence teaching and learning at Carter's Run. Catherine, the academic facilitator, said, "I think our school was begging for a culture of expectations when the new leadership came" (individual interview, July 15, 2011). She explained that expectations for faculty engaging in the SI process through their transdisciplinary and disciplinary TLCs had a major influence on the school.

The principal hoped to show teachers that our SI initiative to create transdisciplinary committees and to redefine departments as disciplinary committees was more than an "add-on fad." He hoped that teachers would understand our initiative as a fundamental change in the way that these groups worked together. Since formal responsibility for the school's successes and failures rests with the principal, the success and failure of any SI initiative requires the skillful and precise leadership of the principal (Huffman et al., 2001). Thomas desired to increase teacher collaboration by implementing the SI initiative for disciplinary and transdisciplinary TLCs. He hoped to

help teachers understand that they needed to change their behavior to improve student learning. To do so, he said that school leaders had to build shared purpose with the majority of the staff. He said, "Nothing will ever happen if you can't get buy-in from the staff" (individual interview, July 25, 2011). School leaders, department chairs, and SIT members jointly made the decision to implement disciplinary and transdisciplinary TLCs. In addition, teachers and school leaders also jointly decided the selection of the transdisciplinary teams, membership in those teams, and the goals and action plans for all TLCs. He predicted that a completely top-down leadership approach would only motivate a handful of teachers, some of whom would engage only because they were fearful for their jobs. School leaders did not want to grant teachers complete reign over their action plans. We expected teachers to follow some basic guidelines such as linking their goals to the Key Indicators selected at the SIT Retreat and using outcome data.

In order to gain buy-in from the staff, Thomas emphasized instituting a culture of expectations where school leaders would hold teachers accountable for certain actions and teachers would hold school leaders accountable for others. During a summer planning meeting and after a training session with NEA representatives regarding the Keys 2.0 process, school leaders, the school improvement chairperson, and teacher representatives formalized expectations for the SI initiative. Following NEA's advice for the implementation of the Keys 2.0 process, we agreed that teachers would:

1) analyze data,

2) choose a goal that aligned to the Key Indicators selected at the SIT Retreat,

3) create and implement an action plan,

4) keep goals and action plans small and manageable,

5) not treat the initiative as a race or a contest,

6) expect errors and shortfalls, and

7) start with low trust activities.

In return, school leaders agreed that they would do the following for teachers:

1) provide resources for TLCs,

2) withhold errors, shortfalls, and negative feedback from TLCs from formal evaluations,

3) refrain from micromanaging TLC action plans, and

4) support the development of teacher leaders.

During the first faculty meeting in August 2011, Thomas and the school improvement chairperson discussed these expectations for the SI process and committee work. School leadership emphasized these points during individual committee meetings, SIT meetings, department chair meetings, and faculty meetings. Thomas explained that during this year, he was more concerned about the earnest attempt for committees to develop and follow their actions plans than with the results. He explained that we were trying to create a safe climate for teachers to innovate within teams.

The principal believed that we would earn trust by following through on our expectations. As he discussed in the paragraphs above, our plan to follow through with important expectations, such as providing resources and refraining from micromanaging TLC action plans, were intentional attempts for us to gain teachers' trust and buy-in. Our strategy for building trust with teachers was, in part, to create this culture of expectations.

Keys 2.0/SIT Retreat. Our SIT chairperson told me numerous times that he felt thrust into the leadership position without any preparation on continuous improvement.

To address this issue, I recommended that we use the Keys 2.0 SI model as a way to guide our SIT process and create a shared commitment among stakeholders. The Keys 2.0 process was appealing to school leaders and teachers for three reasons. First, NEA requires faculties to opt into a multi-year commitment with the program and only releases results if 80% of the faculty completes the survey. Second, because teachers respond anonymously online, there is no chance that school leaders would ever see an individual teacher's response. Finally, NEA completes data analysis of the survey for the school.

With faculty approval, we administered the first survey in late May 2011. NEA requires that 80% or more of our faculty complete the survey before it releases results. Our school exceeded this requirement (62/71 or 87%). After administering the faculty Keys 2.0 survey, the next step involved conducting a gap analysis of outcome data.[24] A cornerstone of the Keys 2.0 approach is the targeting of one or two processes (i.e., Key Indicators) to alter student outcome data. NEA recommended that educators understand gaps in present levels of student performance prior to selecting Key Indicators. After close analysis of the Keys 2.0 survey and outcome data, faculty, school leaders, parents, and community members selected two of the 42 Key Indicators as the school's focus. School leaders planned to conduct the gap analysis and select the school's focus selection at the first SIT Retreat in July. Having teachers assemble to analyze data over the summer was an appealing option for us – teachers likely would be less distracted and more rested than during the regular school year.

When school leaders previewed Keys 2.0 data during NEA training in June 2011, we noticed the biggest area of need within *Key 2.0: Open Communication and*

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[24] As discussed in the context section above, this gap analysis involved six types of student outcome data: SAT scores, Advanced Placement scores, Mid-Atlantic State Assessment scores, attendance rates, discipline referrals, and results of a student perception survey.

Collaborative Problem Solving and *Key 4.0: Personal and Professional Learning*. The staff's responses for the Key Indicators in these areas had the least consensus and the averages were farthest below national averages. Since I was interested in studying collaboration, I was excited that these Keys appeared to have the biggest discrepancies between our school's averages and the national averages. Recognizing this excitement as a threat to the authenticity of the SIT retreat, I minimized my influence by assigning myself to a breakout group that was not examining Key 2.0 or Key 4.0. School leaders also refrained from participating in the whole-group discussion during the final selection process. Despite these measures, several staff and all the school leaders knew my intentions to study TLCs at our school. And although the other school leaders assigned themselves to breakout groups other than the groups analyzing Key 2.0 and Key 4.0 during the SIT Retreat, I cannot rule out the possibility that I influenced our final selection of Key Indicators. Georgia and Joan knew that I desired to implement TLCs at Carter's Run. Both had already signed consent forms and participated in their initial school leader interviews prior to the SIT Retreat.

In my reflexive journal, I noted how Georgia was instrumental justifying the final whole-group selection toward *Key 2.3: Teachers, administrations, educational support personnel, and other school employees collaborate to remove barriers to student learning*. During that discussion, she stated that this Key was broad enough to capture the reasons why we would select the other Keys (see Figure 9 as an example of how stakeholders sought to combine and link Key Indicators in this manner). Although Georgia's explanation makes sense, I believed that she was also trying to help facilitate my research at Carter's Run. Like Joan, Georgia and I had begun to develop an amiable,

yet formal and mutually supportive relationship at work. They may have been helping

me because of these relationships.

Figure 9: Sample Group Report from SIT Retreat

Process Data
1.1 Shared Goals ||
1.4 All Students can learn ||||
(2.2) Parent Involvement |||| |||| (2.3)
2.3 Collaboration |||| |
3.1 Student assessment
3.4 Variety assessment
(4.4) Feedback → Professional Dev |||| |||| (6.1) (1.4) (4.8)
4.8 Staff Dev. dec. making problem solve ||
5.1 Computer Hardware ||
6.1 "learning how to learn" activities ||||
6.7 Research |
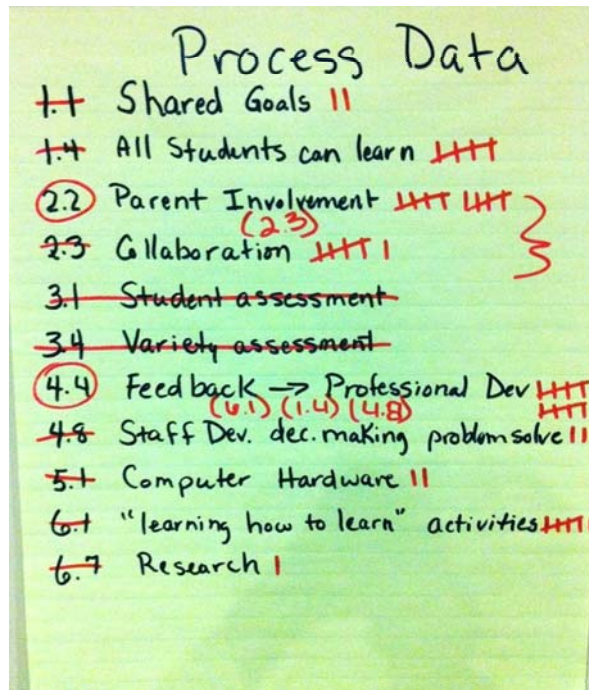
At the SIT Retreat, stakeholders also selected *Key 2.2: Parents are involved in*

supporting the work of the school. While this Key Indicator was within Key 2.0, I was

surprised with its selection. I had anticipated that the group would have chosen one of

the indicators from Key 4.0 dealing with professional development as the second Key

Indicator. Key Indicator 2.3became a tangible and complementary goal alongside Key

Indicator 2.2. Many TLCs used it as a target for their collaborative efforts to remove

barriers for student learning. For this coming year, each TLC would collaborate to

remove barriers by involving parents in the work of the school. For me, this meant that

our school's focus and my research aligned. In retrospect, I think that the specific Key

Indicator mattered less than our expectations for teachers to develop and implement goals and action plans. Regardless of the selected Key Indicator, we still would have arranged teachers into disciplinary and transdisciplinary TLCs.

Several teacher facilitators were present at the SIT Retreat including Georgia and Joan. In addition, all of the school leaders and four other teacher participants attended: Bryan, Elle, Jennifer, and Phoenix. School leaders also hoped to use the SIT Retreat as a model for teachers who would eventually facilitate one of our planned TLCs. For this reason, we incorporated ground rules, icebreakers, and discussion protocols as strategies that teachers could take away for their own leadership use. One of the icebreakers involved attendees locating themselves on a compass point (see Figure 10). SIT Retreat attendees first chose which direction they believed most accurately represented the way they work within a group. For example, if an attendee paid close attention to details in groups, they would be a "west." After arranging themselves with other attendees of similar cardinal directions, attendees answered a series of questions on their interpretation of their style and reported to the whole group. In her journal, Nadia wrote, "Compass points addressed the strengths of individuals and how they interact with each other. I know looking at data can be challenging and collaboration sometimes causes individuals not to feel safe enough to voice their ideas" (journal entry, September 11, 2011). This protocol was useful for our staff. Many facilitators chose to use this activity during their first meetings with their transdisciplinary teams. As a result, teachers consistently referred to themselves and others as "norths" and "wests" to indicate different personality traits.

Figure 10: Compass Points Activity from SIT Retreat
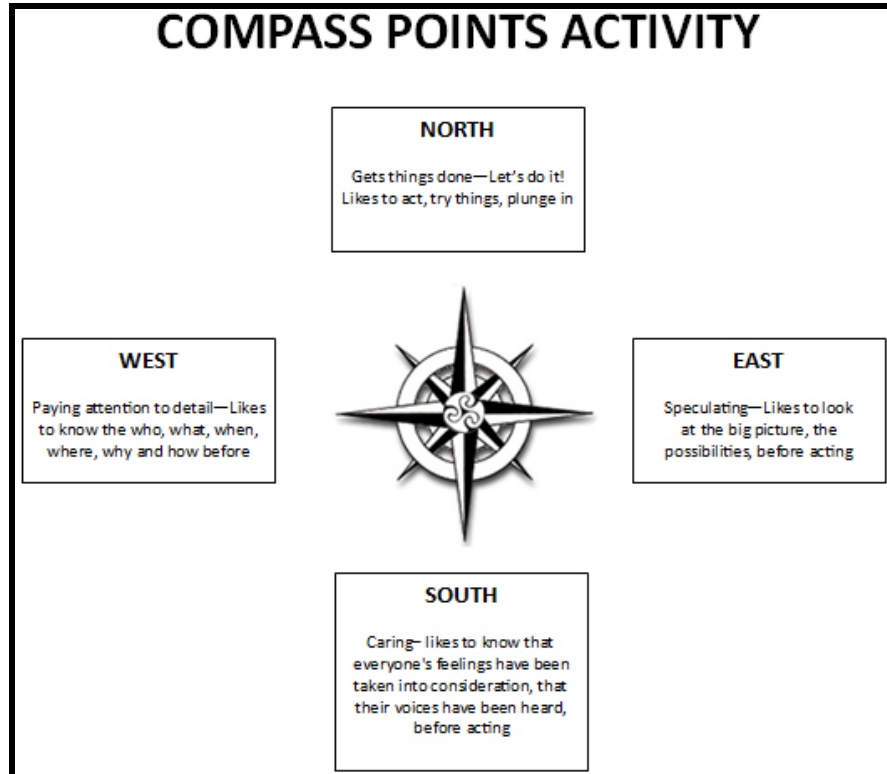
Our final goal for the SIT Retreat was to identify transdisciplinary committees. To address the gaps located in student outcome data and meet district requirements, stakeholders agreed to form six transdisciplinary teams: Advanced Placement, Character Education, College and Career Readiness, Multicultural Education, Health and Wellness, and STEM (Science, Technology, Engineering and Math). For example, given the analysis of Advanced Placement scores, attendees felt the need to have an Advanced Placement transdisciplinary team. Attendees selected the Health and Wellness transdisciplinary to address a district requirement. Each of these stakeholders also recommended that teachers work within their departments, now "disciplinary teams". Attendees agreed that each TLC would create a goal and action plan aligned with Key Indicators 2.2 and 2.3. In August 2011, we assembled a core group of teacher leaders to

draft transdisciplinary team membership. We planned to meet with each facilitator before teachers returned from summer break.

Facilitator Support. The principal predicted that teachers would be less comfortable leading peers than working with students. He thought that teachers at this school historically lacked opportunity to lead each other. In his opinion, many teachers in the school socialized quite a bit. Because of these friendships, he speculated that teachers would have difficulty engaging in critical professional discourse. For teachers in these situations (where they would lead their former mentors), he believed the role reversal from mentee to mentor could intimidate them. He thought many teacher facilitators would avoid critical conversations to preserve personal ties.

In order to help teacher facilitators manage conflict and negotiate consensus, school leaders sought to mentor teacher facilitators regularly through the school year. Facilitator support began in August 2011 prior to teachers return and continued throughout the school year. Early attempts at facilitator support included a whole group meeting during teacher preservice week. It became immediately obvious that the diversity of the TLC's goals and action plans required individual rather than collective support; therefore, our continued attempts to support teacher facilitators were individual in nature.

As we sought to share decision making with teacher facilitators and TLCs, we also hoped to help teachers see "the big picture." Nadia conceptualized the principal and assistant principal roles as individuals who see the whole school and influence how teachers work together. We hoped to support facilitators' abilities to do this by providing ideas to create structure during their TLC meetings, such as protocols and agendas. Prior

to the school year, we also decided to provide teachers with preformatted blank action plans. Despite having these plans available, facilitators often turned in their own plans. As a result, many of the plans lacked several components, such as target completion dates and resources needed.

The creation of 15 disciplinary and transdisciplinary committees created the opportunity for 23 teacher facilitators and co-facilitators.[25] Only 10 held the formal department chair designation. Only seven of the 10 had previous experience as department chair prior to the study. This created a tension for school leaders who often had to resist the urge to lead each TLC rather than serve as facilitators with patience and restraint. Nadia recognized this tension in her first journal where she wrote, "At times it is difficult to sit back and hope things go in a forward direction" (journal entry, September 11, 2011). Our decision to incorporate teacher choice, however, necessitated space for our facilitators to experiment with their leadership. Sometimes the space resulted in errors and shortfalls. Other times, teacher facilitators exceeded our expectations and achieved their goals. In each case, we hoped teacher facilitators honed their facilitation skills and retained ownership of their goals and action plans.

Again, facilitator support represents a tangible way that school leaders addressed managing conflict, negotiating consensus, and shared decision making for teacher leaders. Teacher choice is another condition that we designed to facilitate teacher leadership. In the next section on professional development conditions, I explain the rationale for including a teacher choice within our SI initiative to foster TLCs. I also discuss other conditions that participants identified to facilitate the work of TLCs.

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[25] All of the transdisciplinary teams and two disciplinary teams had two teacher facilitators. See Table D.

Professional Development Conditions

Participants identified four professional development conditions that they hoped would foster TLCs: teacher choice, technology and technology professional development, department chair professional development, and the study itself. School leaders identified teacher choice prior to the study through their analysis of professional literature about TLCs. School leaders learned about technology and technology professional development through world language teachers' requests during the study. School leaders "discovered" the study itself and department chairperson professional development during the study through their observations of TLC activity.

Teacher choice overlaps significantly with the alignment to student outcomes and teacher interests from the literature review. Participants did not directly identify the other four professional development conditions from the literature review: continuous delivery, job-embedded design, collaborative and reflexive opportunities, or induction of members. Each of these identified conditions aligned to one of the professional development conditions found in the literature except for continuous delivery and induction of members. The technology and technology professional development and department chairperson professional development connect to pieces of job-embedded design. The study itself served as an example of a collaborative and reflexive opportunity for the Math and World Language TLCs.

The absence of "induction of members" is easily explained: this was the first year that teachers had formed TLCs, so there was no opportunity to induct new members. Everyone was a new member. In addition, the exclusion of "continuous delivery" does not mean that school leaders ignored that condition either. Prior to the start of the school

year, school leaders drafted the SI initiative as a sustained process. Rather than an episodic "event", school leaders planned for yearlong TLC professional development time and facilitator support throughout the year.

Teacher Choice. In her first interview, Georgia referenced a negative experience she had at another school attempting to implement cross-curricular academies in order to highlight the importance of teacher choice. She described this experience as "forced" and a "waste of time." Georgia said that teachers did not buy-in to the process because they did not have opportunity for input. Recognizing that teachers could perceive our TLC initiative the same way, we sought to provide flexibility for teachers to align their goals and action plans with their own professional interests. We hoped that this strategy would increase teacher buy-in and provide action plans with the opportunity to influence teaching and learning.

I suggested teacher choice as a condition to the rest of the school leadership team because of its emphasis in the literature. Adajian's (1996) finding that TLCs function at higher levels when teachers define their own goals motivated me to advocate for teacher choice. During one of our July 2011 school leader planning meetings, I said,

> I feel like we'll preserve professionalism, respect, and trust if we don't dictate
> what it is that [teachers] do. I think that it's really important to me that they pick
> what their focus should be. But then we help them with the process of working on
> that focus. (School Leaders group meeting, July 14, 2011)

Catherine agreed that providing teachers with flexibility to choose their specific TLC goals and action plans would create ownership and buy-in. Although our SI initiative would undoubtedly add to teachers' workloads, Catherine felt that ownership and buy-in

compensated for that increase. She said that by allowing teams to work on things that they chose, teachers were encouraged to work with their TLCs.

During these summer conversations, we formalized the expectations that teachers would choose their specific goals and action plans, and that school leaders would support the process by providing resources. As the study progressed, we said it this way: teachers own the *what* and school leaders support the *how*. When explaining teacher choice as a condition to foster TLCs, the principal said,

> We wanted to make sure that our staff and our leaders knew that we were not
>
> going to dictate the process of how to improve our school. We didn't want to
>
> come in here and say your goals is [sic] x, y, and z. We felt we would get more
>
> ownership by providing teacher choice. (Individual interview, January 27, 2012)

Incorporating teacher choice, however, did not mean that teachers had carte blanche with their action plans. We expected that teachers would anchor their goals and action plans within outcome data. In addition, we expected that goals and action plans would connect to the two Key Indicators selected at the SIT Retreat. By simultaneously allowing teacher choice and expecting teachers to align their plans to student outcomes, we hoped to capitalize on increased teacher motivation (Scribner, 1999) and increased chance for change in teacher practice (Hawley & Valli, 2007).

Technology and Technology PD. Teachers in the World Language TLC attended a district session on interactive instructional technology during preservice week. Because the district world language supervisor facilitated that session, only world language teachers had the opportunity to attend. When they returned, they requested that we purchase both a wireless slate and wireless student response system for them. They

said that they desired to transform their own instructional practice by using the new technology. When we informed the team that we had approved the purchase of the wireless slate and student response system, the teachers also requested professional development sessions in order to learn how to use the technology in their classrooms.

Throughout the study, we arranged for half-day professional development sessions with technology experts. We hoped to capitalize on the advantages of job-embedded professional development in these sessions. For that reason, we chose to hold the sessions in proximity to teachers' classrooms at the school and provide teachers with the afternoon to apply their learning to actual lesson plans immediately (Burbank & Kauchak, 2003; Hawley & Valli, 2007). For the first session, we used the technology company's representative. For subsequent sessions, we used our own district's instructional technology specialist. Both experts assisted teachers' implementation of new technology in small group settings, although the teachers preferred our own district's specialist to the company's representative.

While school leadership purchased the student response system as requested, there were only 25 student "clickers" in the system that they purchased. Because the world language teachers desired to use them as individual formative assessment tools, they had to overcome the obstacle in classes that exceeded 25 students. The teachers requested expansion packs, but they had already depleted their allotted funding.

In several focus group interviews, the world language teachers requested dependable audio and video recording equipment in order to facilitate communicative performance assessments. This equipment was different and separate from the wireless slates and student response system. The teachers hoped to use this technology to have

students analyze their work prior to submitting it to the teacher. Although the team facilitator requested this resource from school leadership, the World Language TLC had already run out of funding. They made this request after requesting the expansion packs. School leaders were unable to purchase the audio and video recording equipment.

Department Chair PD. While school leaders had identified the need for individual facilitator support in August 2011, we did not implement department chair professional development until January 2012. Department chairs served as disciplinary TLC facilitators. In August 2011, school leaders met individually with TLC facilitators prior to teachers' return for preservice week. In those discussions, we discussed the outcomes of the SIT Retreat and the expectations for TLCs to develop goals and action plans linked to the two Key Indicators. To support the teacher facilitators that could not attend those planning meetings, we held a teacher facilitator meeting prior to TLC meetings during preservice week. Despite this preparation, my initial data analysis led me to believe that we had not properly prepared our teachers for facilitating group dynamics or for appropriately structuring meetings.

Over the holiday break, I conducted initial data analysis on the first two rounds of interviews. I found that the teacher facilitators were struggling with *how* to facilitate. For example, both Joan and Georgia reported frustration because members of their TLCs had been negative and had "derailed" some of their TLC meetings. In that analysis, I found that neither Georgia nor Joan had developed and used agendas when department members had "derailed" their TLC meetings. Had the facilitators prepared an agenda, they could have simply redirected the conversation back to the agenda and tabled the other conversation(s). During an interview later that month, Catherine said, "I don't

remember who it was that said, 'you know I got [the department chair] job and they never really told me what I'm supposed to do' " (individual interview, February 14, 2012). Unfortunately, our school leadership team was replicating this scenario with our teacher facilitators.

The first day after winter break, I met with Thomas, Nadia, and Catherine and reported my preliminary findings. In that meeting, we agreed that existing strategies did not provide enough support for teacher facilitators. We discussed an array of options (e.g., after school teacher facilitator sessions), but dismissed them because they added additional work for teacher facilitators. Although we recognized that we would not reach every TLC facilitator through department chair professional development, we agreed that we had to do *something*. By addressing certain issues during department chair meetings, we could at least work with some of our TLC facilitators during the second half of the year. For our January 2012 department chair meeting, we planned to present a case study on dealing with a dissenting member in a TLC meeting. Following that presentation, we provided a summary of facilitative leadership strategies and a related piece of literature to discuss at our February 2012 department chair meeting.

For the April 2012 and May 2012 department chair meetings, we decided to divide the department chairs into three teams and assign each a relevant professional article to present back at an upcoming department chair meeting. We carefully selected articles related to challenges our teacher facilitators were currently facing. By writing a case study that mirrored Joan and Georgia's critical incident and selecting relevant literature to address that case study, we hoped to embed this professional development within teachers' routine work in the school (Lieberman & Miller, 2007). We hoped that

these strategies would capture the advantages of job-embedded professional development identified in the literature (Hawley & Valli, 2007).

Although we made plans to address our teachers' facilitation capacity, we recognized that the timing of this initiative was late. Catherine said,

> This time of year, nobody wants to take on anything else, but if you give them some tools and give them some opportunities, they might try here or try there and then when you take it on as a focus next year, people will have a better understanding before they even start. (Individual interview, February 14, 2012).

We did not expect to "fix" our facilitators' leadership capacities with these activities. Instead, we were hoping to begin their growth process as teacher leaders. Our strategy was designed to "prime the pump" with our teacher leaders so that we could roll out a more intense teacher leadership professional development program during the following school year.

The Study Itself. At the beginning of the study, I overlooked the possibility that the study itself could be a condition that could foster the development of TLCs. During the first round of focus group interviews, participants identified the focus group interview as a space for collaborative and reflexive discourse. No one identified the study itself as a condition to facilitate the development of TLCs; however, the study appears to have operated this way. The next section discusses the perceived impact of these conditions on the work of TLCs. I also discuss how school leaders identified and altered various workplace design conditions in our attempt to foster TLCs.

Workplace Design Conditions

Participants identified five workplace design conditions that they thought could facilitate their TLCs: time, common planning, coverage for peer observations, power relationships, and curricular changes, the Common Core, and RTTT. School leaders identified curricular changes, the Common Core, and RTTT through their analysis of professional literature prior to the study. School leaders also identified two aspects of time prior to the start of the study through that analysis: common lunch and faculty meeting and professional development time. Time was also the workplace design condition most frequently requested by teacher participants as they attempted to accomplish their goals and action plans. School leaders identified two other aspects of time from these requests: substitute days and hourly-remunerated time. Through teacher requests, school leaders also learned of substitute coverage for peer observations. School leaders learned of the final two workplace conditions, common planning and power relationships, through their observations of TLC activity during the study.

Participants identified all four workplace conditions found within the literature review: time (time and common planning), human resources (substitute coverage for peer observations), school cultural factors (power relationships), and external factors (curricular changes, the Common Core, and RTTT). Although common planning is a condition that also provides time for teachers to work together, I chose to treat it as a separate condition from those discussed above. Common planning not only provides teachers with much more time than the conditions discussed above, but it also incorporates the time into teachers' regular workdays. Common planning also requires school leaders to alter the school's master schedule.

Time. School leaders recognized time as one of the biggest obstacles in fostering

TLCs. Nadia said, "As a teacher, your time is precious" (individual interview, July 14,

2011). She said that asking teachers to improve their instruction collaboratively through

TLCs would take more time from already overwhelmed teachers. Nadia suggested that

teachers would need structured time to find value in their joint work; otherwise, they

could view TLCs as a waste of their time.

Teacher participants agreed. Joan, who was traditionally heavily involved in the

school's drama productions, cautioned that without time built into the regular workday,

TLCs might not accomplish anything. She said, "You can't go home and say, 'Oh I'll

work on [that collaborative activity] tonight from home'" (individual interview, July 14,

2011).

School leaders sought to reduce the add-on role for TLCs that Smylie (1994)

warned was not comprehensive or powerful enough to change established patterns of

teacher thinking and practice. We hoped to create as much time as possible for teachers

during the regular workday. From the earliest summer meetings, school leaders planned

to continue arranging teachers' lunches by department and to restructure faculty meeting

and professional development time for TLCs. Teacher participants requested additional

time through substitute days and hourly time.

Common Lunch. Content specific departments had traditionally shared a common

lunch period at this school. The school leadership chose to maintain this arrangement to

facilitate interaction between department members. Nadia recalled that school leaders

originally put common lunch in place to support teachers who may not have time to meet

together after school. Some teachers had coaching or family commitments after school

that prohibited staying after school frequently for after school meetings. Georgia said, "I have a devil of a time with department meetings. I can't have them after school because well, Bryan was coaching, Elle was coaching, Jess was coaching, I have clubs, Andrea has clubs, and Betty has clubs" (individual interview, December 12, 2011).

Faculty Meeting and PD Time. Prior to the study, faculty meeting and professional development time consisted of a well-intentioned yet disjointed series of professional development "events" and information sharing. During our summer school leader planning meetings, we decided to designate these times for disciplinary and transdisciplinary TLCs to carry out their action plans. Whenever possible, we planned to maximize information sharing by utilizing electronic communication.

In an effort to remain responsive to TLCs, we planned to seek input from teacher facilitators prior to declaring each faculty meeting or professional development session for disciplinary or transdisciplinary TLC use. In most cases, we designated these times for transdisciplinary TLCs. Our justification was that departments should have been meeting, by contract, on a monthly basis. Departments also shared a common lunch. By scheduling professional development time during August 2011, October 2011, February 2012, and March 2012, we knew we would be able to hold both transdisciplinary and disciplinary meetings then.

Because of our plan to remain responsive to TLCs, school leaders chose not to designate faculty meeting or professional development times as disciplinary or transdisciplinary TLC meetings until a few days prior to the sessions. Our first few faculty meeting agendas had whole group items (e.g., celebrations, awards, announcements, brief presentations) in the beginning. After we addressed those items,

teachers broke into either disciplinary or transdisciplinary TLCs. After a few months, we made two observations. First, a few teachers were "skipping" TLC meetings. Second, questions from faculty members tended to extend the time necessary to cover whole group items by adding unscheduled announcements. By November 2011, we started to schedule the disciplinary or transdisciplinary TLC meeting times at the beginning of the agenda. That way, TLCs could plan to have the time allotted to them without worry of whole group items pinching their time. We also found that the switch increased TLC meeting attendance. Because TLC meetings occurred in various locations around the school, teachers had to wait for the whole group items in the media center before they could sign-in and get credit for their attendance. In addition, we noticed that teachers were reluctant to extend whole group sessions placed after TLC meetings by bringing up unscheduled agenda items or making unscheduled announcements. I suspect teachers wanted to leave meetings on time and reserved their questions for another time.

Substitute Days. During their first focus group interview, the math teachers expressed frustration with completing action steps during faculty meetings and professional development days. As I discuss later, the math teachers spent the majority of this time talking and planning. They rarely used the time to complete any of their action steps. While appreciative for the time to talk and plan, the math teachers wanted larger blocks of time to complete their action steps. In October 2011, math teachers requested a substitute day. The math teachers planned to work together to collaboratively plan the final units of their common courses. The Math TLC only used one substitute day during the study in December 2011. However, that substitute day did have an impact on the math teachers' collaborative activity. After this session, four pairs of math teachers

continued to jointly plan with each other during the rest of the school year (Betty/Andrea, Georgia/Elle, Bryan/Jennifer, and Bryan/Phoenix). The frequency of these interactions also increased following the December 2011 substitute day. Incidentally, none of these pairings had common planning periods.

The world language teachers also requested substitute days in October 2011, although their request was for different reasons. The world language teachers wanted to use substitute time in order to troubleshoot and develop lessons using their new instructional technology. Throughout the study, they used three substitute days for this purpose: November 2011, March 2012, and May 2012. School leaders funded the substitute days for these and other TLCs through district professional development funding.

Hourly Time. Although the math teachers valued what they accomplished during their substitute day, they were disappointed given the amount of time they invested. The math teachers rejected an offer for an additional sub day and said it was just not worth it. For the math teachers, returning to student discipline issues and dealing with lost instructional time outweighed the benefits of their collaborative planning session.

Instead, the Math TLC asked school leaders to convert the equivalent of a sub day to hourly-remunerated time as an alternative. Hourly-remunerated time meant that teachers would be paid to meet during times outside of their contractual duty day (e.g., before or after school). Teachers felt that hourly time allowed for the collaborative planning that they valued but minimized the expense of lost instructional time for their classes. School leaders approved the Math TLCs request for the equivalent of one sub day in remunerated time for each member of the math department at five hours per

teacher. While school leaders honored similar requests from TLCs different points in the study, the World Language TLC preferred to continue to use substitute days and not hourly-remunerated time.

Common Planning. During focus group interviews with the Math TLC, members reported that they preferred common planning for their joint work to all other forms. Teacher participants reported that time before and after school was crowded with obstacles to TLC work, such as coaching, attendance notes duties, and familial commitments. One pair of teachers, Betty and Andrea, shared common planning for their geometry classes. These teachers were able to navigate obstacles by consistently working together during their planning. While school leaders unintentionally scheduled common planning for Betty and Andrea, other teacher participants took notice in what they were able to accomplish.

School leaders shared teachers' preferences. In his first interview, Thomas identified common planning time as a resource that could significantly facilitate TLCs to accomplish their goals; however, constructing a master schedule where 10 teachers in six transdisciplinary teams have common planning is not easy. Doing so would mean placing common planning ahead of almost all other scheduling priorities. Because we built the master schedule three months prior to developing our SI plan to foster TLCs, it was not possible to alter the current master schedule to facilitate common planning during the study. School leaders recognized that although it was preferable, common planning was not a practical solution for every teacher in a TLC given current constraints (e.g., staffing, contract, budget, and school size).

Building a master schedule that incorporated some targeted common planning for some key members of TLCs or a few TLCs was possible. As school leaders began building the following year's master schedule, Georgia and the Math TLC requested common planning for some of their teachers. In particular, they requested common planning for teachers teaching new course curricula. Because of the Common Core and Race to the Top, district officials rewrote all of the English and most of the math curricula. To assist those teachers with the additional workload of implementing new courses, school leaders chose to build the new master schedule with common planning.

School leaders gave all English and math teachers teaching these new courses a common planning period so that they could continue their collaborative work to ease this transition. Although I had a bias for common planning, as the master scheduler, I am not sure that I would have built the school's schedule the same way without the initial findings of this study. By prioritizing common planning, school leaders had to sacrifice other scheduling priorities (e.g., equal class sizes in some cases).

Coverage for Peer Observations: During focus group interviews, I asked teachers about their progress with goals and action plans. During the third focus group interview, I asked the Math TLC whether they still planned to conduct peer observations in the spring. In that interview, I reiterated an offer from school leaders to provide coverage for 10 to 15 minutes for teachers who wanted to conduct peer observations. During this discussion, Bryan suggested that school leaders send an e-mail notification whenever they could provide substitute coverage during a particular class period. After the interview, Thomas agreed to honor the math teachers' requests. He agreed to offer 10-15 minutes of substitute coverage to math teachers for the purpose of peer observations

from substitutes who were not covering classes during any available class periods each day.

Because I was responsible for substitutes, Thomas assigned me the task of communicating this information to the Math TLC. Each morning I reviewed substitute coverage and e-mailed teachers with the class periods I could provide coverage for that day. Traditionally, we only used substitutes for three of the four class periods that were in our building. During the teachers' planning period, substitutes had no assigned responsibilities. Using substitutes for coverage, however, was consistent with district policy. Despite the offer to the Math TLC, no math teachers used substitute coverage to conduct peer observations. During a department chair meeting, Thomas made the offer to the rest of the TLCs. Only a few teachers accepted substitute coverage for this purpose.

In Drago-Severson and Pinto's (2006) study, principals used instructional assistants. We used substitutes differently than Drago-Severson and Pinto (2006) who used teacher aides already assigned to teachers' classes as substitutes in order to provide coverage for teachers work within TLCs. The hope was that teacher aides would be familiar enough with the classes that teachers would not "lose time" with classes due to their absences. Because our school does not have widespread teacher aides in classes, we could not replicate their approach to deploying internal human resources in that manner. While our practice of providing substitute coverage is similar, teachers had no idea who the substitute would be and whether they would be familiar enough with students and/or content to continue lessons. Our teachers, then, likely would have had to plan lesson

segments that did not require instruction. Both strategies represent ways school leaders can deploy internal human resources in an attempt to foster the development of TLCs.

Power Relationships. Participants identified all three school cultural factors that I discussed in the literature review: the role of school leaders in setting school climate, the degree of collegiality between teachers, and power relationships. The participants' description of power relationships is the only cultural factor altered by school leaders that does not overlap with other altered conditions. In that section, the stance that the school leaders at Carter's Run take toward supporting TLCs matches the type of positive approach described by Rinke and Valli (2010). As a characteristic of TLCs, the role of school leaders in setting school climate overlaps with the culture of expectations and the degree of collegiality between teachers overlaps with participants' descriptions of trusting relationships. In the context of this study, participants contextualize collegiality between teachers more as an indicator of TLC than a condition that school leaders could alter to develop TLCs.

School leaders attempted to minimize our power relationships with teachers by providing teachers with a degree of choice within their goals and action plans. The principal desired for the TLCs to set expectations, set the process, and give power to choose details. He said,

> It's almost like a classroom teacher, once you set your expectations, once you set
> your process, your kids should perform in the classroom. You let them go.
> Sometimes they fail and you go back and readjust. And sometimes they survive
> and you praise like crazy (Individual interview, July 25, 2011).

We had many discussions about the tension between teacher choice and our expectations. We believed that teacher buy-in was essential to the success of the TLCs. Power relationships came into play when teacher choice spawned superficial goals loosely linked to student data. In some cases, we also believed that goals and action plans missed the spirit of the Key Indicators. Even when we chose not to address these discrepancies, teacher facilitators and TLCs struggled with teacher choice. Teacher participants seemed to want school leaders' guidance. For example, during her final interview, Georgia said, "[School leaders] didn't tell us what to do. You provided us with the opportunity. We just weren't sure what we were supposed to do with that time" (individual interview, May 23, 2012). Deciding when to give this advice was difficult for school leaders. Sometimes doing so caused discomfort.

In some cases teacher facilitators struggled with our mixed messages. For example, Catherine noted that teacher choice and our expectations challenged her transdisciplinary TLC and its facilitator. During her final interview, she said, "Freedom for teams to choose specific goals and action plan steps? We have choice, but you want us to do this. Do you want us to do that instead? Or do you want us to have choice? What are you saying here?" (individual interview, May 21, 2012). School leaders rarely chose to intervene. Although I have no evidence to support my hypothesis, I speculate that fear of our disapproval led some teacher facilitators and TLCs to make different choices.

Curricular Changes, Common Core, and RTTT. Our district was in the process of changing the math and world language curricula at the start of the study. World language teachers implemented completely new curricula, and math teachers piloted components of new curricula the district planned to implement the year after the

study. District officials planned to shift the entire math curriculum the year after the study to address the Mid-Atlantic State's new Common Core curricula. The Mid-Atlantic State Department of Education developed the Common Core curricula to address new assessment requirements (i.e., the PARCC test) associated with RTTT legislation. Teacher participants viewed both curricular changes as potential obstacles to their TLCs' work. These curricular changes are examples of external conditions similar to those I located in the literature review. While these curricular changes undoubtedly had the potential to influence teachers' joint work within TLCs, they were out of school leaders' direct control. School leaders at Carter's Run hoped that the flexibility in the goals and action plans afforded to teachers could create conditions to help departments understand and adopt new curricula.

Summary

In this section, I discussed how school leaders identified and addressed school leadership, professional development, and workplace design conditions that affected TLC development. School leaders predicted some of these conditions in advance: culture of expectations, Keys 2.0/SIT Retreat, facilitator support, teacher choice, time, power relationships, and curricular changes. Participants identified other conditions during the study: technology and technology professional development, department chair professional development, the study itself, and coverage for peer observations. While each of these conditions connects to the literature base, their manifestations in this study are complex and contextual.

The conditions identified by participants in this study are complex. For example, the professional development literature is clear: TLCs have a better chance of achieving

their goals when teachers are involved in that process (e.g. Adajian, 1996; Hawley & Valli, 2007; Scribner, 1999). School leaders find that incorporating elements of teacher choice is not simple. When school leaders encourage teachers to develop their own goals and action plans within minimal guidelines, TLC facilitators struggle with that freedom. They want school leaders to tell them what to do. Additionally, when school leaders decide to intervene with TLCs, teacher facilitators are not always pleased. To navigate these complex aspects, school leaders must pay attention to the individual contexts of TLCs. For example, while the math teachers appreciated their substitute days, they did not desire to continue. World language teachers, however, continued with two additional substitute days. While I explore the reasons further in the next section, the contexts of the teachers' subject areas and the nature of the activities during the substitute days influenced these decisions. For example, math teachers could complete their activities outside of the contractual day with remunerated time while world language teachers only had access to technology experts during the contractual day.

In these and other ways, the conditions identified by participants are complex and contextual. This finding matches those of other scholars (Clement & Vandenberghe, 2000; Grodsky & Gamoran, 2003). In the next section, I continue to explore these complex and contextual interactions by discussing how teachers perceive how these altered conditions influence the development of their TLCs.

RQ#3 – Perceived Impact of Altered Conditions

"I was thinking today, in preparation for our conversation . . . this is a hell of a lot harder to do than I ever thought" (individual interview, November 23, 2011). Thomas's observation during his second interview captured the complexity, difficulty, and

contextual nature of fostering TLCs. School leaders agreed with Clement and

Vandenberghe (2000) and Grodsky and Gamoran (2003) that aligning the many unique

resources would not be an easy task. Not only was the process context-specific for this

school, but it was also context-specific for each of the 15 different TLCs. While some

conditions facilitated the work of some TLCs, the same conditions influenced other TLCs

differently. For example, while the World Language TLC characterized substitute days as

facilitating their work, the Math TLC said that these days both facilitated and inhibited

their work.

In this section, I answer the third research question: *What is the perceived impact,*

if any, of the altered conditions on the development of two different TLCs? In order to

answer this question, I first analyzed school leader and teacher perceptions of how the

conditions identified in Table O did or did not influence their work. In some cases,

teacher perceptions in the teams are similar. In others, they are dissimilar. In the same

vein, school leaders sometimes agree with teachers' analyses and at other times, they

disagree. I describe how participants perceived altered conditions influencing the

development of their TLCs using the six characteristics of a TLC. After analyzing the

impact of each condition on the development of these TLCs, I applied the Modified TLC

Level Rubric (Table L).

School Leadership Conditions

Participants reported that each of the school leadership conditions altered by

school leaders influenced their TLC's work. While school leaders may have inadvertently

over-emphasized their expectation for TLC success to teachers, participants perceived

that the culture of expectations generally assisted the work of their TLCs by providing

them with a common purpose. Participants report that the clearest link between TLCs'

work and an altered school leadership condition existed between the Keys 2.0/SIT

Retreat process and common purpose. While teachers perceived that facilitator support

assisted them with managing conflict and negotiating consensus, they did not report

evidence that it also led to an increased sense of shared decision making between teachers

and school leaders.

   Culture of Expectations. I collected meeting minutes that show how school

leaders communicated their expectations for teachers and themselves during school

leader planning meetings, department chair meetings, SIT meetings, and faculty

meetings. While the most comprehensive summaries of expectations occurred in

September 2011 and October 2011, select expectations appeared individually in meeting

minutes throughout the entire year. School leaders reported that they often reminded their

assigned teacher facilitators about these expectations during individual one-on-one TLC

planning meetings (e.g., analyze data, aligning goals to Key indicators, action plans,

staying manageable, expecting errors/shortfalls, and starting with low trust activities). For

example, during an individual interview Nadia discussed her weekly TLC planning

meetings with the facilitators and how she used them to help her TLC stay structured and

manageable. She said, "Meeting with [the facilitators] on a weekly basis has provided

that one-on-one support. We talk about what they are going to do at their next meeting . .

. how she can pull people together in [that TLC]" (individual interview, March 15, 2012).

I also met regularly with one of my transdisciplinary TLC facilitators. In these meetings,

I emphasized the importance of collecting and analyzing student outcome data. As a

result, this TLC was one of the few that could evaluate the success of their goals against student outcome data at the conclusion of the study.

I located evidence throughout the study that suggests school leaders were successful in communicating their expectations to teacher facilitators. For example, in her first journal entry, Joan explained her perception of school leaders' expectations. She wrote,

> The administration laid the groundwork by telling us as a staff that they were not mandating goals for us. Instead, our groups would use the two [Key Indicators] to narrow our focus and establish two of our own goals and action plans that would be most meaningful for our particular areas. (journal entry, September 18, 2011)

In the same journal entry, Joan continued by explaining additional expectations from school leaders. For example, she explained how school leaders would not use TLC goals and action steps as negative feedback for the teacher evaluation process. She explained that the expectations provided her with a level of comfort going forward and diminished her fear of errors and shortfalls. She perceived that school leaders desired a trial and error type of experimentation with TLC work. She wrote that she felt that these expectations created trust and buy-in from teachers who could work "without being under a critical administrative microscope" (individual interview, September 18, 2011). In her final interview she said, "The good thing was we were told [by the principal], 'Don't feel like you have to hit the target or hit a home run, just come up with a target and figure out your action steps'" (individual interview, May 17, 2012). Joan, and the rest of the World Language TLC, agreed that school leaders' expectations facilitated the work of their TLC.

While Joan provided evidence that teacher facilitators comprehended school leaders' expectations, I located some evidence that suggested confusion regarding certain expectations. For example, during a Math TLC focus group interview, a discussion regarding lack of time for TLC work highlights how one teacher supplanted her own expectations over school leaders' expectations. While school leaders had hoped teachers would merely get their feet wet with joint work, some teachers went all in.

> Georgia – Well I think part of it is the limited time. We can't do common planning in 45 minutes. You know, maybe we can touch base with each other very briefly on something but to do what we have to do 45 minutes is nothing.
>
> Ken – So would you rather not have the 45 minutes?
>
> Phoenix – I would rather not have the expectation of moving mountains in 45 minutes.
>
> Georgia – Yeah.
>
> Ken – Do you feel that the administration communicated that we wanted you to move mountains?
>
> Phoenix – I think we put that expectation on ourselves.
>
> Bryan – Agreed.
>
> Georgia – mmhmm.
>
> Phoenix –The administration flat out said that you can fail. The administration said we want you to have a goal but if you fail that is fine. (Math group interview, December 14, 2011)

This passage illustrates once instance of how school leaders failed to communicate their expectations to teachers accurately. There was confusion in this

situation. I suspect that there were many more instances. Because of the confusion, some teachers put more pressure on themselves than school leaders intended.   In hindsight, we probably overrated our teacher leaders' ability to understand our expectations in only one year. We could have better communicated our expectations to teacher facilitators and TLC members.

Another explanation could be that Phoenix read beyond our stated expectations to those we may not have even realized we had. For example, during a school leader planning meeting in October 2011, we discussed the progress of each of our TLCs. I was disappointed in one of my committees' action plans and criticized what I thought was a superficial task. Realizing that the activity was authentic and necessary for this TLC's development, I then redirected myself during our conversation. I continued,

> Ken – I guess they need to go through this process because it's the first time they've ever worked together.
>
> Thomas – And you've got to keep reminding me that we've got to go slow.
>
> Ken – Well, and not having too huge expectations. (School Leaders group meeting, October 4, 2011)

I acknowledge that our school leadership team desired action plans to influence teacher practice and student learning. Influencing teacher practice and increasing student learning were the reasons that we implemented this professional development model. While I thought that I kept my disappointment in this particular TLC's action plan private and supported them publicly, teachers could have read my underlying disappointment anyway. I have no evidence to refute this explanation definitively; therefore, I cannot

dismiss the possibility that Phoenix may have accurately uncovered our private expectations for action plans to succeed.

Phoenix related that although our expectations caused additional stress on math teachers, they also led to higher quality collaborative activity. She said, "I think had we only gone with the SIT goal of, 'oh we're going to collaborate,' then we would've done the same thing that we did in the [parent involvement] goal and we would've said 'oh we did it'" (Math group interview, May 29, 2012). The other members of the Math TLC agreed. They perceived that the culture of expectations facilitated the growth of their TLC. Nadia, the school leader liaison to the Math TLC, and committee members perceived that the culture of expectations contributed to the TLC's common purpose.

Keys 2.0/SIT Retreat. Participants agreed that the Keys 2.0 survey and SIT Retreat provided a common purpose for TLCs and facilitated the development of goals and action plans. In particular, the identification of two Key Indicators contributed to the common purpose. Participants believed that the SIT Retreat process strengthened common purpose amongst TLCs because school leaders used an open and collaborative process to select two Key Indicators. Catherine said,

> I think it's been very clear. The goals we got out of the SIT retreat were collaboratively chosen. They were not set by any one set of stakeholders and then within those goals the [TLCs] are really the ones who decided. (Individual interview, February 14, 2012)
>
> Nadia agreed. During her final interview, she linked the Keys 2.0 process with

TLCs' sense of common purpose. She said,

Common purpose linked the two Key Indicators we identified. Everyone had the same purpose but each disciplinary and transdisciplinary TLC looked at the indicators through their different lens. (Individual interview, May 30, 2012)

She believed that the Key Indicators facilitated the work of TLCs by providing them with an objective to work toward. The Key Indicators helped focus the committees in one common direction.

For the two teacher facilitators in this study, the SIT Retreat was a unique experience. Georgia said that the SIT retreat was the first time in her career that she felt she had genuine input in setting the school's purpose. Joan made similar comments in her journal. She wrote, "In 26 years of teaching, I have never experienced such a coming together of people to examine the needs of a school and establish initial criteria upon which to build goals for improvement" (journal entry, September 18, 2011).

The World Language TLC reported that they benefitted from the two Key Indicators chosen at the SIT retreat. They said that the Key Indicators provided direction for their work. Because of the Key Indicators, Joan perceived that the World Language TLC had not just a sense of purpose, but also a combined sense of purpose as a team. Joan felt that goals and action plans made her department meetings more meaningful than in the past. She said,

I think that [the Key Indicators] provided a structured way for us to get together and work on a common theme or approach. Rather than just sitting together and saying, "Hey what's going on with you right now? What's going on with you? Well, what should we do? We really do have goals to shoot toward. (World Language group interview, October 24, 2011)

Although each TLC developed goals and action plans to match each Key Indicator, some TLCs interpreted the indicators differently than others. In the Math TLC, members were critical of their superficial interpretation of one of the Key Indicators. Phoenix captured the critique in the very first Math TLC focus group interview when she said,

> I think yes, we are communicating more with parents. But I don't know if by making a newsletter fit our requirement to meet that goal, I don't know if we've actually made a difference with parent involvement in the school, which is what the actual [Key Indicator 2.2] addresses. While we've met our goal of making a newsletter to improve communication to parents, I don't know if we actually made a difference in the goal from the KEYS survey. (Math group interview, May 29, 2012)

In her final interview, Georgia reported that she agreed with Phoenix's earlier assessment of their action plan. She said that although the two Key Indicators set a common purpose, they did not necessarily guarantee the team would achieve the goals. She was skeptical that their action plan helped them completely reach those goals.

School leaders believed that the SIT Retreat led to an increase in trusting relationships. Teacher attendance at the SIT Retreat improved drastically in the second year from 13 to 29. Although school leaders paid teachers for attending, I observed several conversations between teachers and school leaders who felt it was important to attend the SIT Retreat. They told me that they believed that they could "have a say" by attending. Of course, these teachers could have been telling me what I wanted to hear. In addition to the increased teacher attendance at the SIT Retreat, the number of respondents

on the Keys survey improved by 10% in the spring of 2012. Both pieces of data suggest that a growing number of teachers valued the Keys 2.0 process and the SIT retreat.

Attendees of the SIT Retreat analyzed several pieces of outcome data including SAT scores, Advanced Placement scores, state assessment scores, attendance, discipline, and the results of a district-wide student perception survey. The analysis included data spanning at least three years, disaggregated categories, and guiding questions. While participants agreed that this aspect of the SIT Retreat was thorough and beneficial, there was no extension of the outcome data analysis during the school year. In his second interview, Thomas said,

> Maybe we haven't made it clear what conclusions or what pieces of data came out of the SIT retreat. Maybe we haven't done a lot. Maybe we really didn't prepare those committees. Maybe we didn't have them look at the data completely yet. (Individual interview, November 23, 2011)

I agree with Thomas's assessment. While I can find support that the selection of two Key Indicators facilitated common purpose for TLCs, the gap analysis of outcome data had little, if any, effect on the work of TLCs. Despite this misstep, it appears that school leaders made progress on teacher perception with several Key Indicators (see Table P below). Results for Key Indicator 1.1 and 3.1 support the findings for Keys 2.0 and the SIT Retreat. A t-test shows significant increases at the p=.05 level among teachers' perceptions for Key Indicator 1.1: *Shared goals for achievable education outcomes are clear and explicit*. On the other hand, a t-test for Key Indicator 3.1: *Student assessment is used for decision making to improve student learning*, does not show a significant change.

Another important observation of the Keys 2.0 survey results is the lack of significant increases for teachers' perceptions of Key Indicators 2.2 and 2.3. SIT Retreat attendees selected both of these Key Indicators, and each TLC developed goals and action plans linked to them. These statistics diminish claims that TLCs accomplished their goals. The data reported here, however, represents teachers working within 15 TLCs. It is conceivable that some groups of teachers working within certain TLCs perceived greater success with these two Key Indicators. Because of the nature of the agreement with NEA, disaggregating this data by TLC is not possible. I discuss other Key Indicators in the following sections.

Table P: Keys 2.0 Results for Carter's Run HS Staff

Key Indicator and Description	May 2011		April 2012		
	X_1	SD_1	X_2	SD_2	X_2-X_1
Key 1: Shared Understanding and Commitment to High Goals					
1.1 – Shared goals for achievable education outcomes are clear and explicit.	4.084	.818	4.358	.552	.2740*
1.2 – Teachers, administrators, educational support personnel, and other school employees take responsibility for the achievement of challenging standards for all students.	3.889	.558	3.989	.510	.1000
1.3 – Curriculum is student-centered.	3.720	.856	4.034	.694	.3140 *
1.4 – School operates under the assumption that all students can learn.	4.157	.544	4.300	.428	.1430
1.5 – School district administrators support staff efforts and monitor progress toward achievement of goals.	4.333	.741	4.287	.793	-.0460
Key 2: Open Communication and Collaborative Problem Solving					
2.1 - In a climate of nonthreatening, two-way communication, school administrators and staff collaborate in problem solving.	3.997	.861	4.281	.667	.2840 *
2.2 – Parents are involved in supporting the work of the school.	2.556	.749	2.786	.751	.2300
2.3 – Teachers, administrators, educational support personnel, and other school employees collaborate to remove barriers to student learning.	3.468	.795	3.711	.764	.2430
2.4 – Teachers work closely with parents to help students learn and improve education.	4.127	.721	4.213	.693	.0860

2.5 – Teachers discuss standards and approaches for curriculum and instruction.	2.849	1.022	2.945	1.090	.0960
2.6 – Teachers are involved in decisions about student learning.	3.429	.903	3.279	.901	-.1500
2.7 – Teachers are involved in decisions about school operations.	2.143	1.054	2.005	.859	-.1380
2.8 – Parents, community, and staff other than teachers are involved in decisions about school goals.	3.386	.951	3.701	.874	.3150
2.9 – Teachers communicate regularly with each other about effective teaching and learning strategies.	3.841	.894	3.944	.793	.1030
KEY 3: Continuous Assessment for Teaching and Learning					
3.1 – Student assessment is used for decision making to improve learning.	3.863	.819	3.982	.776	.1190
3.2 – Academic programs are assessed regularly.	3.101	1.070	3.387	.923	.2860
3.3 – Assessment results have consequences for students and staff.	3.651	.829	3.930	.729	.2790 *
3.4 – A variety of assessment techniques are used.	4.448	.428	4.497	.471	.0490
3.5 – School programs are consistent and coherent.	3.198	1.116	3.029	1.142	-.1690
KEY 4: Personal and Professional Learning					
4.1 – Professional development has a direct, positive effect on teaching.	3.211	1.016	3.483	.956	.2720
4.2 – School administrators and staff work together to provide relevant professional development experiences.	3.548	.902	4.029	.747	.4810 **
4.3 – Teachers are prepared to use state or district curriculum assessment or performance standards.	4.222	.798	4.070	.782	-.1520
4.4 – Classroom observations and constructive feedback from teachers and principal are included in professional development.	2.922	1.032	3.293	.987	.3710
4.5 – Teachers are prepared to address the needs of students with diverse learning needs and backgrounds.	3.675	.929	3.728	.750	.0530
4.6 – Teachers have regularly scheduled time to learn from one another.	3.031	1.004	3.095	1.112	.0640
4.7 – Staff development opportunities are pursued through organized professional development activities within and outside the school.	2.759	.799	2.958	.974	.1990
4.8 – Staff development is provided in the areas of decision making and problem solving.	3.328	1.106	3.725	.997	.3970 *
4.9 – Staff development is consistent, comprehensive, and related to practices in the school.	3.321	1.021	3.985	.887	.6640 **
4.10 – Opportunities are available for mentoring.	1.880	1.073	2.250	1.196	.3700

4.11 – Teachers have strong knowledge of their subject matter areas.	4.714	.490	4.676	.502	-.0380
KEY 5: Resources to Support Teaching and Learning					
5.1 – Computer hardware and software supplies are adequate for students and teachers.	3.694	.777	3.449	.844	-.2450
5.2 – Support services are adequate.	4.047	.568	4.149	.513	.1020
5.3 – Space for instructional activities is adequate.	3.984	.779	4.007	.736	.0230
5.4 – The school provides a safe environment for learning.	4.460	.656	4.426	.754	.0340
5.5 – Academic resources are adequate.	3.903	.702	3.960	.680	.0570
Key 6: Curriculum and Instruction					
6.1 – Curriculum includes "learning how to learn" activities.	3.604	.868	3.566	.770	-.0380
6.2 – Varied, engaging, and collaborative strategies are used in instruction.	5.064	.766	5.184	.564	.1200
6.3 – Curriculum provides opportunities to study topics in-depth.	2.907	1.233	3.413	1.192	.5060 *
6.4 – Curriculum includes attention to accuracy and detail.	3.736	.630	3.927	.596	.1910
6.5 – Instruction includes interventions for students who are not succeeding.	4.259	.746	4.083	.835	-.1760
6.6 – Students are provided with personal instruction and feedback.	4.484	.646	4.647	.581	.1630
6.7 – Research conducted at school influences programs and instruction.	2.778	1.073	3.257	.979	.4790 **

* Significant at p = .05 level
** Significant at p = .01 level

Facilitator Support. Both of the facilitators in the study were involved with the school in different ways. For example, Joan was active with the fall and spring drama productions. Although she valued her involvement with the drama productions, she recognized that at times those duties distracted her attention away from the World Language TLC. During the focus group and individual interviews, she reflected on her leadership and stated that she felt like she was not 100% there for her fellow TLC members. Obviously, school leadership needs staff members like Joan to supervise and direct drama productions. To balance those types of duties with facilitating TLCs, school leaders recognized the need to support facilitators.

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Despite our plans to provide facilitator support consistently throughout the school year, we did not provide enough structure. Thomas believed this was a shortfall. During his third interview, Thomas assessed our facilitator support and said, "We didn't really give them a clear cut, step-by-step instruction to say; step 1 design a committee purpose, step 2 what's your vision . . . We didn't take them through all those processes" (individual interview, January 27, 2012). Even if we had given them more structure, there was no guarantee that teacher facilitators would have been more comfortable. Thomas believed, though, that we could have addressed persistent questions from facilitators asking for guidance by providing more structure.

Teacher facilitators seemed to lack the experience to manage conflict and negotiate consensus within their TLCs. Many teacher facilitators, including the Math and World Language TLCs, had difficulty getting every member of their TLC to engage. In some cases, they labeled these teachers "dissenting members" and characterized them as obstacles to their joint work. Some TLCs reported that had difficulty with the mechanics of how to accomplish their goals. Initially, we considered meeting with facilitators in a group setting. Because of their unique memberships and action plans, we immediately recognized the need to support each teacher facilitator individually and shifted our approach.

School leaders held regular weekly TLC planning meetings with some of our teacher facilitators to support the work of their TLCs. Nadia said, "[One of my TLCs] was more successful with its work because I was able to spend time with the leaders" (School Leaders group meeting, March 27, 2012). Some teacher facilitators embraced standing meetings while others met "as needed". Neither Joan nor Georgia had standing

meetings, but both met consistently with school leaders for support. These individual

meetings helped school leaders to address facilitators' requests. For example, Phoenix

said, "I think that we don't necessarily know how to approach our goals in the time that

we're given. We're always like ok, now what? Ok, let's do the easy thing. Let's figure

out what's going in the next newsletter" (Math group interview, October 20, 2011).

During these meetings, we gave advice on how facilitators could address the mechanics

of accomplishing their goals.

Use of agendas was one strategy we encouraged teacher facilitators to use. We

hoped agendas would provide structure for TLC meetings. In the case of TLCs with

dissenting members, we hoped teacher facilitators would redirect conversations back to

the agenda and save other conversations for the end of meeting, if there was time. We

suggested implementing an agenda to Georgia for her February 2012 Math TLC meeting

for this reason. She provided the agenda to the math teachers prior to the scheduled lunch

meeting. She perceived that the written agenda made the meeting run smoother. In

particular, she reported that she was able to restrict discussion to agenda items. I gathered

no evidence to suggest that she continued to use agendas during other Math TLC

meetings.

Georgia and Joan both reported that the individual one-on-one facilitator support

sessions with school leaders were beneficial and helped them manage conflict and

negotiate consensus. Georgia said that the ability to ask school leaders for individual

help was the most effective form of support for her leadership. Responses from teachers

on the Keys 2.0 survey support Georgia and Joan's reports about individual facilitator

support. I found a significant increase at the $p = .05$ level for a t-test for Key Indicator

2.1: *In a climate of nonthreatening, two-way communication, school administrators and staff collaborate in problem solving* and Key Indicator 4.8: *Staff development is provided in the areas of decision making and problem solving* at the conclusion of the study.

School leaders also hoped facilitator support would lead to an increase in shared decision making. On the other hand, neither Georgia, Joan, nor the Keys 2.0 survey showed evidence that teachers perceived a significant increase in shared decision making. Both Key Indicator 2.6: *Teachers are involved in decisions about student learning* and Key Indicator 2.7: *Teachers are involved in decisions about school operations* failed to show a significant increase at the conclusion of the study. In fact, responses for Key Indicators 2.6 and 2.7 actually show a decrease, although that decrease is not statistically significant. These findings suggest that school leaders' attempts to increase shared decision making were ineffective.

Summary of School Leadership Conditions. In this section, I reported that participants linked each of the school leadership conditions altered by school leaders to the work of their TLCs. I explained how a culture of expectations and the Keys 2.0/SIT Retreat facilitated the work of TLCs by providing a common purpose. I also explained teachers' perceptions that facilitator support assisted them with managing conflict and negotiating consensus. I located no evidence to suggest that facilitator support led to an increased sense of shared decision making between teachers and school leaders. Now, I describe how professional development conditions influenced teachers' perceptions of their work within TLCs.

Professional Development Conditions

Some professional development conditions undoubtedly influenced TLCs work, while others missed the mark. Participants overwhelmingly reported that the new instructional technology and the study itself facilitated their joint work by providing a common purpose and opportunities for reflexive dialogue, respectively. On the other hand, participants said that department chair professional development was less effective than individual facilitator support with their school leaders. While teachers reported that they liked having choice, I found evidence that teacher facilitators struggled in aligning their goals and action plans to student outcomes.

Teacher Choice. For some TLCs, school leaders' decisions to incorporate teacher choice seemed to have had the desired effect of creating teacher buy-in. For example, one member of the World Language TLC stated that she was comfortable working with her team's goals because they matched district-wide curricular changes. She said, "Well it's really easy to work toward [our two goals] because they match our county-wide standards. Everything is communicative. So, I think it goes hand-in-hand with our department goals" (World Language group interview, October 24, 2011). Joan elaborated that their performance assessment goal not only fit the school leadership's expectations to align with Key Indicator 2.3, but also matched her district supervisor's expectation to move toward assessments.

Despite positive examples, school leaders often found it difficult to navigate the tension between teacher choice and expectations when TLCs selected goals that did not meet our expectations (e.g., completely ignoring student data). Sometimes school leaders chose to ignore these expectations for fear that they could encourage teachers to play

community and engage in contrived collegiality by intervening (Grossman et al., 2001; Hargreaves, 1994). Other times, school leaders addressed TLCs' action plans by requesting adjustments from TLC members. Thomas described the tension between teacher choice and our expectations when he said,

> We've been trying to draw the line between coming out and telling people what to do and . . . I think some people want to be told that. They want to be managed because it's easier on them, it's less stressful. (Individual interview, March 13, 2012)

I located evidence to support that teachers wanted guidance in how to accomplish their action plans. For example, during a focus group interview Andrea said, "We are better when [our work is] more directed I think. … If I don't have that direction then I sort of get stuck in a quagmire" (Math group interview, December 14, 2011). In fact, my earliest notes on the Keys 2.0 process highlight two teachers asking what school leaders expected of teachers engaged in TLCs. Because many of our teacher facilitators were novice teacher leaders, it is possible that these teachers really did not know what to do.

While Thomas's suggestion that teacher facilitators desired direction to make the process easier is plausible, so are other explanations. Perhaps school leaders had not created a trusting environment where teacher leaders could feel comfortable taking risks with their leadership. Maybe teacher facilitators were afraid to disappoint us and asked us for guidance to avoid letting us down. Or, maybe teacher facilitators were skeptical that teachers really had a say in the decisions of their TLCs.

The two teacher facilitators in this study reported that teacher choice was difficult, but helpful to their joint work. I suspect they were earnestly asking what we wanted

because they wanted to please us. Joan put our approach to teacher choice in perspective with her prior experiences. She said it was obvious to her that school leaders, in this situation, genuinely wanted to work together with teachers because of the absence of top down mandates on TLC goals and action plans. Joan frequently characterized her goals as meaningful because she chose to do them. Georgia agreed. At the conclusion of the study, Georgia said, "We felt like we owned [our Math TLC] because we had the choice" (individual interview, May 23, 2012).

Teacher choice did have a downside for TLC members. For example, members of the Math TLC struggled with the freedom to choose their own course of action as observed in an exchange between Phoenix and Bryan during a focus group interview.

Phoenix – I think it's hindered it in that we haven't necessarily had the time for the leaders or in our case probably the department to sit down and plan how that time is going to be used. So while the freedom is helpful, no one is planning what to do with that freedom.

Bryan – Right, we know it's a disciplinary day but we don't think about it until the day before, ok it's a math day tomorrow, now what? I don't think we're connecting the pieces. (Math group interview, December 14, 2011)

In these types of situations, teacher choice led to ambiguity that frustrated teachers and hindered their TLCs' work. Members of the Math TLC agreed that they were not micromanaged by the school leadership when it came to choosing goals and action plans. Georgia said. "No, [school leaders] did not tell us what to do. [School leaders] provided us with the opportunity; we just weren't sure what to do with that time" (individual interview, May 23, 2012). School leaders were prepared to accept this

unintended outcome in order to avoid the superficial levels of engagement observed in Meister and Nolan (2001). In that study, school leaders reorganized teachers from content teams into interdisciplinary teams and asked them to develop interdisciplinary units. These teachers had no input into the decision to reorganize in this manner. While these teachers tried their best and implemented one unit together, they abandoned the initiative and fell back on prior instructional practice.

Technology and Technology PD. Without the three professional development sessions that school leaders provided to world language teachers, I doubt that they would have used their new interactive technology in their classes at all. The world language teachers had hoped to use the wireless slate as a consistent way to encourage student participation during didactic portions of their lessons. They planned to use the student response systems as a timesaving formative assessment tool. With the student response system, they hoped to provide students with immediate feedback during examples. For example, teachers suggested they could quickly assess student learning through quick 10 to 15 multiple-choice question quizzes. When teachers received the new technology, however, they struggled with set-up and implementation. The teachers overcame these obstacles during the professional development sessions.

After the first session, Mia used the wireless slate in her classroom. She invited me to observe, and in that lesson, students used the wireless slate to draw lines from column A to column B to reveal correct answers. Mia believed that student engagement increased during this activity. She polled her students at the end of the lesson. Her students said that they enjoyed using the wireless slate. During a follow-up interview, Mia said, "I don't know if it will get to the point where the 'wow factor' will wear off.

But right now, it's new enough. They thought it was cool, and it kept their attention" (individual interview, February 23, 2012). Some students said that the wireless slate helped them stay focused and that it gave them incentive to participate.

The teachers reported that using the technology required time-consuming preparation of either editing pre-loaded presentations or creating presentations from scratch. The teachers reported that they invested significant amount of time correcting errors in pre-existing presentations. Joan captured the challenge of implementing new instructional technology during her final interview. She said,

> Unless you really go out on your own and look for a technology course to implement it or take hours and hours of your own time to develop using technology in the classroom it's just vague and scary. (Individual interview, May 17, 2012)

During their second professional development session, the world language teachers learned quicker ways to begin using the new instructional technology in their classrooms. After that session, Joan and Rosita began using the wireless slate. After a third professional development session, Joan used the student response system with her classes. Students responded to multiple-choice, yes/no, and true/false questions that she projected from her computer onto a screen through a data-video project. Students used "clickers" to enter their responses while the technology collected and scored each student's response in a spreadsheet. She was the only teacher to do so. I speculate that using the complex technology in front of the students for the first time was intimidating for them. After Sharon gave her students a practice quiz with the technology, she said that while students enjoyed using the response system, the lesson did not run as smoothly

as she had hoped. She said that she struggled with the technology and lost student responses and had to have students redo the assignment with paper and pencil. Despite these challenges, the world language teachers wanted to continue to practice with the technical aspects of the student responses so that they could eventually gather formative assessment data quickly during classes and alter their instruction.

At the conclusion of the study, the world language teachers reported that they still wanted to integrate the wireless slate and student response system into their instruction. They still viewed instructional technology as a goal in progress. Rosita said, "This has to become part of the way your classroom operates. Not just, here's a fun little hook" (World Language group interview, June 3, 2012). To facilitate their continued work, they requested two additional wireless slates. They viewed sharing one wireless slate as an obstacle. Each member desired to incorporate both pieces of technology into their regular routines.

The world language teachers agreed that the new instructional technology had facilitated their TLC's work by providing a common purpose for their collaborative activity. In particular, the technology professional development helped them overcome obstacles necessary to use the technology in their classrooms. By locating the professional development in proximity to their classrooms and providing afternoons for collaboration on lessons for the new instructional technology, school leaders perceived that professional development achieved the instructional impact predicted in the literature (Burbank & Kauchak, 2003; Hawley & Valli, 2007). Although limited, teachers did use the wireless slate and student response system in their classrooms.

I am skeptical that the use of new instructional technology meant that teachers actually *taught* differently. While they used the technology with students, each task that I observed seemed an iteration of an existing pedagogical practice. For example, Mia reported that she used the revealer function of the software. Her description of how the revealer worked was identical to a piece of paper on an overhead projector. By their admission, the world language teachers had just scratched the surface of possibilities with the interactive technology.

Department Chair PD. On the surface, department chair professional development activities during the second half of the year seemed to achieve their intended outcomes. School leaders said that the activity was successful. Thomas reported that two department chairs who missed the January 2012 meeting had requested the facilitative leadership materials and case scenario from him. Nadia said that two of her TLC's facilitators told her that they appreciated the value of the first department chair PD activity. She said that that they listened to the case study activity because one facilitator thought the case study was about his department.

Teacher facilitators were less complimentary in their responses about department chair professional development. Georgia reported that none of the sessions helped her. She said that she understood what we were trying to do with the department chair PD sessions, but that individual one-on-one support with her assistant principal was more helpful. She summarized her assessment when she said, "I don't have anyone coming up to me saying, 'God, that was really helpful!' But then, on the other hand, I don't have anyone saying 'what are you doing that for?'" (individual interview, February 27, 2012). She said that the downside of these activities was that they shuttled time away from more

traditional meeting activities, like the opportunity for collaborative input on state assessment testing schedules.

Although Joan reported that she benefited from these activities, she felt that the rest of the department chairs did not fully engage. She perceived that other department chairs inflated their responses during some of the activities. She was critical of their self-praise for things she considered superficial. She said, "It made me think, 'Oh my gosh, do I pat myself on the back for dumb little stuff that is just the bottom of the barrel for what I should be doing?'" (individual interview, April 19, 2012). She continued,

> We really are little ducklings at this. I feel like I'm swimming around a shallow
>
> pond and the deep sea is right over there and I don't know how to navigate it. And
>
> I'm thinking, "Well, if we're good, why is the perception of the school otherwise
>
> … if we're all so great?" (Individual interview, April 19, 2012)

Joan identified the data analysis presentation as the most helpful part of the department chair professional development activities. She said that the discussion about connecting data to TLCs' goals and action plans was meaningful for her. She said, "I think the article goes hand-in-hand with how we're trying to change business" (individual interview, May 17, 2012). Catherine added, "I wasn't trained to make data-driven decisions. I was trained to make gut-driven decisions" (individual interview, May 21, 2012). Both of these observations suggest that the data analysis discussion may have influenced some teacher facilitators' thinking. Despite their reports, however, I did not locate evidence of widespread data analysis after this activity.

Although school leaders did not expect to do more than "prime the pump" with teacher facilitators with these activities, it appears that department chair professional

development did nothing to change teacher facilitator practice. Perhaps we could have been clearer with department chairs about why we conducted the sessions. We never set the expectation that teacher facilitators apply the lessons from the activities to their own leadership. Another explanation is that teachers understood our expectations but lacked enough understanding or support to implement changes in their leadership. Although we thought our delivery was continuous, lack of follow-up from school leaders may have negated further benefit from the sessions.

Georgia's preference for individual facilitator support has merit. While we designed the case study to help her with a dissenting member who consistently "derailed" her TLC meetings, Georgia reported that the hypothetical case study was too arbitrary to be useful. Timely individual facilitator support may better anchor professional development in teacher facilitator's complex contexts. Individual facilitator support also makes it easier for school leaders to give honest feedback. For example, teacher facilitators may be less likely to inflate, as Joan observed, self-assessments in private because they would not risk losing face with colleagues. Likewise, school leaders would be less hesitant to "call out" teacher facilitators making inflated self-assessments.

The Study Itself. Participants reported that interviews led to increased reflexive dialogue. Participants perceived that focus group interviews helped them get to know each other better professionally. Georgia said that focus group interviews also created an opportunity for critical discourse about their TLC's work that may not have occurred otherwise. She said,

> [The focus group interviews] forced us, in a very nice way, to look at what we
> were doing and say, 'Hey, can we do this better?' We're all busy. Would we have

thought to do that before? Probably not. Maybe we might have eventually got to that point but the study facilitated it. It made it happen faster. (Individual interview, May 23, 2012)

The World Language TLC reported that the focus group interviews helped build trusting relationships. For example, Joan said, "Being asked a specific set of questions all in the same setting really allowed us to get to know each other because we wouldn't have sat down and asked each other these questions" (World Language group interview, June 3, 2012). The teachers reported that the focus group interviews created comfort between team members. They said that focus group interviews allowed teachers the opportunity to speak without risking hurt feelings or the feeling of "stepping on toes".

Teachers characterized focus group interviews as facilitating their joint work by fostering reflexive dialogue and by building trusting relationships. Joan said, "Wouldn't it be nice if we sat down and somehow had the time to be this reflexive every year? Without a study going on? How do we implement that sort of reflection?" (individual interview, May 17, 2012). While Joan's questions were rhetorical, the Math TLC members formally requested that I continue focus group interviews during the next school year. Despite the additional time commitment, teachers seemed to value the focus group interviews.

School leaders perceived that focus group interviews motivated the Math and World Language TLCs. It was a motivational opportunity that other TLCs did not have. For example, Nadia questioned whether the Math TLC would have collaborated had they not been participating in my study. She said, "I mean some of them, I think, are involved in your project and are finding some value in the discussions and doing that. But would

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they have done that if you hadn't been doing your study?" (individual interview, May 30, 2012). She attributed some of their progress to my deadlines for conducting each round of interviews. In her opinion, participating in the study increased their involvement level above what it may have been otherwise.

Interviews also served as a space for teachers to broker resources. For example, Andrea and Betty consistently reported positively on their collaborative activity during their common planning period. They said that collaborating during common planning reduced their workload and increased the quality of their lessons. Reflecting on their common planning experience, the rest of the math teachers requested that teachers with common preps have common planning for the next school year. Participants also identified substitute time, hourly-remunerated time, and new technology during focus group interviews as things they wanted.

Teachers were not the only participants to use interviews as a space to help their work. Throughout the study, I also used interviews to influence teacher and TLC actions. Sometimes discussions during interviews presented me with irresistible opportunities to encourage action. For example, as a school leader, I was curious why the Math TLC seemed to restrict their collaborative activity to joint planning. I desired their joint work to include instruction and assessment. In the following segment, I used a discussion during an interview to address Georgia's thinking about collaborative activity.

Ken – Yeah, so sharing best practices could be possible?

Georgia – Yes

Ken – Sharing student work?

Georgia – mm hmm.

Ken – Looking at assessment items or worksheets or particulars?

Georgia – Yes, and maybe I need to state that for the next one, um, again, it's a learning curve for me also. It's, you know? A lot of stuff going on. And with the semester and um, honestly I just didn't think about doing it. I didn't you know, maybe I don't need to but maybe I feel like I should just reiterate. (Individual interview, February 4, 2012)

Given the obvious power relationship between us, I believe that Georgia may have interpreted my questions as expectations. In hindsight, I interpret the questions as expectations. Although I was not the school leader liaison to the Math TLC, there is little doubt that I used the interview space as an opportunity to communicate our expectations for the development of TLC work. My work as a practitioner influenced the study, but the study also influenced my work as a practitioner.

Nadia said, "You hold all the cards. You get to see everybody's feedback in interview and react that way" (individual interview, May 30, 2012). She explained that she valued my continued analysis and the ability for school leadership change during the school year. Besides giving me an "inside" line to teachers' requests for resources, she said that the study also influenced my personality. Nadia felt I listened more intently than usual during interviews. She characterized listening as one of my weaknesses. During the first round of interviews, I reflected on how much more I learned in those conversations by listening and re-listening. It was a standing joke during our school leader meetings that if they needed me to listen, all they had to do was get the recorder out.

In the Keys 2.0 survey, a statistically significant (p=.05) increase was noted in the staff's response to Key Indicator 6.7: *Research conducted at the school influences*

programs and instruction. Frequently, I discussed preliminary findings of "my study" during SIT and department chair meetings. I also observed members of the Math and World Language teams discussing their focus group interviews with other colleagues. It is plausible that most staff understood that school leaders were using this study to refine their delivery of resources to support teachers' work within TLCs. This was, in fact, exactly what we were trying to do.

   Summary of Professional Development Conditions. School leaders had hoped that providing teacher choice would lead to buy-in. While there is evidence to support that teachers respected having professional latitude to form their goals and action plans, a negative side effect was that TLCs often worked on items that avoided student outcome data. While school leaders planned continuous and job-embedded professional development for the World Language TLC and department chairs, each attempt produced different results. While the world language teachers reported that the technology professional development facilitated their work and contributed to their common purpose, the teacher facilitators found little value in the department chair professional development. Finally, participants overwhelmingly perceived that the study facilitated reflexive dialogue, particularly during focus group interviews. In the next section, I describe how teachers perceived workplace conditions that influenced their work within TLCs.

Workplace Design Conditions

   School leaders attempted to alter schedules and human resources in order to provide TLCs with time for their joint work. Analysis of the literature base made it clear to school leaders that time built into the workday would have the best chance of fostering

the development of TLCs (e.g., Smylie, 1994; Tschannen-Moran, 2009). Despite their intentions, time during faculty meetings and professional development days, substitute time, and hourly-remunerated time was only minimally influential to the work of TLCs. School leaders realized that these times could have been more influential with additional structure and support. Common planning, though unintentionally created by school leaders, greatly influenced teachers' work within TLCs. On the other hand, teachers did not utilize substitute coverage arranged for them by school leaders at all.

Power relationship dilemmas developed from tensions between my role as a researcher and practitioner and between school leaders' relationships with teachers. While it is difficult to assess the full influence of power relationships, the instances that I discovered seem to have mixed results on the development of TLCs. Although school leaders could not alter external factors like curricular changes, RTTT, and the Common Core, their approach to minimize their influence and provide TLCs the professional latitude to deal with them seemed to facilitate the teachers' joint work.

Time. Participants frequently identified time as a challenge for the work of their TLCs. The most frequent description of time as a resource was that there simply was never enough. Georgia put it this way, "It's seems like every time you turn around there's something else that's taking your time" (individual interview, December 12, 2011). Participants cited everything from semester change to lack of snow days as obstacles to time for TLC activities.

School leaders provided time to teachers by continuing to provide a common lunch and by devoting time during faculty meetings and professional development days to TLCs. To create additional time, school leaders used professional development

funding from the district. The district provided this grant for human resources due in part to support the required Race to the Top and Common Core activities. Once addressed, the principal could choose to use the balance for other SI activities. Through this funding, school leaders provided a total of 58.5 substitutes and 105 hours to teachers working within their TLCs.

Common Lunch. Teacher participants reported that they liked having common lunch for their disciplinary TLCs. They said that common lunch facilitated informal interactions and increased collegiality. Accounts of joint work involving planning, instruction, and/or assessment were infrequent and vague. The world language teachers reported that they used common lunch for tweaking lesson plans consistent with those instances noted in Ben-Peretz and Schonmann's (1998) study of teacher lounges as sites for the enactment of professional community. For example, the world language teachers explained that they frequently ran down their list of classroom work to seek feedback from each other. Teachers from both TLCs perceived that increased collegiality during common lunch fostered trusting relationships necessary for formal collaboration. Clement and Vandenberghe (2000) suggests that collegiality is an important prerequisite to TLC development.

Structure during common lunch may have increased the level and frequency of collaborative activity during that time. I only found one instance of formal collaborative activity occurring during common lunch. One math teacher brought papers she was grading to lunch. Georgia reported that this teacher sought input from her peers as she shared her test results. While the teacher successfully received feedback on her tests, it did not happen again for the rest of the school year. Had other teachers also brought

student work and had there been a plan in place to discuss the work, more teachers may have benefited than just one. Similarly, agendas or plans for collaborative activity at lunch may have increased the frequency of this type of activity.

A side effect of common lunches (implemented several years ago) is that departments abandoned after-school meetings. Because common lunch failed to facilitate widespread and consistent joint work around the core matters of teaching and learning, it also negated other potential opportunities that may have occurred during after-school meetings.

The teacher contract guarantees a "duty-free" lunch. Therefore, teachers may choose not to meet with their departments, complicating common lunch initiatives. Within this school, many teachers choose not to eat with their departments. This occurred in several departments within the school. When the rest of the department conducted meetings and made decisions, abstaining members were "out of the loop". When that occurred, Nadia said that abstaining members eroded the value of common lunch, possibly turning it into another obstacle. School leaders, therefore, could not rely solely on this time for the work of TLCs.

Faculty Meeting and PD Time. Catherine said, "Time. If it weren't for the time that was built into faculty meetings and professional development days, a lot of [TLC activity] would not be going on" (individual interview, May 21, 2012). While she agreed that this space was not adequate for the bulk of her committee's work, she attributed this time to helping TLCs get organized, and as she said, "at least get the ball rolling on things" (individual interview, May 21, 2012). Other participants generally agreed. Georgia said, "Providing time for us is huge" (individual interview, December 12, 2011).

Several side effects, however, diminished the usefulness of faculty meeting and professional development time for TLCs.

First, very little of this time was devoted to disciplinary TLCs (see Table Q). School leaders felt that disciplinary TLCs had an advantage over transdisciplinary teams because departments had been required to meet monthly and work together. In many cases, teachers in transdisciplinary TLCs had very little experience working together closely and did not know each other as well as members of their own departments. For these reasons, school leaders chose to provide the majority of faculty meeting time to transdisciplinary TLCs.

Second, the preservice time allotted to disciplinary TLCs hindered some teachers' ability to prepare for the upcoming school year. While this time facilitated development of goals and action plans, some teachers reported that they felt overwhelmed with their own individual classroom preparations. In her journal, Georgia wrote,

> Despite great plans, I am overwhelmed and feel like I have had no time to try to collaborate. We had 1 ½ days in our rooms to get ready physically and do lessons. I really wanted to do more with department meetings, but I can't seem to get caught up. (journal entry, September 19, 2011)

Members of the World Language TLC reported that they were too distracted to make use of the time. Mia explains, "I still had not had a chance to talk to my department chair about the meat and potatoes of what I was supposed to cover that first week. Where do I get my books? My materials? And all that?" (World Language group interview, July 14, 2011). Still, the world language teachers perceived value in the professional development and faculty meeting time. They reported that the time afforded them the

opportunity to develop goals and work on action plans. Although school leaders intended

for the joint work of TLCs to reduce the workload of teachers, in this case, the timing of

the professional development time increased teacher workloads.

Table Q: Time Allotted to Disciplinary TLC Meetings

Date	Time Allotted	Actual Time Used
August 24th – Preservice Week	45 minutes	45 minutes
August 25th – Preservice Week	45 minutes	45 minutes
October 4th – Faculty Meeting	40 minutes	20 minutes
February 21st – Professional Development Day	90 minutes	90 minutes
March 6th – Faculty Meeting	40 minutes	30 minutes
Total =	4 Hours 20 Minutes	3 Hours 50 minutes

Third, although school leaders allotted specific amounts of time, TLCs did not

always get to use the full amount. Some Math TLC members felt that the meeting time

allotted was too short to begin with and even shorter when it was pinched by other

activities. Again, Phoenix said, "Twenty minutes? You just don't get anything done in 20

minutes" (Math group interview, December 14, 2011). For example, we designed the

September 2011 faculty meeting to provide 40 minutes for transdisciplinary TLCs.

Teachers reported that they had less than 20 minutes to work. In October 2011,

disciplinary TLCs could only use 20 of their allotted 40 minutes.

School leaders recognized that placing the TLC meetings at the end of the agenda

was a mistake. Math teachers confirmed this observation during their second focus group

interview. In that meeting, Phoenix and Bryan explained how their TLC time was

pinched.

Phoenix – Cause there was other professional development that was done that

day. So when you take a half day and start at 12:15 and then we have another

presentation there's just not that much time allotted for it.

Bryan – There were things that carried over for the faculty meeting.

Phoenix – I think that we always think that we can get more things done that we can. And I also think that you guys don't realize how much time it takes to sit down and do something like getting significant planning done.

Ken – By "you guys," you mean the administration?

Phoenix – The administration. (Math group interview, December 14, 2011)

Other TLC members characterized these meeting times as spaces of talk and not action. One member reported that the discourse during TLC meetings was often unrelated to their goals and action plans. To address these teachers' observations, school leaders moved TLC meetings to the beginning of agendas and offered substitute days to teachers. School leaders hoped that substitute days might provide time in larger blocks for teachers to accomplish their work.

Finally, because school leaders did not publish agendas for faculty meetings and professional development days until just before the meeting, this was not as useful for participants. Facilitators and teachers were typically in the dark on whether school leaders would designate faculty meetings as transdisciplinary or disciplinary until a week out. This made it challenging for teachers to plan to use the time productively.

During an interview, I asked Georgia what she was planning to do at her meeting Monday. She replied, "Oh God. . . Monday? Ok" (individual interview, February 27, 2012). Prior to our interview, she had no idea that her TLC had been allotted time for that day. A similar experience occurred with Joan when we were discussing an upcoming professional development day during our third interview. She said, "Ok, good, ok. Now is there a specific agenda already? I mean is there a partial agenda that the administration

wants us to address? Or is it just for our goals?" (individual interview, February 12, 2012). School leader participants acknowledged that it was a mistake to sacrifice clarity by trying to be responsive to TLCs' requests for time.

Substitute Days. The district's professional development funding provided one substitute day to each math teacher and three days to each world language teacher during the study. The World Language TLC was the first to use a sub day. In November 2011, a technology representative provided a morning session on how to use the wireless slate and student response system. That afternoon, the world language teachers held a collaborative activity session focusing on their work with common assessments. They reported that while the morning was very helpful, the afternoon was not.

During their afternoon session, the world language teachers spent more time dealing with substitute fall-out than collaboration on common assessments. Two substitutes had major discipline incidents with students that required immediate attention from the teacher. After addressing the situations, the teachers reported that the rest of their session was not as productive. Despite having to deal with these incidents, when I suggested that the sub day was not worth the trouble, Joan said, "It was a pain, but no, it was worth it" (individual interview, December 1, 2011). Still, Joan said that she would have rather taught her afternoon class rather than participate in the afternoon session because of the fallout.

The teachers attributed their decreased productivity during this time to the lack of structure for the session (e.g., agenda, focus) and unavailability of instructional resources in their meeting location (e.g., books, lesson plan binders). In contrast, the morning session had a clear purpose, an agenda, and necessary materials available. Rosita summed

up the perception of their first sub day, "The morning was very helpful. I think to make it more productive we need to come up with more concrete things and stick to them" (World Language group interview, November 28, 2011). In order to minimize substitute fallout, they suggested moving away from physical proximity to their classes. These observations prompted the World Language TLC to work in other locations and offsite during their other two sub days.

Mia reported that the second substitute day in March 2012 was more helpful than the first. She said, "Either we've been beaten over the heads enough that it's starting to click or [the district expert] presented things in a much more user-friendly manner, and we actually walked away understanding and able to start" (World Language group interview, March 14, 2012). The World Language TLC said that they appreciated how the district expert used Spanish activities in her demonstrations on how to integrate the new technology into classroom instruction. These activities provided relevance to the team. The teachers also appreciated that the district expert discouraged bells and whistles and showed how to use the new technology interactively with students. During a focus group interview, they said,

> Joan – Yeah, that was another thing about [the district technology expert]. She
>
> actually pulled some samples of some Spanish activities to show us – here's
>
> what other people are doing with [the new instructional technology] in your
>
> subject area. She gave us examples and models to work from.
>
> Mia – And she introduced ways to not just use it as a fancy [presentation
>
> software]. It was all about making the classroom [wireless slates], whatever
>
> brand of board you have or program you're using, to be interactive. It was all

about the kids gaining more knowledge due to the having that technology in your

classroom.

Joan – And you know what I loved? She [also] told us what it's not useful for.

[She doesn't want us to] waste our time trying to do all these bells and whistles

and then realize, gee, this isn't really advancing our purpose. So she gave us a lot

of reasons. Here are the things you want to do with this and here are the things

you don't want to bother with. Use [presentation software] for that because it's

more useful. (World Language group interview, March 14, 2012)

The teachers valued this support so much that they requested a third sub day in

early May 2012 to continue working with the new technology. For their second and third

substitute days, they did not report the same downsides to using substitutes as they did

during the first session. The teachers said that these sessions facilitated their work with

the new instructional technology.

While world language teachers were willing to use additional substitute days after

their first session, the math teachers chose not to use substitutes again. Math teachers

used their substitute day in December 2011 to jointly plan the final weeks/units of their

classes.   Nadia visited each of their collaborative planning sessions throughout the day.

She observed teachers engaged in joint planning and sharing activities with one another

horizontally and vertically. Commenting on one pair of math teacher's work she said,

"Both [teachers] had expertise, but not the same expertise, and they really cherished the

time to be able to go through their experiences" (individual interview, January 31, 2012).

Nadia perceived that the math teachers found value working with each other during these

sub days.

The math teachers reported that they found the substitute time itself useful, but they disliked the time investment and instructional time lost because of it. During a focus group interview, teachers said that the time allowed them to look at the big picture of their courses; they could backward map and intensively plan together. Another teacher appreciated being able to talk to teachers from the next course and determine which objectives were critical in case she ran out of time. Teachers also worked on aligning their final exams as Phoenix explains below,

> And Elle and I did the same thing with the intermediate algebra; we laid out the rest of the course and we actually, because we have access to a copy of the final exam from curriculum writing, we were able to modify the final exam so our final exam for intermediate algebra is now good-to-go, assuming we follow our plan for the rest of the semester, which is really nice because now we've got our goal in sight. That was good to be able to do, and we modified a [performance-based assessment] which we couldn't have done, we would not have done, were we not sitting together for that chunk of time. (Math group interview, December 14, 2011)

Although they reported that they considered the substitute time beneficial to their instructional practice, the teachers reported that the time invested in preparation and the instructional time for substitutes were significant, negative side effects. Phoenix said, "My issue is writing lesson plans to take off the time to write lesson plans" (Math group interview, December 14, 2011). She continued to explain how she lost time when she returned to class,

I tried to squeeze two days into one the day before I taught a double lesson, and

they did all of their practice on that next day. They had no idea what they did. I

came back and they were like we couldn't do that. (Math group interview,

December 14, 2011)

Betty agreed that writing substitute plans was a downside to the substitute day. She said,

"I almost felt like it was more of a nuisance to have to write lesson plans to miss two

classes than the benefit I got from doing that" (Math group interview, December 14,

2011). Betty preferred common planning time, which she shared with Andrea. Betty

said, not only was the substitute time less valuable than common planning time, but she

found it difficult to achieve the same degree of collaboration with those teachers. Andrea

agreed but added that there was value in expanding collaboration to include the rest of the

department. She said,

I felt it was beneficial 'big picture-wise'. I mean it's really the most effective

when you have common planning day to day, lesson to lesson. This is what I've

used this; is what you used? How far did you get? But I liked the whole day with

more people there for the big picture kind of thing. (Math group interview,

January 25, 2012)

During their final focus group interview, the math teachers concluded that the

substitute time was helpful, but not worth the additional work it created for them.

Despite their observations, which school leaders shared, other TLCs continued to use

substitute days. In particular, the English TLC had reported that they really liked their

first substitute session. I was perplexed that they did not experience the same downsides

as the World Language and Math TLCs.

The English TLC members used their substitute time to prepare to pilot a new unit. I recruited four teachers into the study and conducted a single focus group interview with them in order to determine whether their perceptions mirrored either the math or the world language participants regarding the use of sub days. The English teachers appreciated their time together and reported that preparation of sub plans and discipline issues were minor concerns. They said that they preferred sub time to meeting after school because they felt they had more energy during the day. Additionally, members with small children did not need to make special arrangements in order to collaborate during substitute days. Although some teachers also reported that they lost some instructional time, none of them perceived preparation of lesson plans or fallout from student discipline as significant obstacles to their collaborative activity. Encouraged by their progress, these teachers used two more sub days to further their TLC's goals.

One explanation for the different report from the English department is that this was their only interview, and they had not developed high enough degree of trust to give me negative feedback. Alternatively, the English teachers could have had substitutes who were more familiar with the school and our students. I do not have evidence to support this explanation. The math teachers had been critical that their substitutes lacked familiarity with our school and math content in general. Another explanation is the nature of their content areas. Our school rarely has a world language substitute who can speak and read another language. Therefore, teachers who prepare Spanish lesson plans cannot rely on substitutes to answer students' questions about Spanish and adjust their lesson plans accordingly. Math instruction is linear in nature. Students need to understand the first activity before proceeding to the second one. For example, Phoenix tried to maintain

her pace by teaching two lessons on one day and leaving practice for both as her sub plan. She said that her plan backfired and that she lost time by confusing students. Perhaps the differences in content pedagogy explain the different reports on sub days from the English teachers.

Hourly Time. Hourly time seemed to eliminate one of the two downsides that the Math TLC reported with substitute time. Georgia reported that this time was better than the substitute day because teachers felt freer and had less pressure. To use this time, teachers did not have to create substitute plans or risk losing instructional time in their classes; but, like faculty meeting and professional development time, some participants said that hourly time did not provide significant enough blocks of time to be useful.

The math teachers used the first two hours of hourly time after school on two separate days for collaborative activity about an SAT preparation website, the use of textbooks in classes, and co-planning instructional units. Elle suggested that the smaller chunk of time and the wide array of topics covered minimized the value of this session. She suggested that the team plan future after-school sessions by small groups who teach common courses. For example, she suggested algebra teachers could meet Monday while geometry teachers could meet Thursday. This way, she claimed, teachers would have the opportunity to participate in as many, or as few, sessions as needed.

Betty reported that this time was not as valuable as common planning because she had not had the opportunity to form trusting relationships with other teachers yet. She said, "I do not teach any classes with anybody this semester, and I found it a little bit difficult to really have meaningful things to discuss at that particular time" (Math group interview, February 8, 2012). Betty said that she appreciated being able to learn about the

SAT during this session, but that she got more out of consistent collaboration during common planning.

The math teachers cited the sudden departure of one of their teachers as the reason why they did not use their allotment of hourly time. I suspect, however, that the nature of this time inadvertently created an add-on role for teachers. Smylie (1994) warned that add-on roles tend not to be comprehensive enough to change established patterns of teacher practice. Despite a five-hour per member allotment, the Math TLC only used two hours per member for a single series of collaborative activities in February 2012. If the hourly sessions were valuable for participants, I would have expected them to use most of their allotment, especially since school leaders were paying teachers for their time during these sessions.

Neither time during faculty meetings and professional development, substitute time, nor hourly-remunerated time adequately provided enough time for teachers' work within TLCs. The lack of a statistically significant increase in Key Indicator 4.6: *Teachers have regularly scheduled time to learn from each other* confirm that school leaders did not do enough to foster collaborative activity within their 15 TLCs. Despite these findings, results from the Keys 2.0 survey showed a statistically significant increase (p=.01) in Key Indicator 4.9: *Staff development is consistent, comprehensive, and related to the practices in the school.* Teachers' responses were almost an entire point higher for Key Indicator 4.9 (3.985) than Key Indicator 4.6 (3.095) further indicating that while teachers thought staff development was consistent, comprehensive, and related to practices in the school, they did not think as positively about the amount of scheduled time to learn from each other.

Common Planning. In preparation for the TLC initiative, school leaders incorporated as many common course preparations into the master schedule as possible. For example, school leaders assigned every world language teacher Spanish II. School leaders hoped that common course preparations would facilitate TLCs work and encourage collaboration on core matters of teaching and learning. School leaders did not purposefully prioritize which courses and teachers received common planning for the 2011-12 school year. Instead, school leaders built common planning sessions wherever convenient within the constraints of the master schedule. .

One set of math teachers, Andrea and Betty, inadvertently had common planning. In Nadia's opinion, these two math teachers improved their instructional practice through their frequent joint work during their common planning. Betty said that common planning surpassed her previous collaborative experiences. She said,

This is the first time that I have ever done common planning with someone in the same planning period to this extent . . . Andrea and I are making the same worksheets together, we're modifying tests together, we're modifying project-based assessments together. Essentially, when one of her students moved from her class to mine, there was no disruption because we're doing exactly the same style of material. (Math group interview, December 14, 2011)

A major advantage of the joint work between these two teachers was the reduction of workload through the division of labor. These teachers also perceived an increase in the quality of work stemming from their combined input.

Andrea – One of the things I think Betty, now that we plan together, um, we sort of divide and conquer the work. Like we might do the idea together but I'll type

up that or I'll run it off for the both of us. So in a way, the work sort of gets shared evenly.

Betty – But the quality of the work is better because you have two brains creating it.

Andrea – The quality of the work is better. But I don't go and create, we don't talk about it, and I go create my warm-up and she'll go and create her warm-up. We just do it together. (Math group interview, December 14, 2011)

Betty and Andrea routinely shared activities and planned lessons together. While the incidence of sharing was much higher for Betty and Andrea, what set their collaborative activity apart from the other members of the Math TLC was that they also collaborated on student assessments. These teachers reported discussing point values when grading the same types of problems and sharing student work to establish consistency in applying these point values.

During almost every focus group interview, the Math TLC reported that they preferred common planning built into the master schedule to other forms of time. At their request, the next year's master schedule incorporated common planning for math teachers with common course preparations. Their recommendations support those found in the literature (Tschannen-Moran, 2009), which suggests joint planning time built into the master schedule as a strategy to foster collaboration, communication, and peer coaching.

Coverage for Peer Observations: As requested, I sent math teachers e-mails every morning letting them know which class periods could receive substitute coverage. Despite the offers, none of the math teachers ever took advantage of sub coverage to conduct a peer observation. When I inquired on obstacles to conducting peer

observations that may have prevented them from using the substitute coverage time, I discovered that miscommunication had occurred between the Math TLC and school leadership. The math teachers reported that they thought peer observations should last a full class period like the formal observations conducted by the school leaders. During the fourth focus group interview, Bryan clarified their understanding of peer observations.

Bryan –I think our expectations, what we see as an observation from administration, you know [school leaders] and our supervisor I think we have that mindset.

Ken – Oh that you would be doing exactly what we do when we come out?

Bryan – Right I think that's our perception. (Math group interview, March 28, 2012)

Surprised by their reports, I checked my data for evidence of school leaders implying that peer observations were full-scale observations. I found none; however, I was unable to locate evidence to the contrary. Miscommunication from the school leadership team seemed to hinder the use of this resource provided to the Math TLC, but it was not the only reason. Once school leadership clarified this misperception, math teachers did not increase the frequency of peer observations and failed to use available substitute coverage resources.

Although not every teacher characterizes it the same way, each of their comments hint that their reluctance is related to their comfort level with being in each other's classrooms. For example, in the same focus group interview, Bryan said, "I think we are getting comfortable with each other now. The next issue would be getting comfortable with the students, like having the students comfortable with us interacting with each other

in the classroom" (Math group interview, March 28, 2012). Although they did not use substitute coverage, some teachers did observe portions of each other's lessons anyway.

Another obstacle reported by the Math TLC related to the norms of privacy and non-interference. Betty said that she was reluctant to observe her colleagues because she perceived herself as a distraction when she had previously entered other teacher's classes. She said,

> I'll come in sometime during second to check with Andrea about a few things. And that is her applied geometry class and the second I walk in that door it is a huge distraction. Those kids are so off task they are just like "What is she doing here. What's she doing?" And some of them know me and they'll say, "Hi!" Then I think, "Well I shouldn't go in." So I'm kind of torn between are they getting used to me if I'm there enough and then I'm no longer a novelty, or is it just something that I'm not, I'm doing Andrea a disservice. (Math group interview, March 28, 2012)

Betty's report is not surprising. Peer observations are a high-risk activity for teachers and require a high degree of trust within learning communities. Other math participants presented additional excuses for not conducting peer observations such as poor timing, being busy, and not wanting to leave their classes. While legitimate, I speculate that math teachers had not yet achieved high enough degree of trust to feel comfortable in each other's classrooms.

Power Relationships. Power relationships appear to have influenced the work of TLCs in two major ways: 1) through the tension between my dual role as practitioner-researcher and 2) through miscommunication between school leaders and TLCs. Before

proceeding, I need to acknowledge that, despite my efforts, my role as assistant principal influenced teacher participants' decisions to attend focus group interviews and participate in the study. My findings are consistent with literature that suggests school leaders have a power advantage over other actors (Malen & Cochran, 2008; Shipps & White, 2009).

While Georgia insisted that teachers wanted to be a part of the study because they valued the discussions and their work within the TLC, she also thought that teachers would be less diligent in attending focus group interviews had I been a teacher instead of an assistant principal. By the second interview, and frequently thereafter, teachers provided negative information during focus group interviews. For example, when I asked the teachers whether the time school leaders had provided them during faculty meetings was helpful, they emphatically said that it was not.

Throughout the study, I perceived tension between my role as an assistant principal and researcher. In my journal, I noted this tension months before formal data collection. As our school sought permission to participate in NEA's Keys 2.0 survey, we encountered red tape. I took the lead advocating that our school use Keys 2.0. As I reflected on my actions, I realized that my push for Keys 2.0 was not just for SI. I also desired to use the Keys 2.0 results for this study. In this case, my role as a researcher trumped my role as practitioner. Had I not wanted to use Keys 2.0 for my study, I probably would have settled for another survey. Fortunately, the decision to use Keys 2.0 caused no harm, and participants reported that it facilitated the work of their TLCs.

In other cases, my role as practitioner trumped my role as researcher. For example, in a January 2012 interview, Joan sought advice on a critical and uncomfortable situation within her TLC. Most of the time, I clarified to teachers that I was not

interested in whether their TLCs were successful. Instead, I sought to understand the processes occurring between altered conditions and their work. When I clarified my role as a researcher to Thomas during his first interview, he reminded me that it was our *job* to assure TLCs were successful. Despite his laughter, I took his comment seriously. Given the nature of Joan's situation, I made a decision in this instance to answer her questions and provide her with the advice she sought. In my judgment, even though I was not the world language liaison, withholding advice from Joan would have been detrimental to the success of her TLC.

In retrospect, interviews and focus group interviews were unknowingly becoming spaces for school leadership work. For example, Andrea came to me prior to the scheduled February 2012 Math TLC planning activity. She was concerned that she would be "wasting" resources because the only teacher she was supposed to collaborate with was scheduled to miss significant amounts of time during the semester. Because of the absence, the other teacher had chosen to alter her unit sequence. Andrea said that she would be wasting the school's money by being paid to collaborate when collaborative planning was not possible. I was surprised when she told us that she thought we had designated the time for collaborative *planning*. While school leaders had intended for teachers to use the time for any aspect of teaching including planning, instruction, and/or assessment, teachers focused only on planning.

In an effort to understand the source of the miscommunication, I asked the rest of the Math TLC during a focus group interview about their understanding of collaborative activity. I now recognize that by asking this question, I simultaneously communicated my expectations that teachers also use collaborative session to work on instruction and

assessments jointly. Unintentional communication and misperception must have occurred

much more than I suspected. During the last Math TLC focus group interview, one

participant identified me as the TLC's leader. At the conclusion of that interview, I asked

the team to describe my role with the team throughout the study.

Ken – What was my role through this study for you?

Elle – I think because you helped us build a path. I don't think you necessarily

told us where the end of the path was because I don't think there is one for us yet,

or ever. But you know I think that you kind of gave us the building blocks to build

our own path and you just helped facilitate us while we're on our path.

Phoenix – Facilitate, that's the word. The word that I thought was the right word,

you facilitated our ability to work as a group in that you gave us the time.

Betty – The resources.

Phoenix – And the resources, the sub time and the time, and sometimes the self-

reflection questions.

I never believed that I could completely escape my assistant principal role with

teachers, but I was surprised at how hard it was to ask teachers questions without

inadvertently communicating leadership. I was also not the only school leader to have

difficulty minimizing a leadership role. Other school leaders wrestled with their power

relationships as they tried to balance teacher choice and their own expectations for TLCs.

For example, during an interview with Catherine, I located an example of similar

miscommunication between Thomas and her TLC. The prior year, Thomas asked two

prominent members of Catherine's TLC to visit another district high school to observe

their senior presentations.

During the study, the principal wondered why this committee was proceeding with senior presentations rather than working on SATs. One of the participants said that they were working on senior presentations because they believed that is why he sent them to the other school. She said, "When the principal asks you to go do something, isn't that because he wants you to starting thinking about putting that in place here? I mean that's the message that I got" (individual interview, May 21, 2012). While the principal said he did not intend the visit to be an edict to implement senior presentations, it is exactly how one teacher reported she took it.

I frequently found myself in the role of power broker between school leadership and teachers. Even though I was not the school leader liaison to Math or World Language TLCs, teachers in these groups frequently asked for support during focus group interviews. Mia said that by coming to the focus interviews, I understood their needs better. For example, the World Language TLC asked for substitute time during a focus group interview. After the interview, Joan and I went to the office together and asked Thomas for permission to schedule the substitute time. Georgia and I made similar trips to seek resources after focus group interviews.

Because I was spending a significant amount of time conducting interviews, listening to teacher feedback, and transcribing and coding those interviews, other school leaders came to rely on my observations on which conditions to alter in order to foster TLCs. It seems unusual that an assistant principal would serve as power broker given the structure of the relationship. I would have predicted that the supervision and evaluation responsibilities associated with assistant principals would deter teachers from using them this way. Teachers may be reluctant to "bother" busy assistant principals with multiple

requests for fear they could fall out of favor with them. The observations in my own personal journal support this explanation. In many early entries, I expressed frustration that TLCs were not asking school leaders for resources. Only after I was able to broker resources after the first few focus group interviews did teachers from the Math and World Language TLCs begin to request more resources from me.   Without those focus group interviews, the TLCs in this study may never have acquired a broker for their needs. School leaders hoping to foster school-wide development of TLCs are going to need somebody as a go-between who can serve in this capacity, especially in the absence of focus group interviews.

Curricular Changes and RTTT. Math teachers reported that they were frustrated with the unknowns of the new curricula. Andrea said, "We don't know really that much about it. So we're trying to prepare ourselves for something where there're so many unknowns. But we're going to be forced to implement it by what, 2013? " (Math group interview, October 20, 2011). Georgia agreed that the transition to the Common Core was something that would require tremendous time and effort. She said, "I think the groundwork that we're laying this year [with our TLC] will put us in a much better position to move forward with the new curriculum because it's really going to be rough" (individual interview, December 12, 2011).

The world language teachers referenced holes within the new curricula as obstacles for their work. For example, although the district had developed objectives and activities, teachers only had access to older non-communicative performance assessments that heavily emphasized grammar. Joan said, "You know, how do we change these assessments from 15 years ago and make sure that the rubrics line up with what we're

trying to achieve now with communicative language?" (individual interview, December 1, 2011). Although it was a World Language TLC goal to create performance assessments, they struggled to simultaneously implement new curricula and develop new performance assessments.

School leaders recognized the apprehension and stress teachers felt from the curricular changes. In an attempt to reduce teachers' stress, we purposefully downplayed district initiatives about Common Core and RTTT. Instead, we focused on working with our TLCs. We thought we could reasonably meet our district's expectations to increase staff awareness of Common Core and RTTT without being completely overwhelming. During one of our first summer school leader planning meetings, Thomas said,

> What's this Common Core or Race to the Top mean to you? Well, realistically, I
> don't care at this moment as a teacher. You know? I'm just teaching the way I
> want to right now until we really get into it [next year]. (School Leaders group
> meeting, July 14, 2011)

School leaders believed that by building TLCs, our teachers would be better prepared to deal with curricular and assessment changes once district and state officials clarified them. Whether these curricular pressures will hinder the development of TLCs once accountability-based assessments are linked to them, as suggested by literature, remains to be seen (e.g., Boardman & Woodruff, 2004; Valli et al., 2008). We hoped that eventually the district's curricular changes accompanying RTTT would become opportunities for teachers to collaborate within TLCs. We communicated to teachers our belief that forming TLCs could make upcoming curricular transitions easier. We

explained that by sharing and jointly preparing lessons, teachers would benefit from the combined efforts of many rather than relying only on themselves.

Summary of Workplace Design Conditions. In this section, I discussed several ways school leaders provided time to TLCs. In each case, the time provided facilitated a portion of the TLC work. Although school leaders hoped that providing time to TLCs would help teachers reduce their workload, many attempts had the opposite effect. Frustrated teachers disliked the infrequent blocks of time provided by school leaders during faculty meetings and professional development days and requested substitute days. While teachers appreciated their time together during substitute days, the investment of time and sub fallout minimized the value of that time and increased workloads. Despite remuneration, hourly time went unused by the Math TLC. The math teachers reported that the sudden departure of one of their teachers was reason they did not use their all of their allotment. I think that the nature of this time also created an add-on role for teachers that diminished their willingness to engage with the work of their TLC.

School leaders' attempts to modify human resources by providing substitute coverage for math teachers to conduct peer observations failed; not a single teacher used this resource to conduct a peer observation. Each of these formats for delivering time created an add-on role for teachers that literature predicts is less effective than time built into the workday (e.g., Smylie, 1994; Tschannen-Moran, 2009). As suggested in the literature, common planning built into the master schedule was teachers' preferred source of time for joint work within their TLCs.

I also discussed the complex interactions between school leaders and teachers in the context of power relationships. Power relationships between school leaders and teachers, whether through the tension of my dual roles or between teacher choice and school leaders' expectations, influenced the work of TLCs. Finally, I discussed how curricular changes, RTTT, and the Common Core influenced the work of TLCs. School leaders' attempts to build TLC capacity to deal with these changes and minimize their influence seems to have facilitated TLCs so far; however, without the pending accountability-based assessments, it is difficult to tell how these external factors will influence TLCs in the future.

While I have discussed how altered conditions have influenced the work of TLCs, I have only partially answered the third research question. In the next section, I explore teacher perceptions of the altered conditions, which influenced the level of their TLCs.

Final Level of TLC

As predicted, TLCs each reached different levels within these five descriptors. For example, school leaders characterized some committees as making significant strides with trusting relationships, while others did not really change. Georgia put the study in perspective when she said, "You have to remember that for some of our people, it is a huge accomplishment just to move a little" (individual interview, May 23, 2012). Joan also found value in her TLC's work even though it fell short of her expectations. She said, "This year's been a lot of discovery and figuring out how it works so we can make it work even better next year" (individual interview, February 12, 2012). I will now describe evidence that the Math and World Language TLCs developed in different ways during the school year.

Math Trusting Relationships Level. While Math TLC members reported that some relationships existed at the beginning of the study and some members were comfortable with each other's opinions, they felt that these relationships grew and expanded to include other team members by the conclusion. Math teachers rated trusting relationships higher at the end of the study with all but two of their responses describing trusting relationships as intermediate professional community (see Table R below). At this level, teachers have genuine conversations with each other and engage in critical discourse without fear. While one math teacher rated their trusting relationships as advanced professional community, Nadia and another teacher rated trusting relationships as novice professional community. At the novice level, teachers collaborate on more than high-stakes accountability and begin to seek input from each other.

The banter between Math TLC members during focus group interviews and observations of TLC meetings supports the members' reports that they have an improved collegial rapport with one another; however, joint work seemed to occur only when two members had formed individual trusting relationships. For example, Phoenix related that she had a strong collaborative relationship with Jennifer prior to the study but that a similar relationship with Bryan developed because of their work on Algebra lessons. At the end of the study, Betty helped Jennifer's substitute. Betty reported that she was comfortable working in that setting and that the students were receptive to her support. Because Jennifer described this kind of support from Betty as new, I characterize it as evidence of increased trusting relationships in the Math TLC.

My observations validate the report of increased trusting relationships; more math teachers engaged in joint planning with each other throughout the study (4 pairs of math

teachers versus 1 pair of world language teachers). I did not observe teachers seeking or giving critical feedback without fear. I agree with Nadia that the Math TLC has achieved trusting relationships as described by the novice professional community language in the rubric.

       World Language Trusting Relationships Level. For Joan, these types of professional relationships were new. She said, "As someone who's taught in this school for a long time, I will tell you that I've never been able to sit down and really collaborate with other teachers the way we're doing right now" (World Language group interview, January 25, 2012). A TLC member new to the school agreed in the novelty of the higher levels of trusting relationships. Although Mia had worked in a different school for many years, she characterized her previous experience very differently. She said,

> I had a department chair that you were afraid that if you showed any signs of weakness you would be retaliated upon by not ever having an upper level class. Because you asked a silly question on the subjective! I'm very lucky because you could have three people here who don't share everything. But I personally feel that we're all very honest and very open and just let it all out because that's what each of us want. (World Language group interview, January 25, 2012)

Rosita said that she trusted her fellow members of the World Language team because she felt safe within the relationships. She continued, "You weren't being judged. It was, 'hey I see you're really struggling today. Can I help you with this? Can I give you this?' " (World Language group interview, June 3, 2012).   During her final interview, Joan concluded that her TLC members were comfortable with honest critique. Members of the World Language TLC attributed the development of trusting relationships directly

to their ability to engage in collaborative activity with each other. They also said their common interests outside of work made it "fun" and "really easy to work together" (World Language group interview, January 25, 2012).

Two world language teachers rated their trusting relationships as intermediate professional community. The third world language teacher and Thomas rated trusting relationships as novice professional community (see Table R below). Each participant rated the World Language TLC at the professional community level for trusting relationships at the end of the study. I agree that the world language teachers sought and gave critical feedback to each other without fear by the end of the study, as indicated in the descriptor for the intermediate level. However, because I did not observe these teachers engaging in genuine conversations about student learning, pedagogy, and assessment, I chose the novice professional as the more appropriate description for trusting relationships in their TLC.

Table R: Participants' Final Ratings of Trusting Relationships Levels

Element of TLC		Traditional Community 1	Strong Traditional Community 2	Professional Community		
				Novice 3	Intermediate 4	Advanced 5
Trusting Relationships	Math			*, √	X	
	World Language			*, √	X	

x = TLC rating; * school leader liaison rating; √ researcher rating

Trusting Relationships Level Summary. A few committees encountered periods of conflict and disagreement. Nadia said, "I think the fact that [conflict] did surface and there have been some disagreements shows that [teachers] are comfortable enough with

each other to bring issues to the table" (individual interview, March 15, 2012). She explains how less developed levels of trust might not support discussions on contentious issues. In those cases, teachers may hunker down and back off.

At the conclusion of the study, Thomas reported that he felt we had built trust between and amongst teachers and school leaders. He cited teachers visiting each other's classroom, albeit small numbers, as evidence of increased trusting relationships. He added that he thought because the TLC arrangement was such a different way of doing business, teachers might have simply needed more time to get comfortable. In his opinion, TLCs were much more trusting in their discourse at the end of the study. Both TLCs in this study appear to have reached the novice professional community level. There are no Key Indicators related to trusting relationships to gauge the perceptions of the entire faculty.

Math Common Purpose Level. Certain participants filtered the meaning of the Keys 2.0 indicators differently, possibly indicating weak understanding of the common purpose. For example, during the first Math TLC focus group interview, one math teacher described how her initial round of activities had addressed Key Indicator 2.3: *Removing barriers to student learning*:

> Well, I think that working on the retake policy and the grades was a major thing …I mean, the rigor is stepping up. And [students are] not used to that. So removing barriers, I think, can cover a lot of different things. First of all training. Um, removing barriers means to me personally, it's just getting to know the kid. (Math group interview, October 20, 2011)

Although examination of the retake policy touches on the core issues of teaching and learning, the time that the Math TLC used to reach consensus was at the expense of the development of goals and action plans. Georgia's comments regarding the breadth of the indicator have merit. "Removing barriers" can cover many different things. The flexibility appealed to school leadership since it permitted teacher choice; however, the same flexibility clouded a shared understanding of this Key Indicator.

At the end of the study, math teachers now unanimously rate their common purpose at a more advanced level. At the beginning, they rated it strong traditional community; by the end of the study they rate it intermediate professional community (see Table S below). At this level, teachers and school leaders create a particular common purpose, begin sharing that purpose, and use shared language. Nadia, the school leader liaison, also rated common purpose at a more developed level at the end of the study. She rated it novice professional community.

World Language Common Purpose Level. At the end of the study, the world language teachers described their common purpose as incorporating the new instructional technology and integrating the communicative curriculum. The World Language TLC believed their continued engagement with collaborative activity as evidence of their commitment to this common purpose. They credited the two Key Indicators selected at the SIT Retreat as the resource that facilitated their common purpose and suggested that this helped them overcome their unfamiliarity with each other in the beginning of the school year.

At the start of the study, world language teachers rated common purpose as traditional community. By the end of the study, teachers rated their common purpose at a

more advanced level (see Table S below). Thomas and two teachers believed the group, like the Math TLC, had achieved intermediate TLC for common purpose. One teacher rated their TLC common purpose as strong traditional community because she believed the purpose was not as widely shared when it came to instruction. She said, "I feel like our common ground is more methodology and technology based, not curriculum based" (World Language group interview, June 3, 2012). Joan agreed that the shift toward instructional technology took energy away from developing common assessments. While she felt the group had a common focus, she hoped that they would be able to accomplish their original goals during the next school year.

Table S: Participants' Final Ratings of Common Purpose Levels

Element of TLC		Traditional Community 1	Strong Traditional Community 2	Professional Community		
				Novice 3	Intermediate 4	Advanced 5
Common Purpose	Math			*	X, √	
	World Language				X, *, √	

x = TLC rating; * school leader liaison rating; √ researcher rating

Common Purpose Summary. Both TLCs perceived that they reached the intermediate professional community level for common purpose at the end of the study. Analysis of our Keys 2.0 survey results supports participants' perceptions. The faculty responses indicate a statistically significant increase at the p=.05 level for Key Indicator 1.1: *Shared goals for achievable education outcomes are clear and explicit* (see Table P). This increase is surprising given the results of the informal SIT SI survey administered by the SIT team on the final day of school. In that survey, we asked teachers to write out

their understanding of our school's common purpose. Few teachers were able to write

that understanding of either Key Indicator 2.2: *Parents are involved in supporting the*

work of the school or 2.3: *Teachers, administrators, educational support personnel, and*

other school personnel collaborate to remove barriers to student learning.

Math Reflexive Dialogue Level. The Math TLC agreed that the five focus group

interviews provided opportunities for reflexive dialogue. They found these sessions so

valuable that they requested I continue interviewing them throughout the next school

year. Elle reported that she changed her own instruction when she observed through

sharing and joint work that other teachers' methods could benefit her own students. For

Phoenix, the volume of reflexive dialogue had not changed as much as the content of

reflexive dialogue itself. She said, "We're reflecting on different things . . . things that we

created together as opposed to things that we created individually" (Math group

interview, May 29, 2012).

Nadia and one other math teacher rated the presence of reflexive dialogue as

strong traditional community (see Table T below). The other math teachers split their

ratings between novice professional community and intermediate professional

community. At the strong traditional community level, teachers make genuine efforts to

change their practice because of the observation and evaluation process. Nadia felt that

reflexive dialogue only occurred when school leaders asked teachers probing question.

She said that in order for her to consider them at the professional community level,

reflexive dialogue would occur spontaneously without prompting.

While infrequent, I noticed that the collaborative planning efforts between math

teachers directly influenced their instructional practice. Teachers adjusted and altered

their unit plans after the substitute day and the February 2012 after-school session. During these sessions, teachers compromised and reflected on their own practices. Because of this evidence, I agree that professional community accurately describes the Math TLC, although most appropriately as novice professional community.

World Language Reflexive Dialogue Level. Members of the World Language TLC reported several examples of reflexive dialogue throughout the study. Rosita reported that being a member of the team helped her to reflect on her instructional practices. She said that she consistently thought about how to do things differently the next time. She said, "Every time I leave the meeting or the conversation I think, ok, what can I do better? Or what did I do well?" (World Language group interview, June 3, 2012). During focus group interviews, world language teachers reflected on their actions frequently. I did not observe evidence of reflexive dialogue outside of the focus group interviews for the World Language TLC.

Thomas and two world language teachers rated the World Language TLC's reflexive dialogue as intermediate professional community (see Table T below). At this level, teachers view professional development as a process that directly influences teacher practice and reflection occurs between all members of the TLC. One world language teacher rated reflexive dialogue as novice professional community. At this level, reflexive dialogue between TLC members is just beginning. Because world language teachers had a collective commitment to implement the new instructional technology into their classroom instruction and achieved this goal on a limited basis, I selected the intermediate professional community as the most appropriate descriptor.

Table T: Participants' Final Ratings of Reflexive Dialogue Levels

Element of TLC		Traditional Community 1	Strong Traditional Community 2	Professional Community		
				Novice 3	Intermediate 4	Advanced 5
Reflexive Dialogue	Math		*	X, √		
	World Language				X, *, √	

x = TLC rating; * school leader liaison rating; √ researcher rating

Reflexive Dialogue Level Summary. At the conclusion of the school year, both TLCs reached professional community levels of reflexive dialogue – Math at the novice level and World Language at the intermediate level. Thomas assessed reflexive dialogue as occurring more the prior year, but without an emphasis on data pieces. His observations are consistent with the limited reflexive dialogue observed in both TLCs. Nadia believed that reflexive dialogue without data analysis lacked the potency required for teachers to critically evaluate their actions and adjust their instructional practices. During her final interview Nadia said,

> I think, the transdisciplinary, they enjoyed getting to know somebody else in the building other than their departments and they found resources that they didn't know were there before, but they did not sit down and say this is what we've done. And I don't think they've critically evaluated what they learned unless we asked them to. (Individual interview, May 30, 2012)

Key Indicator 4.4: *Classroom observations and constructive feedback from teachers and principal are included in professional development* is the only Key Indicator that implies reflexive dialogue. While the indicator only narrowly captures one

aspect of reflexive dialogue, the lack of a statistically significant increase is consistent

with my findings for the Math and World Language TLCs. Reflexive dialogue is

occurring at Carter's Run but in isolated, infrequent, and limited ways.

Math Collaborative Activity Level. Math TLC members restricted their

collaboration to planning. At the conclusion of the study, they reported that their

members had grown to understand that collaborative activity also included common

grading, student work analysis, and peer observations. Sharing was the most prevalent

type of collaborative activity present in the math department. Teachers reported that they

freely shared activities and assessments, but for the most part, individually altered them

to suit their own personal instructional styles and preferences. Other than Betty and

Andrea's work during common planning, I found no evidence to support joint work other

than common planning.

Throughout the study, Math TLC members reported that their collaborative work

was snowballing. In particular, they related that the amount of sharing had increased

since last year. For Bryan, the increased sharing had a side effect on his instruction.

Bryan said,

> Ok, somebody's going to be asking for my stuff, I better make sure it's not just
>
> good enough for me to give to my students. I want to make sure it's good enough
>
> for another teacher to use with their students. (Math group interview, February 8,
>
> 2012)

Other members suggested that collaborative activity was easier when they were

collaborating with new material. In particular, Betty said, "I think though that it's much

easier when you're starting new, like with a new prep or with new material then when

you already have your established stuff" (Math group interview, May 29, 2012). She goes on to describe how her collaborative experience was much different during the first semester than the second. Because she had already taught every one of her classes in the spring semester, she said her collaboration was more sharing than creating.

Nadia rated the Math TLC as novice professional community for collaborative activity (see Table U below). The math teachers each rated their TLC within professional community and split their responses between novice, intermediate, and advanced professional community descriptors. Each participant rated collaborative activity as more developed than at the beginning of the study when they rated it as strong traditional community. Because teachers were wrestling with collaboration on instruction, assessment, and planning for courses they have taught before, I selected novice professional community as the most appropriate descriptor for collaborative activity.

World Language Collaborative Activity Level. Sharing was widespread amongst the World Language TLC members. For example, Mia shared her binders full of original Spanish activities with the other members of her TLC. During focus group interviews, the world language teachers frequently shared the activities they developed for their new instructional technology. For example,

Mia – No, but she's going to e-mail it to me at the end of the semester.

Rosita – And you're going to e-mail the animals [activity]? (laughter).

Mia – Yup, absolutely.

Joan – And I got, she's e-mailed me what she's got so far. (World Language group interview, March 14, 2012)

Beyond sharing, world language teachers also engaged in collaborative planning in a limited way. Joan reported that she and Rosita had jointly planned their unit plans for their Spanish I classes. She said,

> We sat down today and looked over a calendar, figured out exactly how many days are left in the semester, figured out how many days do we need for units including assessments, how many days do we need for final assessments at the end of the quarter. So we were able to map it out. (Individual interview, December 1, 2011)

Joan believed that aligning their course sequences would facilitate instructional improvements from joint analysis of common assessments. Other than unit planning, however, I gathered little evidence of further joint work between Joan and Rosita. Although they fell short of their goal to backward map each unit and co-plan their daily activities, they did combine their classes for National Foreign Language Week and team-taught portions of each other's classes. The world language teachers also spent time in each other's classes. I observed them helping each other with student discipline, coaching individual students, and answering student questions in each other's classrooms.

Despite these encouraging starts, Mia said that the majority of their joint work occurred during technology professional development activities and follow-up teaming sessions. She also noted that the joint work occurred more frequently on peripheral topics rather than core matters of teaching and learning. The world language teachers collaboratively developed several activities for their wireless slate.

The world language teachers each rated their TLC at different points, one each at strong traditional community, novice professional community, and intermediate

community (see Table U below). Thomas rated the TLC at novice professional

community. Because these teachers freely share and are beginning to work together

jointly, I select novice professional community as the most appropriate descriptor of their

collaborative activity. There is evidence above that teachers are still wrestling with

common planning and common assessments.

Table U: Participants' Final Ratings of Collaborative Activity Levels

Element of TLC		Traditional Community 1	Strong Traditional Community 2	Professional Community		
				Novice 3	Intermediate 4	Advanced 5
Collaborative Activity	Math			*, √	X	
	World Language			X, *, √		

x = TLC rating; * school leader liaison rating; √ researcher rating

Collaborative Activity Level Summary. The Math and World Language TLCs

both shared frequently with each other and began to engage in joint work. These

observations are consistent with the Keys 2.0 survey. For example, there was no

statistically significant difference in staff's responses for Key Indicator 2.9:

Communication about effective teaching and learning. While both the Math and World

Language TLCs worked together, their joint work focused on planning and technology

but did not extend to instruction or assessment. Both TLCs reached the novice

professional community for collaborative activity. In addition, most of participants' joint

work occurred during the times provided by school leaders. Nadia believed that high

functioning TLCs would meet on their own time to conduct joint work without school

leader support. At the end of the study, the world language teachers attended a countywide workshop on instructional technology and a few math teachers met outside of their workday to collaboratively plan. Very few TLCs completely accomplished their goals linked to Key Indicators 2.2 and 2.3, the goals selected by stakeholders for the entire school at the SIT Retreat. The staff's responses for these Key Indicators lacked statistically significant increases at the conclusion of the study.

Aside from a few "training" sessions on policies and procedures (e.g., course selection, electronic gradebook, new discipline strategies), the TLC SI initiative was the professional development program at Carter's Run. On average, teachers rated Key Indicator 4.1: *Professional development has a direct, positive effect on teaching* slightly higher. Although the difference was not statistically significant, it is possible that they perceived a small positive impact from the TLC SI initiative. Perhaps the lack of a statistically significant increase on this indicator may have to do with the different levels of "success" that certain TLCs had with achieving their goals that I noted above. School leaders believed that since teachers could set their own goals and action plans, they had an opportunity to make decisions about student learning. However, results for Key Indicator 2.6: *Teachers are involved in decisions about student learning* failed to show a statistically significant increase. Though not significant, the rating for Key Indicator 2.6 actually went down. Again, school leaders noted that many goals and action steps developed by TLCs avoided the core matters of teaching and learning.

I interpret the combined results for Key Indicators 4.1 and 2.6 to suggest that school leaders have to better support the development of TLCs goals and action plans. There are many reasons why TLCs' goals and action plans may not have led to

widespread collaborative activity about instruction and student learning (e.g., teachers comfort level within TLCs, time available, facilitator support, poor communication about school leaders' expectations, to name a few). Most likely, some combination of all of these reasons may have contributed to these results. Accordingly, school leaders should work to support the collaborative activity of TLCs from each of these perspectives.

Math Language Data-Driven Decisions Level. Nadia reported that she had not observed the Math TLC jointly analyzing student work and purposefully changing their instruction because of that analysis. The Math TLC reported that they had always analyzed math state assessment results and altered instructional strategies to increase student success on this exam. While I did observe some teachers using data to alter their instruction for the state-assessed course, I did not observe the Math TLC collecting or analyzing data for their goals and action plans. Beyond their work with the math state assessment, the teachers agreed that data-driven decision making was a characteristic in need of improvement. Not having goals anchored in data restricted the team's ability to measure their success. For example, members of the Math TLC strongly believed they had contacted more parents through e-mail during the school year but had no data to back up their claims. Andrea suggested measuring the number of parent conferences and comparing it to previous years in order to determine wither the newsletter led to more involvement. She said,

> Now that may not have anything to do with the newsletter but it's showing that significant numbers of parents are taking opportunities to communicate and that's hard. . . in any way to correlate, and they may have done that anyway without the newsletter. (Math group interview, October 20, 2011)

This is one of the only instances where a Math TLC member suggests linking any of their goals to a measurable outcome. Most of the math teachers recognized the lack of data-driven decisions in their work and rated their level of data-driven decisions at the strong traditional community level (see Table V below). Two other math teachers and Nadia rated the Math TLC at the novice professional community level. Because I did not observe any data collection beyond state assessments, I select the strong traditional community level as the most appropriate descriptor for data-driven decisions in the Math TLC.

World Language Data-Driven Decisions Level. The world language teachers recognize that data had intimidated them throughout the year. Despite having a goal about common assessments, their TLC work did not include any discussion or analysis of data. Although she had not practiced data-driven decisions throughout the study, at her final interview Joan said,

> We have to look at data on a broader scale or everyone is always going to come to the table with their own little ideas based on their own experiences and they're not going to have one objective view point to look at it from. (Individual interview, May 17, 2012)

During the final World Language TLC focus group interview, Rosita suggested that the student response system increased student engagement. She recognized that they had no data to support her hunch. Team members discussed the possibility of conducting short peer observations to gauge the volume and breadth of student engagement in lessons that incorporated instructional technology versus those that did not. After this discussion, members of the World Language TLC said that they felt more comfortable

about how they could incorporate data into their action plans next year. It is interesting, however, that despite a robust conversation about using data to track student engagement during lessons that incorporated technology; these teachers did not even mention student assessment data.

One teacher rated the level of data-driven decisions for the World Language TLC at the traditional community level showing no growth from the beginning of the study (see Table V below). Thomas and two other teachers rated the data-driven decisions at the intermediate professional community level. Perhaps the timing of the ratings in September 2012 influenced the majority of the participants' responses. By that point, the World Language TLC was engaged heavily in data analysis. I disagree that the World Language TLC used data for any aspect of their goals and action plans. I agree with the first teacher that decisions linked to data occurred in a limited way. I selected traditional community as the most appropriate level for data-driven decisions in the World Language TLC.

Table V: Participants' Final Ratings of Data Driven-Decisions Levels

Element of TLC		Traditional Community 1	Strong Traditional Community 2	Professional Community		
				Novice 3	Intermediate 4	Advanced 5
Data-Driven Decisions	Math		X, √	*		
	World Language	*, √			X	

x = TLC rating; * school leader liaison rating; √ researcher rating

Data-Driven Decision Summary. At the beginning of the school year, school leaders discussed expectations with TLCs that they link their goals and action plan to

data. School leaders presumed teachers made instructional decisions based on instinct rather than data. Despite intentions to change how teachers made decisions, teachers' work within TLCs rarely incorporated data analysis. School leaders attribute this disconnect to their leadership. For example, during a contentious discussion in the college and career readiness committee, some teachers made bold claims about a topic referencing SAT data. Thomas said,

> And they didn't have any of it there to show me. And I guess what I should've said is maybe we should bring that to the next meeting. I missed an opportunity, I think, at that point now that I reflect back on it. (Individual interview, November 23, 2011)

We thought that teachers were either uncomfortable working with data, did not know how to use data, or saw data as unimportant. In some cases, we believed teachers might even be fearful of working with data. Some teachers may fear sharing data with their peers and superiors because it could reflect poorly on their reputation and/or evaluation. By the end of the study, some TLCs had begun to collect data to analyze components of their action plans (e.g., student surveys about advanced placement testing reasons, student surveys seeking input on senior presentations). School leadership still believed that they needed to further incorporate data-driven decision making into TLC culture. Neither TLC achieved professional community levels for data-driven decisions – World Language rated at the traditional community level and Math at the strong traditional community level. There are no Key Indicators related to data-driven decisions to gauge the perceptions of the entire faculty.

Math Agency Level. Participants conceptualized agency through some of these descriptors: everyone has input, everyone's voice is heard, and power is shared. Nadia believed that the Math TLC had achieved novice professional community levels with agency. At this level, teachers and school leaders have input and support decisions even when they disagree with them personally. These opportunities for input extend beyond high-stakes assessments.

The math teachers each rated agency within the professional community level, although response varied between novice, intermediate, and advanced levels (see Table W below). In each case, members rated agency as more advanced at the end of the study. More developed levels of agency mean that input, voice, and power are distributed evenly among members of TLCs. At these levels, teachers can surface conflict, achieve consensus, and overcome the norms of privacy, isolation, and egalitarianism. The intermediate and advanced levels included descriptions about conversations about disagreements and conflict as a means for growth. It is conceivable that certain members of the Math TLC perceived that they had reached this level. I did observe instances of professional disagreement within the TLC; however, they did not seem to include a shift in mindset (necessary to reach this level). Since I did not observe this occurring within the Math TLC, I selected the novice professional community descriptor to describe the level of agency within the Math TLC.

World Language Agency Level. Joan recognized how seeking input from a dissenting member could halt a TLC's progress, especially when TLC meetings lacked structure. By assuring her teachers had agency, Joan worried that one particular teacher would monopolize opportunities and dominate group discussion. She said,

I have to remain objective and bring the group back to its original purpose when that voice takes us off what we're trying to accomplish in a given meeting or what we're supposed to be doing at a certain time. (Individual interview, May 17, 2011)

Joan suggests that good facilitation skills can balance members' voices and influence productivity. Thomas agreed that the absence of structure for TLC meetings (e.g., no ground rules, no agenda) hindered teachers' agency. Joan conceded that there were several instances where she did not achieve this balance. At the conclusion of the study, she believed that she had gained valuable experience and acquired skills to help her strike a better balance next year.

Two teachers and Thomas rated the World Language TLC at the intermediate professional community level for agency (see Table W below). One teacher rated agency at the traditional community level and reported no growth in this area for her TLC. While I agree that teachers and school leaders had genuine conversations about professional disagreement consistent with the intermediate professional community level, I can understand why a lower rating may be more appropriate. In addition to the lack of evidence that teachers shifted their mindsets from professional disagreements, as Mia pointed out above, the work of the TLC avoided curricular issues.

Table W: Participants' Final Ratings of Agency Levels

Element of TLC		Traditional Community 1	Strong Traditional Community 2	Professional Community		
				Novice 3	Intermediate 4	Advanced 5
Agency	Math			*, √	X	
	World Language				X, *, √	

x = TLC rating; * school leader liaison rating; √ researcher rating

Agency Level Summary. Both TLCs in the study perceived that they reached the professional community level for agency. At this level, teachers within these TLCs would have input on decision making, opportunity to share opinions (even if different from the group's), and share control over their TLC's goals and action plans. Analysis of the Keys 2.0 survey shows additional evidence that staff perceives that communication and collaboration between school leaders and staff has improved. Key Indicator 2.1: *Two-way communication between administrators and staff and collaboration with problem solving* and Key Indicator 4.2: *School administrators and staff work together to provide relevant professional development* both showed statistically significant increases (see Table P). Although this Key Indicator overlaps with collaborative activity, I place it here because participants conceptualize agency as shared decision-making regarding their TLC's goals and action plans. These survey results suggests that staff has a stake in decision making and the professional development program.

Conclusion

In this chapter, I presented a description of larger school improvements in order to provide context for the Math and World Language TLCs. Next, I synthesized

participants' definitions and characteristics of a TLC into a new list of characteristics and a modified "Level of TLC" rubric. I then described how a school-based leadership team identified and altered school conditions to foster two TLCs. Finally, I described the impact of these altered conditions on the work of TLCs, including an analysis of how each condition influenced the development of each TLC.

The six participant identified characteristics of a TLC: trusting relationships, common purpose, reflexive dialogue, collaborative activity, data-driven decisions, and agency, correspond and overlap with Kruse et al.'s (1995) five elements of a TLC used at the beginning of the study. While participants did not directly identify Kruse et al.'s deprivatized practice, I found overlapping descriptions within their descriptions of trusting relationships and agency. Using a modified TLC rubric, which included each of the participant identified characteristics, I found that the Math TLC and World Language TLC characterized themselves as traditional communities prior to the study.

School leaders identified and altered 13 conditions in their efforts to develop TLCs. While school leaders identified some of these conditions prior to the study through their analysis of professional literature and from an expert's recommendations, they learned about other conditions during the study. School leaders identified some conditions from teacher requests. They learned about the rest through their own observations of TLC activity. Many of the conditions that school leaders identified and altered corresponded to conditions predicted within the literature. In the final chapter, I analyze how the conditions from this study compare to those from the literature. In that discussion, I pay particular attention to the complex and contextual nature of altered conditions influence on the development of these two particular TLCs.

Of the 13 conditions that school leaders altered, I found that only seven facilitated the work of TLCs: Keys 2.0 SIT Retreat, technology and technology professional development, facilitator support, the culture of expectations, time, common planning, and the study itself. Each of these conditions influenced TLCs in specific ways, facilitating growth in one of the six areas participants identified as characteristic of TLCs. In the final chapter, I discuss participants' perceptions of how these altered conditions affected specific TLC characteristics. Participants believed that the Math and World Language TLCs both reached professional community levels at the end of the study for each characteristic with the exception of data-driven making. Still, each TLC has a long way to go to reach advanced professional community levels for each characteristic. In addition, neither TLC fully accomplished their goals during the study. While I would not characterize the TLC initiative as a complete failure, it is clear that school leaders will need more than a year for TLCs to develop enough to be able to achieve their goals.

In the next chapter, I present a detailed summary of this study's findings. Then, I turn attention to the final research question: *What are the implications for those findings on our understanding of the relationship between school leaders' efforts to create supportive conditions and the development of TLCs?* After presenting implications for the research site, I discuss the broader implications to theory, policy, and practice. I conclude this study with a discussion about my recommendations for future lines of research.

Chapter V: Discussion, Implications, and Future Research

Previously, I noted several instances of TLCs that were capable of transforming teacher practice and influencing student learning (e.g., Bolam et al., 2005; Ermeling, 2010; Grodsky & Gamoran, 2003; Hecht & Roberts, 1996; Hollins et al., 2004; Lee & Smith, 1996; Louis & Marks, 1998; McLaughlin & Talbert, 2006; Pang, 2006; Timperley, 2005). I also noted that despite these examples, TLCs are not widespread in American schools (Grossman et al., 2001; Sergiovanni, 1994). The discrepancy contributes to the suspicion that TLCs are not a viable vehicle for school reform. I explained the success and failure of TLCs in transforming teaching and learning through the presence and absence of certain supportive conditions. In this study, I investigated how a group of school leaders attempted to foster the development of TLCs by identifying and altering specific conditions. The purpose of this chapter is to summarize the key findings of the study, discuss the implications of those findings, and highlight recommendations for future research.

Summary of Findings

In the previous chapter, I presented findings for the first three research questions: 1) how school leaders and teachers conceptualize TLCs, 2) how the leadership team identified and addressed conditions that influence TLC development, and 3) the perceived impact on those developments on the Math and World Language TLCs. In this section, I analyze those findings against the literature base and draw conclusions. These conclusions serve as the basis for this study's implications for theory, policy, and practice.

RQ#1 – Participants' Conceptualizations of a TLC

   In this study, participants' agreed that TLCs were more than groups of teachers. Participants' identified 61 distinct qualities that they felt TLCs would need in order to achieve goals such as theirs. I organized participants' 61 qualities by theme and then derived six characteristics for TLCs: trusting relationships, common purpose, reflexive dialogue, collaborative activity, data-driven decisions, and agency. The nature of participants' 61 qualities and the six corresponding characteristics support scholars' findings: for a teacher team to qualify as a TLC, teachers have to work together in specific and comprehensive ways (Bolam et al., 2005; DuFour & Eaker, 1998; Grossman et al., 2001; Kruse et al., 1995; Secada & Adajian, 1997; Talbert & McLaughlin, 1994). Although distinct, the descriptions of TLC characteristics in this study support Grodsky and Gamoran's (2003) observation that the definitional concepts of TLCs are more similar than dissimilar. These six characteristics overlap with other scholars' definitions (see Table X); however, minor variations between participants' and scholars' descriptions suggest that participants view TLCs from an emerging/novice perspective.

   I designed this study using Kruse et al.'s (1995) five elements of a TLC as a guide: shared norms and values, a collective focus on student learning, teacher collaborative activity, deprivatized practice, and reflective dialogue. Despite some differently named and additional categories, each of this study's six characteristics corresponds to an element in Kruse et al.'s list. Participants' descriptions of common purpose, collaborative activity, and reflexive dialogue correlate in obvious ways. Collaborative activity and reflexive dialogue are completely congruent. Participants' descriptions of common purpose address a slice of Louis et al.'s (1996) description of

shared norms and values: common vision. Missing from participants' descriptions of

common purpose are the descriptions of common beliefs and shared values that scholars

suggest leads to more professional levels of community (Huffman et al., 2001; Hulpia et

al., 2009; McGuinness, 2009; Newmann et al., 2000). The omissions are not surprising;

Carter's Run's TLCs are young.

Table X: Relationship of Participant Identified and Lit. Review TLC Characteristics

Participant Identified 6 TLC Characteristics	Kruse et al.'s 5 Elements of a TLC	Relationship
Trusting Relationships	Deprivatized Practice & Reflexive Dialogue	Trusting Relationships partially overlaps with Reflexive Dialogue and is a precursor to Deprivatized Practice
Common Purpose	Shared Norms & Values	Common Purpose as a subset of and precursor to Shared Norms and Values
Reflexive Dialogue	Reflexive Dialogue	Substantial Overlap
Collaborative Activity	Teacher Collaborative Activity	Substantial Overlap
Data-Driven Decisions	A Collective Focus on Student Learning & Deprivatized Practice	Data-Driven Decisions as a subset of A Collective Focus on Student Learning a precursor to Deprivatized Practice
Agency	Shared Norms & Values & Reflexive Dialogue	Agency as a subset of Shared Norms & Values and overlaps with Reflexive Dialogue

As predicted by the literature, teachers' work within the TLCs surfaced

disagreements in the nature of teachers' joint work (Achinstein, 2002; Newmann &

Wehlage, 1995). At this point, however, those disagreements did not lead to shared

commitments. Teacher facilitators were reluctant to negotiate consensus when teachers

disagreed. In both studied TLCs, some teachers hesitated to engage. Teacher facilitators

characterized these individuals as "dissenting members". The negative connotation of disengaged teachers highlights teacher facilitators' negative perceptions of conflict during this study. As predicted by the literature, teachers within the first-year Math and World Language TLCs avoided conflict about beliefs and values (Little, 2002; McLaughlin & Talbert, 2006). As scholars suggest, when TLCs develop to advanced stages, participants may expand their view of common purpose to include common beliefs and shared values, especially if they recognize the importance of surfacing conflict and negotiating consensus (Achinstein, 2002; Calderon, 1999; Levine & Marcus, 2010; Little, 2003). As presented by participants, I characterize descriptions of common purpose as a precursor to Kruse et al.'s shared norms and values element.

Participants' descriptions of data-driven decisions, agency, and trusting relationships correlate with Kruse et al.'s definitions in less obvious ways. Data-driven decisions partially overlap Kruse et al.'s collective focus on student learning. Kruse et al.'s focus on student learning may be data-driven, although it does not have to be. Participants' descriptions of data-driven decisions imply a connection to student learning; however, TLCs may also work with other data sources within these descriptions. Scholars suggest that TLCs working with student outcome data are more likely to influence teaching and learning (Hawley & Sykes, 2007; Huffman et al., 2001; Little, 2002). Despite participants' use of "working with student work" as a descriptor for data-driven decisions, I found that many of the TLCs at this school chose goals loosely connected with student learning outcome data. Some goals did not connect at all. Given the time it takes to build higher degrees of trust, the first-year TLCs in this study may not have had enough time together to reach those levels of trust. These findings are consistent

with scholars' observations: teachers require high degrees of trust to share practices collaboratively (Hammerness et al., 2005; Hecht & Roberts, 1996). The data-driven decisions characteristic also overlaps with Kruse et al.'s deprivatized practice. Working collaboratively with student outcome data necessitates that teachers share aspects of their practice with each other.

Participants' descriptions of agency align more closely with Secada and Adajian's (1997) description of collective control, a condition that I earlier identified as a potential omission by Kruse et al. in their list of TLC characteristics. Kruse et al. incorporated collective control over decisions within their description of shared norms and values. In their description, Kruse et al. incorporate aspects of collective control over decisions as shared-decision making. Participants' description of agency overlap with Kruse et al.. Participants described qualities like "equal voice," "and "shared power" in their description of agency. These descriptions correspond to scholars' descriptions of shared decision making in the literature: shared decision making is essential for TLC's to achieve their goals (Huffman et al., 2001; Robinson & Timperley, 2007). Because participants emphasized every member having input, I chose to separate agency from common purpose as its own characteristic. This decision mirrors Secada and Adajian's decision to include collective control as a separate characteristic for TLCs. Secada and Adajian include a shared sense of purpose as a characteristic in their scheme. Participants' descriptions of agency also suggest that sharing may lead to critical conversations that surface conflict. These types of conversations are similar to what Kruse et al. describe as reflexive dialogue. Therefore, agency also partially overlaps with reflexive dialogue.

Like agency, some of the qualities that participants used to describe trusting relationships suggested a connection to Kruse et al.'s description of reflexive dialogue. Descriptors like "openness to critique" and the ability to "share different points of view" suggest that participants believe trusting relationships facilitate "self-awareness" and "in-depth conversations" about instructional practice. These types of in-depth and critical conversations match what scholars describe as reflexive dialogue (Kruse et al., 1995; Louis et al., 1996). Even though participants' identified reflexive dialogue as a characteristic of TLCs, the alignment of their descriptions to trusting relationships suggest that this characteristic serves as a prerequisite for reflexive dialogue.

Participants omitted Kruse et al.'s deprivatized practice element as one of their characteristics of TLCs. Ironically, I chose Kruse et al.'s five elements because it emphasized deprivatized practice. In particular, I selected Kruse et al.'s model because it draws attention to the necessity for teacher groups to overcome the norms of isolation, privacy, and egalitarianism prevalent in United States schools in order to implement TLCs capable of achieving their goals (Lieberman, 2009; Lortie, 1975; Murphy et al., 2004). Because participants were novices at working within a TLC construct, I positioned the trusting relationships characteristic as a precursor to deprivatized practice. Participants described trusting relationships with descriptors like "mutual respect", "honest critique", and "lack of defensive posturing". Participants recognized that building a higher a degree of trust was important for the development of their TLCs. These sentiments echo scholars' findings that higher degrees of trust facilitate development of TLCs to advanced levels (e.g., Aubusson et al., 2007; Grossman et al., 2001; McLaughlin & Talbert, 2006; Sergiovanni, 1994). While I found evidence that teachers observed each

other teaching, I did not observe discourse about critical reflection on teacher practice. For example, the world language teachers reported helping each other with instructional technology during classes, but did not indicate that they reflected on feedback about other instructional practices. Scholars suggest that reflexive dialogue about instructional practice leads to changes in that practice (Ermeling, 2010; Pang, 2006; Vescio et al., 2008). Without this type of discourse, TLCs are less likely to reach advanced levels of TLC development. In the future, trusting relationships may facilitate a greater degree of deprivatized practice for TLCs than what I observed during the study.

Participants' descriptions of the six characteristics of a TLC are comparable to scholars' conceptualizations, but represent an emerging/novice view. Two of the characteristics, common purpose and trusting relationships, serve as precursors to Kruse et al.'s shared norms and values and deprivatized practices, respectively. Additionally, participants' descriptions of data-driven decisions allow teachers to focus on non-student related data. When TLCs work with non-student related data, they are void of the focus on student learning that Kruse et al. highlight as a defining characteristic of TLCs. When data-driven decisions focus on student learning, however, they require teachers to share their instructional practices with each other. When that occurs, data-driven decisions are promote deprivatized practice. Participants' emerging/novice conceptualizations of TLCs are not surprising; they only completed their first year of implementation during this study.

Compared to Kruse et al., however, this emerging/novice view leaves room for teachers to settle into intermediate levels of professional community. It is possible that a teacher group could appear to satisfy each of the six characteristics while not fully

achieving advanced professional community indicators in the original TLC Level Rubric (see Table A). For example, TLCs in this study may have shown evidence of trusting relationships, common purpose, and data-driven decisions without addressing each other's instructional practices, working with student outcome data, or negotiating consensus about beliefs and values. In that case, a TLC may appear to be a professional community capable of influencing teacher practice and/or student learning when it is not. Grossman et al. suggest that many teacher groups "get stuck" at the intermediate professional community level. In my discussion of common purpose, trusting relationships, and data-driven decisions, I drew attention to how participants' conceptualizations may change as the TLCs develop. In order for school leaders to foster the continued development of their TLCs, they may need to root out emerging/novice representations of TLC characteristics. Otherwise, TLCs may not reach influence teaching and learning. I continue this discussion in the implications section.

Neither the Math nor the World Language TLC characterized itself as a professional community at the beginning of the study (see Table CC). Both TLCs believed they operated at the traditional community levels in previous years. At the strong traditional community level, math participants rated themselves slightly more advanced than the world language participants did. At the conclusion of the study, participants described several of the characteristics as intermediate professional community (see Table CC). At this level TLCs can operate within an "illusion of consensus," meaning that agreements made by members of the group do not actually cross into their classroom instruction (Grossman et al., 2001). Because participants described TLC characteristics in a way that omitted key pieces of other scholars'

descriptions (e.g., data driven decisions without a focus on student learning), the descriptions themselves may be evidence that these TLCs are operating at the intermediate professional community level.

Scholars find that the biggest challenge for TLCs is to develop beyond the intermediate professional community level into an advanced professional community level. They suggest that TLCs have the highest chance of influencing teacher practice and student learning at the advanced levels (Grossman et al., 2001; Grodsky & Gamoran, 2003; Little, 2003; McLaughlin & Talbert, 2006; Sergiovanni, 1994). Teacher members would be less likely to operate within the "illusion of consensus" at the advanced professional community level of TLC. If either of the TLCs in this study had achieved advanced professional community status, I could definitively conclude that participants played community. Because they did not, I suspect that Math and World Language TLCs were operating within some degree of the "illusion of consensus". I identify additional supporting evidence for this claim in what follows.

RQ#2 – Identification of Conditions.

Participants identified over 100 conditions that facilitated or hindered the work of their TLCs during the study (see Appendix K). While school leaders could control many of these conditions (e.g., common lunch, expectations, SI process), many more were out of their control (e.g., dispositions, state assessments) except from an indirect standpoint. By addressing conditions via those within their control, school leaders may also influence the target condition (e.g., increase attendance at SIT Retreat by offering remuneration; manage professional disagreement through teacher leader support). As I discussed previously, I restricted my analysis to those conditions within the control of the school-

based leadership team. School leaders identified and altered 12 conditions during the course of the study. School leaders identified some conditions prior to the study through literature analysis or expert recommendations. They identified the rest of the conditions during the study through participant requests or through their own observations of TLC activity (see Table Y).

As predicted by scholars, the school leaders' attempt to foster TLCs at Carter's Run was a complex, difficult, and contextual process that required the alignment of many resources (Clement & Vandenberghe, 2000; Grodsky & Gamoran, 2003, Little 2003). Of the 12 conditions that school leaders identified and altered in this study, only three match the 13 conditions presented in the literature review: time, common planning, and power relationships. The rest of the 12 conditions represent context-specific iterations of conditions identified in the literature review. For example, technology and technology professional development is an example of job-embedded professional development.

All of the 12 conditions identified by school leaders in the study correspond with those that I discussed in the literature review (see Table Y). Two professional development conditions that I presented in the literature review do not correspond to any of the participant-identified conditions: continuous delivery and induction of new members. While school leaders did not specifically identify continuous delivery, they altered the condition indirectly by providing consistent meeting times for TLCs throughout the school year. In addition, school leaders provided ongoing and consistent facilitator support, new technology professional development (for world language teachers), and department chair professional development. I anticipated the exclusion of new member induction because this was the first year of TLC implementation in this

school; there were no new members in the World Language or Math TLCs to induct during the study.

School leaders identified six conditions prior to the study. They identified five of those characteristics through their analysis of literature: culture of expectations, facilitator support, teacher choice, time (during common lunch, faculty meeting, professional development time), and curricular changes, the Common Core and RTT. They identified the Keys 2.0/SIT Retreat condition from expert advice. During the study, school leaders identified and altered seven other conditions.[26] They identified four of those conditions through observations of TLC activity: department chairperson professional development, the study itself, common planning, and power relationships. Participants requested the final three conditions: technology and technology professional development, time (substitute and remunerated time), and coverage for peer observations.

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[26] School leaders identified the condition time both prior to the study and during the study.

Table Y: Relationship of Participant Identified and Lit. Review School Conditions

	Condition from Literature Review	Corresponding Participant-identified Condition	How Identified	Relationship
Leadership Conditions	Degree of Trust	Culture of Expectations	Before Study: Literature Analysis	School leaders planned to create higher degrees of trust by collaboratively setting and upholding a set of expectations for themselves and teachers.
	Negotiating Consensus & Managing Conflict	Facilitator Support	Before Study: Literature Analysis	School leaders attempted to support the teacher facilitator's ability to negotiate consensus and manage conflict through individual one-on-one support.
	Shared Commitments	Keys 2.0/SIT Retreat	Before Study: Expert Advice	School leaders collaborated with teachers to implement NEA's Keys 2.0 SI process as a way to build shared commitments.
	Shared Decision Making	Culture of Expectations & Keys 2.0/SIT Retreat	Before Study: Literature Analysis & Expert Advice	Part of school leaders' expectations incorporated the involvement of teachers to choose their own specific goals and action plans. School leaders also hoped to use the Keys 2.0 SI process and the SIT retreat as an opportunity for teachers to participate in shared decision making.
Professional Development Conditions	Continuous Delivery			
	Job-Embedded Design	Technology & Technology PD	During Study: Teacher Request	In both cases, school leaders attempted to ground the professional development into a job-embedded design for teachers.
		Department Chair PD	During Study: Observation of TLC Activity	
	Collaborative & Reflexive Opportunities	The Study Itself	During Study: Observation of TLC Activity	For participants, the study itself represented a collaborative opportunity to reflect, particularly the focus group and individual interviews.
	Aligned to Student Outcomes & Teacher Interest	Teacher Choice	Before Study: Literature Analysis	School leaders addressed the alignment to student outcomes through the culture of expectations. However, they addressed alignment to teacher interest by providing teacher choice.
	Induction of New Members			
Workplace Design Conditions	Time	Time	Before Study: Literature Analysis & During Study: Teacher Request	School leaders planned to retain common lunch and designate faculty meeting and professional development time for TLC work prior to the study. Teachers requested substitute time and hourly-remunerated time during the study.
		Common Planning	During Study: Observation of TLC Activity	Although unintentional, the schedule created by school leaders included common planning. Teachers used this time for their TLC work.
	Human Resources	Coverage for Peer Observations	During Study: Teacher Request	Rearranging substitute coverage is an example of how school leaders can alter human resources.
	School Cultural Factors	Power Relationships	During Study: Observation of TLC Activity	Power relationships were one of the three cultural factors. School leaders did not directly address either of the other two cultural factors: collegiality and school climate.
	External Factors	Curricular Changes, the Common Core, & RTTT	Before Study: Literature Analysis	Curricular changes for the World Language and Math TLCs, along with the Common Core and RTT for the Math TLC represent external factors that influence their work.

The context of the study shaped how school leaders addressed the conditions from the literature review. School leader participants altered conditions in very specific ways within the broader descriptions that I identified in the literature review. For example, school leaders addressed shared commitments by instituting the Keys 2.0/SIT Retreat process. By conducting a needs assessments and engaging in an action research model with Keys 2.0 as a guide, school leaders hoped to achieve shared commitments. This is one way for school leaders to work toward shared commitments, but there are other ways that may have worked (e.g., alternative surveys, alternative SI models, a vision setting process, an accreditation self-study). School leaders selected the Keys 2.0 SI process with teacher input because certain features of that model appealed to them: confidentiality, NEA sponsorship, graphic data representations (see Figure 6), and data analysis completed by NEA. Different contexts likely will lead to the selection of different strategies, not necessarily Keys 2.0 and a SIT Retreat, to achieve shared commitments.

During this study, school leaders attempted to address some conditions that were outside of their control. For example, school leaders knew that TLCs would need time to develop and implement goals and action plans. Prior to the study, school leaders identified common lunch, time during faculty meetings, and time during professional development as three ways to provide time for TLCs. During the study, school leaders provided additional time at teachers' request by using substitute days and hourly-remunerated time. At the conclusion of the study, teacher participants still said that they needed more time. Scholars recommend building time into the school day for teachers' work within TLCs (e.g., Smylie, 1994; Tschannen-Moran, 2009). One participant suggested that school leaders build additional and consistent professional development

time into the school calendar. He made these comments while brainstorming a way to engage in advantageous substitute days while simultaneously maintaining direct instruction with his students in the classroom. While school leaders agreed with this teacher, the school calendar and professional development day timing and frequency is under the control of district officials. The context of Carter's Run's district limited the avenues available to school leader participants. School leaders could not control any adjustments to the regular school day structure. One suggested form of time built into the workday – regularly scheduled late start times for students for teachers' TLC work (e.g., Cosner, 2009) – would also require district official approval. While other schools in different contexts have used these strategies to deliver professional development time, school leaders at this school could only request and advocate for them.

RQ#3 – Perceived Impact of Altered Conditions.

During the study, the principal noted how much harder fostering TLCs was than he expected. I agree. School leaders were disappointed that despite extensive support, some TLCs fell short of achieving their goals. While each TLC accomplished something, many of the accomplishments superficially addressed matters of teaching and learning. How do school leaders view the success of this SI initiative? Ironically, these accomplishments aligned with school leaders' expectations to keep TLC goals and action plans small and manageable. School leaders did not expect TLCs to move mountains. Therefore, while some TLCs failed to achieve their goals, each TLC did meet the expectation to do something small. School leaders frequently reminded each other that TLC development takes longer than one school year as they balanced their expectations with their impatience for success.

The focal point of this study was not whether TLCs achieved their goals, but rather how altered conditions influence TLC development. In the next section, I draw conclusions from key findings about how altered school leadership, professional development, and workplace design conditions influenced TLCs. Then, I link these influences to specific TLC characteristics that participants described as developing by the conclusion of the study.

Impact of School Leadership Conditions. Participants from the Math and World Language TLCs reported that all three altered school leadership conditions facilitated their work (see Table Z below). Despite the reported positive influences, I conclude that the Math and World Language TLCs became "stuck" at the intermediate professional community level. This shortfall does not diminish the importance of the progress school leaders have made; developing TLCs is a complex and difficult process that takes more than a year. By not developing shared beliefs and common values with teachers and by avoiding instances of conflict, however, school leaders may impede the continued development of TLCs.

Participants reported that the culture of expectations influenced their TLCs' work in three ways. First, school leaders expected each TLC to create and implement goals and action plans linked to the two Key Indicators selected at the SIT Retreat. Participants reported that this expectation contributed to their TLC's sense of common purpose. This finding is consistent with the literature, which states that a clearly articulated and shared purpose facilitates the development of TLCs (Elmore, 2007; Huffman et al., 2001; Hulpia et al., 2009; McGuinness, 2009; Newmann et al., 2000). Missing from many goals and action plans, however, was an explicit link to student learning vis-à-vis student outcome

data. Because scholars find connections between shared responsibility for student learning to improvement in student performance (Lee & Smith, 1996; Louis & Marks, 1998), school leaders may desire to adjust their expectation for TLCs by asking TLCs to link their goals and action plans to student outcome data.

Second, participants reported that the culture of expectations influenced the degree of trust and buy-in between school leaders and teachers. Scholars note how higher degrees of trust between teachers and school leaders facilitate the development of TLCs (Newmann & Wehlage, 1995; Wells & Feun, 2008). School leader participants set expectations to provide resources, tolerate small failures, and refrain from micromanaging TLC action plans. Participants reported that these expectations facilitated their work and contributed to the formation of trusting relationships. Third, participants reported that the expectations to create and implement action plans within TLCs added additional work and stress. While participants appreciated these expectations and attributed them to the development of their TLCs, I speculate that this SI initiative partially served as an "add-on" role for teachers, diminishing the opportunities necessary to establish changes to teacher thinking and practice (Smylie, 1994).

Participants from both TLCs also agreed that the Keys 2.0/SIT Retreat process facilitated their work. In particular, they reported that this condition aided in the development of a common purpose for each TLC's goals and action plan. Results from the Keys 2.0 survey confirm their reports. The results show a statistically significant increase in Key Indicator 1.1 representing school wide shared goals (see Table P). On the other hand, the Keys 2.0/SIT Retreat process did not spur conversations about shared

beliefs and common values. To scholars, a shared sense of values is essential for the development of TLCs (Louis et al., 1996). When TLCs work toward common values, disagreement is likely. Without surfacing and addressing any underlying conflicts about shared beliefs, TLCs may not develop beyond intermediate professional levels (Achinstein, 2002; Little, 2002; McLaughlin & Talbert, 2006). Grossman et al. suggest that teachers can play community at the intermediate levels, never fully committing themselves in a manner that influences their instructional practice. Given that there were no significant increases to the selected Key Indicators (Key Indicators 2.2 & 2.3), it appears that teachers unintentionally operated within an "illusion of consensus" with their common purpose to some degree.

Finally, both teacher facilitator participants reported that facilitator support sessions were beneficial and helped them manage conflict and negotiate consensus. Data from the Keys 2.0 survey supports their claims (see Table P). Results from the Keys 2.0 surveys illustrate a statistically significant increase in Key Indicator 2.1: *In a climate of nonthreatening, two-way communication, school administrators and staff collaborate in problem solving*. Despite these findings, however, I am skeptical that school leaders adequately supported facilitators. In particular, teacher facilitators balked at the opportunities to surface disagreements with disengaged teachers. As predicted by the literature, teacher participants shied away from conflict rather than engaging in conversations about it (Achinstein, 2002). In particular, when conflict appeared within TLC work, teacher facilitators and disengaged teachers "pulled back" from collaborative activity rather than working toward consensus. The reluctance of teacher participants to surface conflict and negotiate consensus may explain why I was unable to locate

evidence that facilitator support increased shared decision making. Results from the Keys 2.0 survey confirm that teachers did not perceive an increase in shared decision making. There was no statistically significant change to Key Indicators 2.6: *Teachers are involved in decisions about student learning* or 2.7: *Teachers are involved in decisions about school operations.* School leaders may desire to increase their support to facilitators for surfacing conflict and negotiating consensus in order to work toward advanced professional community levels of TLC development.

Table Z: Summary of Perceived Impact of Altered School Leadership Conditions

Altered School Leadership Condition	Math	World Language	Key 2.0 Indicators	Summary of Perceived Impact
Culture of Expectations	Facilitated	Facilitated	None Correspond	Influenced Common Purpose; Increased Trusting Relationships & Buy-In, Increased Workload & Stress
Keys 2.0/SIT Retreat	Facilitated	Facilitated	1.1 (increased) 3.1 (no change) 2.2 (no change) 2.3 (no change)	Increased Common Purpose; No Change in Student Data used for Decision Making; No Progress on School-Wide Common Purpose
Facilitator Support	Facilitated	Facilitated	2.1 (increased) 4.8 (increased) 2.6 (no change) 2.7 (no change)	Increased Facilitator's Ability to Manage Conflict; No Change in Shared Decision Making (Agency)

Impact of Professional Development Conditions. Unlike school leadership conditions, participants did not perceive that the altered professional development conditions facilitated their TLC's work (see Table AA below). While they reported that teacher choice facilitated their work, they also agreed it simultaneously hindered their

work. Participants believed that technology and technology professional development and the study itself facilitated their work. Teacher facilitator participants reported that the department chair professional development sessions had no influence on their TLC's work at all.

As an attempt to increase trusting relationships and buy-in, school leaders incorporated teacher choice into TLC goals and action plans. Scholars report that teachers are motivated to engage in work that aligns with their own purposes and instructional practices (Hawley & Valli, 2001; Scribner, 1999). My findings are consistent with this. Teacher participants from both TLCs reported that teacher choice facilitated their work. Alternatively, I collected evidence suggesting that teacher facilitators frequently sought direction and struggled to select their goals and action plans. Similar to the tension described by Drennon (2002) as she strived to preserve her democratic ideals for TLCs, school leaders wrestled with providing requested advice. Like Drennon, school leaders hoped to encourage teachers to make their own choices. This was especially difficult when TLC goals and action plans did not align with student learning. School leaders feared that directing the work of TLCs would erode teachers' motivation and enthusiasm.

In addition to teacher choice, scholars recommend that TLCs align their work to student outcomes (Elmore, 1996; Darling-Hammond, 1997; Little 2002; Marks & Louis, 1999). In order for teachers to work collaboratively with student outcomes, they have to deprivatize their practice and overcome the norms of privacy, non-interference, and egalitarianism. As I discussed, participants omitted deprivatized practice as a stand-alone characteristic in their conceptualizations of TLCs. Although I found aspects of deprivatized practice within their descriptions of trusting relationships, teacher

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participants in this study were reluctant to engage in discourse about their instructional practices and work with student data. Their reluctance mirrors Timperley's (2005) findings where teachers did not initially view analysis of achievement data as relevant to their work. While the group avoided student data for 18 months, eventually Timperley found that teachers' began working with it. He found that this work influenced teachers' instructional practices. In this study, I positioned trusting relationships as a precursor to deprivatized practice. These trusting relationships need more time to develop before they can facilitate instances of deprivatized practice capable of addressing student outcome data like the TLC in Timperley's study. After all, it took 18 months for that TLC to influence teacher practice, six months longer than this study.

During the study, the world language teachers reported that the technology and technology professional development condition facilitated their work by contributing to their common purpose.[27] To support the integration of the new technologies into their classroom instruction, school leaders attempted to embed this professional development into the world language teachers' jobs. School leaders thought by doing so, they would capitalize on the instructional impact predicted by the literature (Burbank & Kauchak, 2003; Hawley & Valli, 2007). Although implementing the technology was time-consuming for teachers, the professional development programs supported the process. I emphasize that implementing new technology into their classrooms did not necessarily influence teaching and learning. I remain skeptical that the use of new technology led to changes in world language participants' classroom practices. This was the case in Cohen's (1990) seminal work about reform policy. In that study, policy makers sought to

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[27] Only the World Language TLC engaged with new instructional technology and technology professional development. The math teachers did not work with this altered condition.

transform mathematics instruction from mechanical memorization to mathematical understanding. Cohen describes how Mrs. Oublier, a math teacher, perceives that she has done just that. She thinks she has transformed her instructional practice to mathematical understanding. Upon examination, Cohen finds that she has filtered the new instructional policy through a traditional lens. While she did change her practice, she actually fell short of any meaningful transformation.

In the case of the world language teachers, traditional pedagogical approaches function just like the new technology features (e.g., having students write on an overhead projector instead of having them use the wireless slate). There is no evidence to suggest that the world language teachers transformed their pedagogy through technology. It is possible that, like Mrs. Oublier, the world language teachers *perceive* their transformation as revolutionary when it is not. My conclusion is similar to Cohen's: school leaders must do more than describe pedagogical changes; they must model and demonstrate these changes for teachers. School leaders provided technology professional development for this very purpose; but whether or not their practice actually changed as a result is not the purpose of this study. The world language teachers' willingness to revamp their instructional practice is encouraging. This commitment represents the only shared beliefs developed within TLCs and described by participants during the study.

While school leaders believed that department chair professional development was successful, teacher facilitators were less complimentary in their assessments. Following scholars' recommendations, school leaders planned to implement department chair professional development as a process rather than an event (Hawley & Valli, 2007; Lieberman & Miller, 2007; Newmann et al., 2000). Despite school leaders' low

expectations for this activity, teacher facilitators reported that these sessions were not helpful at all, preferring instead individual facilitator support. In particular, one teacher facilitator noted how professional development embedded within these meetings detracted from our department chair team's ability to address other school business. Comparatively, the structure of individual facilitator support allowed school leaders to address the unique and contextual issues facing each TLC, without the expense of time during department chair meetings.

One advantage of the department chair meetings over facilitator support was the frequency of department chair meetings. Once school leaders designated department chair meetings as a platform for professional development in January 2013, they continuously delivered that professional development on a bi-weekly basis until the end of the school year. School leaders found it much more difficult to find time to meet individually with TLC facilitators. While I failed to locate evidence supporting department chairperson professional development as an influence to the development of TLCs, it does not mean that it may not eventually create an impact. Wells and Feun (2008) demonstrate how individual and group learning associated with TLCs is a slow process that may take many years. Going forward, school leaders in this study have to determine which format(s) they will use to provide facilitator support. In either of these formats, school leaders will have to address these side effects.

Finally, participants reported that the study itself facilitated their work by providing opportunities for reflexive dialogue. Scholars note how the inquiry cycle is often difficult for teachers (Nelson, 2009; Nelson & Slavit, 2007, 2008). To assist them with the self-reflection during inquiry, scholars recommend structured collaborative

models (Butler et al., 2004; Nelson, 2009; Nelson & Slavit, 2007, 2008). My findings support this recommendation: structured collaborative models facilitated reflective dialogue. During this study, focus group interviews provided structured opportunities for inquiry and served as sites of collaborative self-reflection for participants.

By providing opportunity for reflective dialogue, school leaders reported that focus group interviews placed the Math and World Language TLCs at an advantage over other TLCs within the school. Without focus group interviews, I am skeptical that teacher participants would have committed to the time necessary for consistent reflexive dialogue about their goals and action plans. Additionally, some participants linked the focus group interviews with the development of trusting relationships between fellow teachers. I suspect that individual interviews served a similar purpose for school leaders. School leader participants frequently commented on how rarely they took time to discuss school issues at this depth. As this study concludes, replicating the opportunities provided by interviews will be challenge for school leaders. They may want to consider scheduling round table discussions or professional literature circles with TLCs to provide similar opportunities.

Table AA: Summary of Perceived Impact of Altered PD Conditions

Altered Professional Development Condition	Math	World Language	Key 2.0 Indicators	Summary of Perceived Impact
Teacher Choice	Facilitated & Hindered	Facilitated & Hindered	None Correspond	Increased Buy-In and Frustration of Teachers
Technology & Technology PD	N/A	Facilitated	None Correspond	Contributed to Common Purpose
Department Chair PD	No Influence	No Influence	None Correspond	No Influence
The Study Itself	Facilitated	Facilitated	6.7 (Increased)	Increased Reflexive Dialogue and Trusting Relationships

Impact of Workplace Design Conditions. Similar to professional development conditions, altered workplace design conditions also influenced the TLCs differently (see Table BB below). Participants agreed that common planning facilitated the development of their TLCs. While participants indicated that time also facilitated their work, fallout from certain forms of time delivery also hindered their work. Although math participants requested coverage for peer observations, they did not use that option; therefore, coverage for peer observation had no influence. Math and world language participants agreed that curricular changes, the Common Core, and RTTT hindered their work. While both TLCs dealt with curricular changes, only the math teachers interacted with the Common Core and RTTT. Finally, evidence suggests that power relationships both facilitated and hindered the work of TLCs.

Regarding time, I concur with scholars: time is the most frequent obstacle to TLC development (e.g., Cochran-Smith & Lytle, 1999; Murphy et al., 2009; Stoll & Temperley, 2009; Wells & Feun, 2008). Time was the most consistently requested

resource from teacher participants during the study. Delivering time to TLCs during the study was challenging for school leaders. To provide a comprehensive enough SI initiative capable of transforming teaching and learning, school leaders sought to build time within the school day for TLC activity. While school leaders sought to diminish TLCs as an "add-on" role, they did not provide enough time for TLCs to achieve their goals. Many of the successful TLCs achieved their goals by creating more time on their own (e.g., by voluntarily working outside of their contractual duty days). Observations of TLCs that failed to achieve their goals confirm the assertions made by Hecht and Roberts' (1996): when TLCs lack necessary time to complete activities, teachers fall back on regular practices and abandon their joint work.

While teachers appreciated the small amounts of time school leaders provided them, they reported side effects for each instance of delivery. Teachers perceived that common lunches facilitated collegiality, an important precursor to joint work, but did not consistently support widespread work on the core matters of teaching. In addition, school leaders reported that common lunch contributed to the de-emphasis of after-school department meetings throughout Carter's Run's history. Time during faculty meetings and professional development assisted in the development of goals and action plans but fell short of providing enough time for implementation. Despite some mid-year adjustments with this resource, disciplinary TLCs only had 3 hours and 50 minutes of time to work together during the entire year – not enough to accomplish their goals. Participants appreciated their joint work during substitute time; however, the time investment to develop substitute plans and make-up lost time upon their return prompted

the Math TLC to abandon this strategy. The World Language TLC continued to use substitute time despite these drawbacks.

To capture the benefits of working together without these shortcomings, the Math TLC used hourly-remunerated time. Other demands for their time eventually prevented them from fully using even this resource. World language participants did not use hourly-remunerated time. Results for Key Indicator 4.6: *Teachers have regularly scheduled time to learn from each other* showed no statistically significant increase or decrease. The mean response from each year showed little change (X_2-X_1=.0640). The mean of teachers' response for Key Indicator 4.6 (3.095) is below the mean for all 42 Key Indicators[28] (3.762). There are only six Key indicators with lower scores. It seems that despite the implementation of TLCs at Carter's Run, teachers do not believe they have enough regularly scheduled time to learn from each other. However, my observations and analysis suggest that having more time may not be the only solution. I have also concluded that school leaders did not help TLCs use the time that they did have effectively enough.

During some faculty meetings and professional development time segments, I found that Math and World Language TLCs spent time planning *how* to use time rather than working on their action steps. In addition, the Math TLC left several hours of remunerated time unused in the second semester. One explanation for these observations could be that teachers did not know how to effectively use the time school leaders provided to achieve their goals. Considering the absence of structure for many TLC meetings (i.e., no agendas) and incomplete/missing action plans, teachers may have been overwhelmed. TLCs may not have known what to do during the time they had. Another

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[28] These means are from the April 2012 administration of the Keys 2.0 survey.

explanation could be that there was not enough *sustained* time for TLCs to develop

meeting agendas and action plans. For example, during course selection in January and

February, TLCs went six weeks without being provided time to meet. Those TLCs that

did meet during that time chose to use their own time. Because both of these explanations

likely influence the work of TLCs, I suggest that school leaders not only seek to provide

regularly scheduled time, but support that time by providing guidance and structure to

TLCs.

The one form of time that participants preferred was common planning. Teachers

said that this time was consistent enough to facilitate their joint work. While only two

math teachers had common planning with common course assignments during the study,

it was obvious to all participants that this format of time delivery was more helpful than

the other forms of time provided to them (i.e., hourly-remunerated time, substitute time,

faculty meeting and professional development time, common lunch). Participants agreed

so strongly that common planning facilitated their joint work that school leaders

purposefully incorporated common planning into the 2012-13 master schedule. The

difference between common planning and other forms of time delivery was that common

planning allowed for daily contact between teachers without TLC activity becoming an

"add-on" role for teachers (Smylie, 1994). This finding is consistent with the literature.

Scholars emphasize that TLCs require time built into the regular workday in order for

TLCs to reach advanced levels of activity (Cosner, 2009; Tschannen-Moran, 2009).

However, regularly scheduled time, such as common planning, does not excuse school

leaders from supporting teachers' use of that time.

In the attempt to modify human resources, school leaders provided substitutes to math teachers for peer observations. By using substitutes to provide class coverage during their "free" class period, school leaders hoped to rearrange the deployment of internal human resources similar to how Drago-Severson and Pinto's (2006) described the use of teacher aides to support teacher collaborative activity. Despite school leaders' offer, none of the math teachers used a substitute for this purpose. Previously, I noted how Drago-Severson and Pinto's idea was creative but not necessarily more appealing than full substitute days or common planning. Using teacher aides and substitutes to cover classes may save money; however, these strategies fail to alleviate the side effects associated with using substitutes (i.e., discipline fall out, lost instructional time). Even without substitute coverage, teacher participants could have observed each other during their planning periods. As I noted earlier, some teacher participants did this. Still, those instances were infrequent and sporadic. It seems that the deep levels of trust necessary to conduct more formal peer observations were lacking.

Power relationships influenced the work of TLCs in two ways: through my dual role as a practitioner and researcher and through miscommunication between school leaders and TLCs. As a school leader, I believed that teacher choice was critical for teacher buy-in and sustainability of our TLC initiative. As a researcher, I sought to understand how teacher participants perceived the influence of altered conditions on their work. During focus group interviews, participants sought my advice as a school leader. In her study, Drennon (2002) describes herself in a similar situation. She wrestles with responding to teachers' requests for advice and maintaining her democratic ideals for leadership. Following the direction of my principal to prioritize my role as a practitioner,

I chose to break from my role as a researcher a few times during focus group and individual interviews. When I responded to teacher participants' questions, I strived to preserve teacher choice. While it is impossible to judge the full impact of my power relationships with teachers, I believe I helped TLCs by serving the role of power broker in many instances.

Greenberg and Baron (1993) describe power as the ability to steer others to needed behaviors. I admit that I eagerly served as power broker when participants' requests matched one of the behaviors I believed was necessary (e.g., acquiring new instructional technology may lead to improvements to instructional practice). I cannot recall an instance during the study where I served as a power broker for a resource that I deemed unnecessary. Because of this, I suspect that I inadvertently suppressed conflict and excluded interests from some school actors (Malen, 1995). For example, in the second Math focus group interview Bryan asked for more frequent professional development time built into the school day without students. While I dismissed his suggestion at the time, in retrospect Bryan's suggestion was the origin of one of this study's implications: to provide consistent time built into the school day school leaders at Carter's Run should petition district officials to schedule regular late starts for students. Had I taken this suggestion to the principal in December 2011, we could have started working with district officials several months early. Despite our attempts to create buy-in and involve teachers in the decisions, some teachers may have participated in TLCs because they feared reprisal from school leaders. If so, teachers may have been operating under what Hargreaves (1994) calls "contrived collegiality." I concede that it would not be possible for me to understand fully whether, and to what degree, teachers engaged

with TLCs to preserve their own "pet" professional practices. School leaders' attempts to communicate expectations illustrate the influence of power relationships in the study. For example, one TLC implemented an entire action plan on the assumption that the principal wanted to see senior presentations. This TLC justified their plan because the principal asked one of their members to observe senior presentations at another school the previous year. While the principal did not intend for our school to replicate those senior presentations, the TLC perceived his request that way. Teacher participants sometimes acted on unintentional cues from school leaders, including myself, which caused additional work and confusion. These instances highlight how certain actors (i.e., school leaders) ideas' dominate. Going forward, school leaders should follow scholars' advice by seeking out and analyzing how dominant interests operate within TLCs (Lipman 1997). Lipman suggests that school leaders can analyze the influence of dominant interests by engaging in reflective discourse with teachers about shared beliefs and school practices. It is interesting to note this recommendation given my conclusion that although TLCs generally held a common purpose, they did not surface and debate underlying beliefs and values. I continue this discussion later.

Finally, despite school leaders' attempts to minimize them, both TLCs viewed curricular changes as obstacles to their work. For example, world language teachers reported that they struggled to simultaneously implement new curricula and develop new performance assessments. Common Core implementation associated with RTTT legislation prompted math curricular changes. By altering the curriculum, district officials hoped to prepare students for a new standardized assessment associated with RTTT legislation. While teachers characterized the RTTT with similar discourse as

NCLB (i.e., pressure to achieve proficiency levels on the standardized tests), it is too early to judge whether RTTT and NCLB will influence TLCs in the same manner. No one had seen the new standardized assessment at the time of this study and implementation was at least two years away. Based on scholars' findings that accountability assessments narrow the curriculum and instructional methods designed to support test achievement (Boardman & Woodruff, 2004; Giles & Hargreaves, 2006; Ingram et al., 2004; Newmann & Wehlage, 1995; Skerrett, 2010; Valli et al. 2008), I predict that the standardized assessment portion of RTTT will have the potential to unravel highly functioning TLCs. Whether or not it does is beyond the scope of the present study.

Table BB: Summary of Perceived Impact of Altered Workplace Design Conditions

Altered Condition	Math	World Language	Key 2.0 Indicators	Summary of Perceived Impact
Time	Hindered & Facilitated	Hindered & Facilitated	4.6 (no change) 4.9 (increased)	Slightly Increased Collaborative Activity with Expenses
Common Planning	Facilitated	Facilitated	4.6 (no change)	Increased Collaborative Activity
Coverage for Peer Observation	No Influence	N/A	None Correspond	No Change in Trusting Relationships
Power Relationships	Facilitated & Hindered	Facilitated & Hindered	None Correspond	My Role as Power Broker Increased Collaborative Activity; School Leaders Miscommunication Caused Confusion
Curricular Changes, the Common Core, & Race to the Top	Hindered	Hindered	None Correspond	Presented Significant Obstacles

Links Between Altered Conditions and TLC Development. At the conclusion of the study, the Math and World Language TLCs both reported growth with their respective TLC's development. Because my final focus group and individual interviews yielded incomplete information on each indicator within this rubric (especially for initial TLC levels), I sought additional feedback in September 2012. Participants made both initial and final ratings at this time using the Modified Level of TLC Rubric (see Table L). At no point in the study did participants rate their TLCs against the original rubric (see Table A). Initially, I had not planned to have participants use this tool. I thought that I would apply their responses to the rubric myself. During data analysis, however, I realized that I could not gauge participants' perception for each characteristic without using the rubric. Asking participants for feedback on their perceptions of initial and final levels of TLC in September 2012 was significantly distant from their work, especially for initial levels. While I instructed participants to make their final ratings based on the TLC's characteristics in June 2012, I acknowledge that their experiences during the second year of TLC implementation may have colored their responses. Despite this limitation, teacher participant, school leader participant, and my own ratings are generally consistent with each other, especially for initial TLC levels. I include a summary of the initial and final ratings for each TLC in Table CC below.

Math teacher participants, their school leader liaison, and I concur that the Math TLC progressed from a strong traditional community (2) to a novice professional community (3) in each area except data-driven decisions. Although math teacher participants tended to rate themselves at higher levels than their school leader liaison and me, they agreed that they did not achieve a higher rating for data-driven decisions.

Although ratings differ for the other five characteristics, participants concurred that the

Math TLC reached the professional community level, yet did not achieve advanced

professional community status in any areas.

Table CC: Beginning and Final TLC Level Ratings for the Math and World Language TLC

		Trusting Relationships	Common Purpose	Reflexive Dialogue	Collaborative Activity	Data-Driven Decisions	Agency
Math	Beginning	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2	2,2,2
	End	4,3,3	4,3,4	3,2,3	4,3,3	2,3,2	4,3,3
World Languages	Beginning	1,1,1	1,1,1	1,1,1	1,1,1	1,1,1	1,1,1
	End	4,3,3	4,4,4	4,4,4	3,3,3	4,1,1	4,4,4

* TLC, school leader liaison, researcher ratings (in sequential order)

Similarly, world language teacher participants, their school leader liaison, and I

concurred that the World Language TLC moved from a traditional community (1) to a

professional community (3, 4) in each area except data-driven decisions. Although world

language teachers rated themselves at the intermediate professional community for data-

driven decisions, their school leader liaison and I agreed that their TLC did not grow in

this area. Although ratings differ in the area of trusting relationships, participants

concurred that the World Language TLC developed into a professional community for all

characteristics. Participants agreed that the World Language TLC resembled an

intermediate professional community for common purpose, reflexive dialogue, and agency. One reason that the World Language TLC may have reached higher levels than the Math TLC is that the number of teachers in their groups was smaller. The World Language TLC only had three teachers while the Math TLC had seven.

Gauging participants' perception of growth along each of these six characteristics is important in order to describe the nature of impact from altered conditions. Participants attributed some of their growth as a TLC to conditions outside of those altered by school leaders; however, they also perceived that some of the altered conditions influenced them as well (see Table DD below). The leadership team altered 12 conditions (see Table O). Of those 12 altered conditions, participants perceived that nine of them fostered TLC development.

Despite evidence from the Keys 2.0 survey to the contrary, participants believed altered conditions influenced the presence of a common purpose in their TLCs. Specifically, participants suggested that the Keys 2.0/SIT Retreat and corresponding expectations to create and implement corresponding goals and action plans contributed to the development of their TLC's common purpose. The world language teachers also reported that technology and technology professional development contributed to the development of their common purpose. It is clear that these two TLCs related a different experience with common purpose than the rest of the school. Perhaps their involvement in the focus group interviews influenced their common purpose. While I asked about their goals and action plans each time, it is also possible they simply told me what I wanted to hear, (i.e., regarding Key Indicators 2.2 and 2.3).

Table DD: Participants' Perceived Impacts on TLC Characteristics from Altered Conditions

TLC Characteristic	Altered Conditions	Perceived Impact
Common Purpose	KEYS 2.0/SIT Retreat	Participants consistently linked this condition to common purpose.
	Technology & Technology PD	World language participants attributed technology and technology PD to their common purpose.
	Culture of Expectations	The expectation to create and implement goals and action plans linked to Key Indicators provided a common purpose for TLCs.
	Teacher Choice	While simultaneously hindering their work, teachers had the flexibility to set their own goals and action plans.
Agency	Facilitator Support	Participants serving as teacher facilitators said that facilitator support led to shared decision making and improved agency.
Trusting Relationships	Culture of Expectations	Participants appreciated that school leaders gave them reasonable expectations. They said that these expectations created trusting relationships between teachers and school leaders.
Collaborative Activity	Time	While simultaneously hindering teachers' work, participants reported that the time school leaders provided also facilitated their collaborative activity.
	Common Planning	Participants identified common planning as the preferred form of time. They said common planning helped their collaborative activities because it was available daily and did not have side effects that hindered their work like other forms of time delivery.
	Power Relationships	Also simultaneously hindering teachers' work, participants used the researcher as a broker to obtain resources for their collaborative activity.
Self-Reflection	The Study Itself	Participants identified this study as providing opportunities for reflexive discourse. In particular, teacher participants noted that focus group interviews facilitated self-reflection.
Data-Driven Decisions	None	

Teacher facilitator participants suggested that facilitator support led to more

shared decision making and contributed to improved agency. Participants reported that

the study itself increased their opportunities for self-reflection and contributed to trusting

relationships. The culture of expectations also increased trusting relationships for some participants. While participants agreed that efforts to deliver time for teachers' TLC work facilitated their collaborative activity, only common planning did so without simultaneously hindering their work.

Finally, participants reported that teacher choice and power relationships both facilitated and hindered their work. While teacher choice enabled teachers to select their own goals and action plans, which in turn helped their TLCs create a common purpose, teacher participants struggled because they were accustomed to school leaders telling them what to do. Selection of goals and action plan steps on their own was a new responsibility. Perhaps participants were reluctant to choose because they were skeptical that school leaders would really let them do what they wanted. Operating as a teacher leader is outside the regular responsibilities of a classroom teacher and can be intimidating. I also suspect that teacher facilitators were busy and prioritized their classroom work/responsibilities ahead of their TLC work. In the same vein, I observed how power relationships between teachers and school leaders facilitated and hindered TLC activity. On the one hand, my role as a resource broker for TLCs facilitated collaborative activity by providing resources. On the other hand, power relationships between teachers and school leaders led to misperceptions. As a result, some TLCs pursued goals and action plans only loosely linked to Key Indicators 2.2 and 2.3.

In Figure 11, I present a graphic of an "activated" conceptual framework. In this graphic, I visually highlight the influence of the Keys 2.0/SIT Retreat process. Together with teachers, school leaders identified the need to conduct a needs assessment with teachers for the SI process. School leaders identified the Keys 2.0/SIT Retreat process

prior to the study through expert advice (blue "school-based leadership team" rectangle on the left). School leaders and teachers selected and implemented the Keys 2.0/SIT Retreat process as an altered condition (blue diamond in the center of the diagram). As newly formed TLCs created and implemented their goals and action plans, they interacted with the results of the Keys 2.0/SIT Retreat process (i.e., Key Indicators 2.2 and 2.3). Participants perceived that this altered condition influenced their TLC (blue "teacher learning community" box on right). Specifically, participants perceived this influence in the clarification of the common purpose (blue "common purpose" bubble).

Figure 11: Conceptual Framework in Action for KEYS 2.0/SIT Retreat
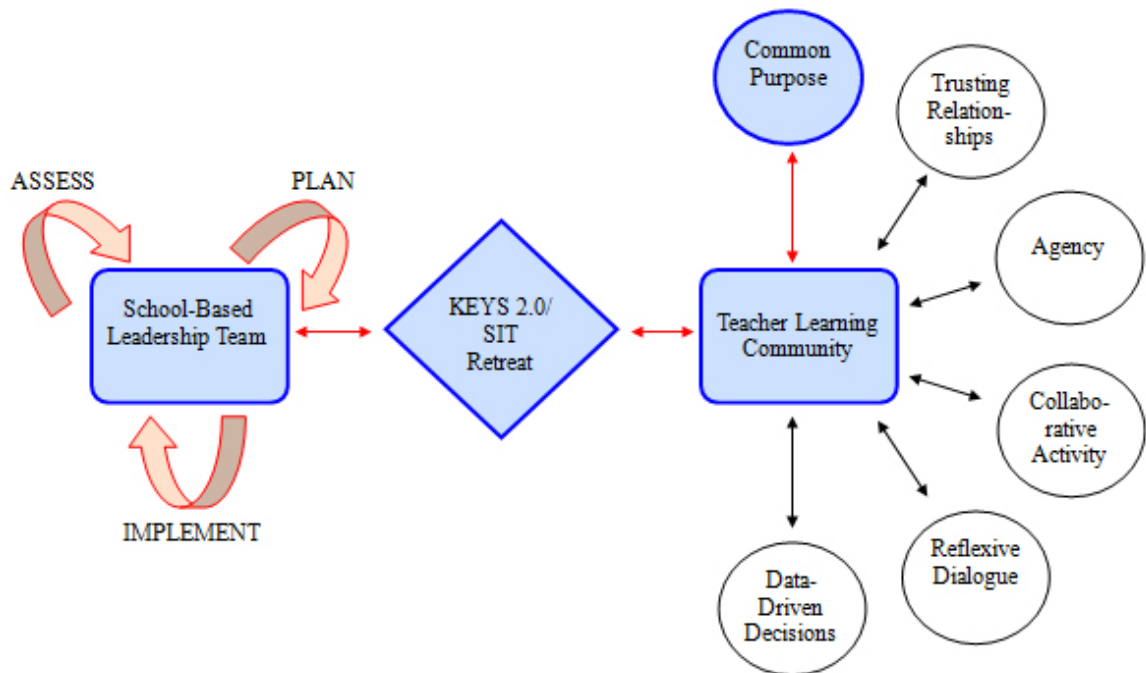
Participants did not link the other three altered conditions to the development of their TLCs: department chair professional development, coverage for peer observations, and curricular changes, the Common Core, and RTTT. Coverage for peer observations lacked influence on the work of TLCs simply because no math teacher participant used it. Teacher facilitator participants reported that department chair professional development

did not influence the work of their TLCs. While school leaders had relatively low expectations for department chair professional development, the delivery was less relevant to teacher facilitators than individual facilitator support. It lacked relevance for TLC's unique and complex contexts. I hypothesize that teacher facilitators had difficulty using the tools and approaches incorporated in this session without additional one-on-one coaching from their school leader liaison. In retrospect, asking teacher facilitators to apply abstract teacher leadership concepts devoid of immediately relevant connections to their own TLCs may have diminished the influence of this altered condition.

Teachers from both TLCs reported that curricular changes, the Common Core, and RTTT hindered their work. Dealing with curricular changes meant that teacher participants had to revise or create significant portions of their lesson plans and activities. School leaders had designed the TLC initiative as a way for teachers to address these types of issues collaboratively (i.e., Wolf et al., 2000). However, both TLCs selected goals and action plans that addressed other activities. In addition, during the study (the 2011-12 school year) there was a significant amount of ambiguity surrounding the Common Core and RTTT. While the Math TLC could work with curricular changes, no one knew what the new standardized assessment would look like. Therefore, despite the flexibility to address those curricular issues, teacher participants could not fully invest the time of their TLC to tackle those problems.

In Figure 12, I present another graphic of an "activated" conceptual framework. Similar to Figure 11, I visually highlight the influence of an altered condition on the work of TLCs. In this example, I trace the influence of department chairperson professional development. The school-based leadership team identified that teacher facilitators were

struggling to direct their TLCs (blue "school-based leadership team" rectangle on the left). Specifically, after analysis of the first two rounds of interviews, I found that both teacher facilitators in this study struggled with disengaged teachers during TLC meetings. I discussed my observations with the school-based leadership team. We agreed to implement a professional development program during department chair meetings to better support our disciplinary committee teacher facilitators/department chairs. Beginning in January 2012, we implemented the professional development program (blue diamond in the center of the diagram). After implementation, teacher facilitator participants did not perceive that the altered condition influenced their work. For this reason, the "teacher learning community" rectangle on the right and its corresponding TLC characteristic bubbles remain clear. I was unable to trace an influence from this altered condition to TLCs, positive or negative.

Figure 12: Conceptual Framework in Action for Department Chair PD
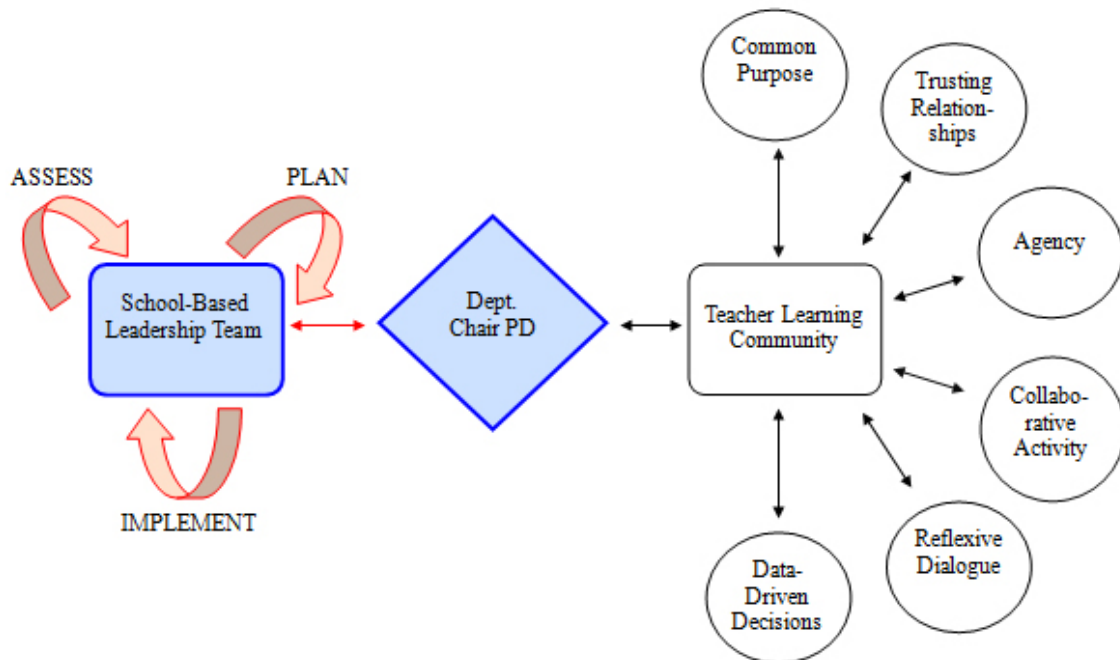
Finally, participants did not identify any conditions influencing the data-driven decisions characteristic. The most likely explanation is that school leaders did not target any conditions to support teachers' ability to make data-driven decisions. The omission of an altered condition to support this characteristic of TLCs explains the lack of development in this area for both the Math and World Language TLCs (see Table AA). Teachers' prior experience with data-driven decision making did not appear to be enough for them to grow in this area. Otherwise, teacher participants may have engaged more with this characteristic and rated themselves higher in spite of the lack of support.

RQ#4 - Implications

Scholars connect the significance of a study to its ability to link research to concerns of theory, policy, and practice (Marshall & Rossman, 1999). While evidence suggests that TLCs have the potential to exert influence on teaching and learning (Little, 2003; Vescio et al., 2008) they are far from a common phenomenon in American schools. The findings from this study help to explain why TLCs are not common. As I described above, the Math and World Language TLCs did appear to grow; however, in order to become full-fledged, professional TLCs, both groups still have a long way to go. Consistent with scholars' findings, the process is likely to take many more resources and additional years (Clement & Vandenberghe, 2000; Grodsky & Gamoran, 2003). The influence of context on the development of TLCs is nothing new. The question at the end of this study is whether TLCs are too complex and contextual to be a viable reform tool to positively influence teaching and learning in American schools.

In this section, I answer the final research question: *What are the implications for those findings on our understanding of the relationship between leaders' efforts to create*

supportive conditions and the development of TLCs? The implications of this study speak

to theory, policy, and practice. In each of these sections, I also briefly discuss the

implications for school leaders in this study as they proceed into the second year of their

TLC SI initiative. I hope that these implications may inform researchers, policy-makers,

school leaders, and teachers as they engage with and/or study the development of TLCs.

Theory Implications

This study makes one new contribution to theory: the presence of an

emerging/novice conceptualization of TLCs. While participants' conceptualizations of

TLC characteristics are compatible with scholars', they also represent an

emerging/novice perspective. The existence of an emerging/novice perspective suggests

that educators' viewpoints develop over time. Similar to the development of TLC

characteristics along a continuum, participants' conceptualizations of the TLC

characteristics also mature. This new dynamic idea has implications for school leaders

and scholars working with TLCs.

Novice/Emerging Conceptualization of TLC Characteristics. Prior to the

study, teacher and school leader participants had limited experience with TLCs, which

may explain their emerging/novice perspective. Participants identified six TLC

characteristics: trusting relationships, common purpose, reflexive dialogue, collaborative

activity, data-driven decisions, and agency. While these characteristics are compatible

with the literature (i.e., Kruse et al., 1995), I positioned participants' descriptions of

certain TLC characteristics as precursors to scholars' descriptions. In particular, trusting

relationships is a precursor to deprivatized practice, common purpose a precursor to

shared norms and values, and data-driven decisions a precursor to focus on student

learning. Each scholar's conceptualization of TLC characteristics is static (i.e., Bolam et al., 2005; DuFour & Eaker, 1998; Grossman et al., 2001; Kruse et al., 1995; Secada & Adajian, 1997; Talbert & McLaughlin, 1994). My findings suggest that as TLCs develop, educators' *perspectives* of those TLCs may also develop. Within the literature review, the idea of dynamic conceptualizations of TLC characteristics is new.

Within participants' descriptions of TLC characteristics as represented in the Modified TLC Level Rubric (see Table L), TLCs could meet advanced professional community levels for trusting relationships, common purpose, and data-driven decisions without deprivatizing their teaching practices, developing shared beliefs and common values, and/or working with student data. The same ratings would not be possible for the original TLC Level Rubric (see Table A). First, building trusting relationships within TCLs does not automatically translate to deprivatized practice. Second, working toward a common purpose does not necessarily require teachers to develop shared beliefs and common values. Finally, making decisions based on student data does not guarantee that data addresses student outcomes. Without meeting deprivatized practice, shared beliefs and common values, and a collective focus on student learning from the original TLC Level Rubric, "advanced" TLCs on the Modified TLC Level Rubric could operate under what Grossman et al. (2001) call an illusion of consensus. In short, the advanced professional community indicators of the Modified TLC Level Rubric leave space for their work to fall short of actually changing instructional practice (Grossman et al., 2001). Inexperienced teachers and school leaders conceptualize a compatible, yet emerging conceptualization of TLCs when compared with published literature. The

conceptualization represented in the Modified TLC Level Rubric may not be powerful enough to transform teaching and learning at its advanced levels.

I propose that the failure of some TLCs to achieve goals is a symptom of participants' emerging/novice perspective. If school leaders desire to foster TLCs that are capable of transforming teaching and learning, they need to address deprivatizing instructional practices, working with student outcome data, and negotiating consensus about shared beliefs and common values. This emerging/novice conceptualization has implications for other school leaders implementing TLCs and other scholars studying their development.

School leaders seeking to foster the development of TLCs should note how an emerging/novice view of TLCs leaves room for teacher groups to "get stuck" at the intermediate levels represented within the original TLC Level Rubric (see Table A). These intermediate levels in other scholars' conceptualizations closely align with the advanced levels from the emerging/novice conceptualization of participants. If school leaders want to avoid TLCs mired in an illusion of consensus, they will have to remain alert for and address the "holes" that emerging/novice conceptualizations permit. Because TLC development is so contextual, the "holes" may not be the same in different sites. Still, school leaders should anticipate that educators might be reluctant to, or unaware that they should, address conditions like deprivatized practice, shared beliefs and common values, and student learning outcomes. When educators find precursor conditions, they should encourage TLCs to continue developing toward their corresponding conditions from the literature base. I recommend that school leaders have these discussions with individual teacher facilitators and TLCs one at a time. While their

choices on how to address precursor conditions will be contextual, school leaders should keep in mind that each individual TLC has its own unique and complex context too.

Through the study, I remained alert for changes to participants' conceptualizations of TLCs. As the study progressed and TLCs developed from traditional communities to professional communities, participants' conceptualizations shifted to include increased emphasis on certain characteristics (e.g., data-driven decisions). In future studies of TLCs, scholars should consider how the experience level with TLCs shapes educators' viewpoints. I anticipate that advanced professional communities would conceptualize TLC characteristics with less precursor conditions. Future observations from scholars should confirm or refute the connections observed in this study.

In the beginning of the study, I suggested that participants' conceptualizations of TLCs could operate as a condition that influences TLC development. Perhaps participants' conceptualizations of TLC characteristics have a self-fulfilling influence on TLC development. If school actors never conceptualize deprivatizing their practice, developing shared beliefs and common values, and working with student data as essential characteristics of TLC capable of achieving their goals, those TLCs may never be able to transform teaching and learning. If so, school leaders and scholars should increase their attention to educators' perceptions of TLCs as a tool to foster continued TLC development.

Policy Implications

The implications of this study are relevant to school leaders desiring to foster the development of TLCs in their schools and districts for three reasons. First, the findings of

this study suggest that TLCs struggled with time. While the findings suggest that time built into the regular school day is the most effective strategy to support teachers' work within TLCs, there is also evidence that teachers needed more structural support to make use of the other forms of time provided to them. For school leaders in this study, district context restricted their ability to implement strategies other than common planning. Widespread common planning does not appear to be viable for every teacher engaged in a TLC within a high school. Fortunately, scholars have identified alternative strategies that operate like common planning but are accessible to every teacher.

School leaders should work to assure that TLCs could make use of other forms of time available to them, especially where common planning is not possible. Supporting teacher facilitators with developing comprehensive action plans and agendas are a few strategies that school leaders may use to accomplish this goal. In the next section on practice implications, I present Figures 13 and 14 as sample meeting timelines and action plans that school leaders at this research site hope will better support TLCs ability to use other forms of time (e.g., faculty meeting and professional development time, substitute time, hourly-remunerated time).

Second, the power relationships between school leaders and teachers influence school leaders' efforts to foster the development of TLCs. In this study, I played the role of power/resource broker who facilitated teachers' requests and informed other school leaders of teachers' feedback before making decisions. School leaders seeking to develop TLCs should incorporate a power/resource broker into their plans. I recommend that school leaders consider putting themselves in this role by engaging in practitioner

research. Alternatively, I suggest that school leaders explore possible non-teacher/non-principal school personnel or external facilitators.

Finally, the complete influence of the Common Core and RTTT on the development of TLCs is unclear. School leaders in this study sought to minimize any negative impact of these conditions; however, neither the Common Core nor RTTT had developed enough for participants to fully understand the influence of the programs on their work. The absence of clarity regarding the Common Core and RTTT did not hinder TLCs, but did frustrate many teachers anxious and apprehensive to prepare. It is too early to predict whether future standardized assessments associated with the Common Core and RTTT will influence TLCs like NCLB (e.g., narrowing curricula and teaching to the test) or in new ways (e.g., facilitating the development of TLCs by providing common purpose and deprivatizing practice).

Time Built Within the School Day. The methods of time delivery employed by school leaders in this study address four of the five strategies identified by Watts and Castle (1993): freed-up time (substitute days), purchased time (hourly-remunerated time), better-used time (common lunch, faculty meeting time, and professional development time), and common time (common planning). The only strategy identified by Watts and Castle that school leaders did not use was restructured or rescheduled time. This approach involves the alteration of the school day or teaching schedule on a long-term basis.

In this study, common planning was the sole vehicle for time delivery that consistently showed evidence of fostering joint work without significant side effects for teachers. The other time delivery strategies school leaders' used may have contributed to

participants' perception that TLCs were the type of add-on that Smylie (1994) suggests lacks the potential to establish changes in patterns of teacher thinking and practice. Based on these implications, school leaders should not rely solely on "add-on" types of time delivery to support TLC activity. Consistent with other scholar's recommendations, school leaders should strive to provide time during the regular workday (Cosner, 2009; Smylie, 1994; Tschannen-Moran, 2009). Still, these other methods of time delivery (common lunch, faculty meeting time, professional development time, substitute days, and hourly-remunerated time) may be necessary to supplement some TLC work, despite participant-reported drawbacks. To maximize TLCs ability to use these forms of time, school leaders should work to support teacher facilitators with planning how to use this time. In my discussion about implications for practice, I present recommendations that school leaders assist teacher facilitators with developing action plans and setting meeting agendas. Those same recommendations are also relevant to policy-makers.

Prior to the study, school leaders unintentionally provided common planning to two math teacher participants. Those teachers' positive reports caused school leaders to incorporate increased and targeted common planning into the next master schedule. Tschannen-Moran (2009) identifies common planning time as a viable way to build time into teachers' regular workdays for TLC activity. As demonstrated, time during the regular workday is the most useful form of time that school leaders can provide TLCs. In this study, unfortunately, school leaders could not explore Watts and Castle's restructured or rescheduled time although additional scholars have also recommended this approach. For example, Cosner (2009) recommends that school leaders build time within teachers' regular workdays by allowing late start times for students on certain days. This

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recommendation parallels the request made by a math teacher participant during the study for more frequent professional development time. Scheduled late starts and/or more frequent professional development days provide regular opportunities for teachers to work together without missing class time or creating additional work by having them develop substitute plans.

While the impact of next year's master schedule changes is outside the scope of this study, the number of constraints common planning put on the schedule-building process lead me to suspect that it would be impossible to build a master schedule with common planning for all 15 TLCs. It was difficult for me to design a master schedule meeting students' course requests while providing time for only two of these TLCs (Math and English). The student fill percentage (a measure of how many students were able to "get" all of their requested courses in the master schedule) for next year's schedule was half that of the prior year. Incorporating common planning likely had some influence on the lower student fill percentage because it restricted available class periods for certain teachers and courses. Because of district policies, school leaders at the research site are not able to implement late starts or create more frequent professional development days for TLC activity. I recommend that school leaders consider a combination of common planning, regularly scheduled late start times, and frequent professional development days to facilitate TLC activity.

If school leaders cannot provide time built into the school day, the viability of TLCs is in question. The other "add-on" forms of time delivery are simply not enough to develop advanced professional community TLCs. At Carter's Run, limitations with the master schedule and district policies may mean school leaders will not be able to move

some TLCs past the novice and intermediate professional community levels. School leaders at Carter's Run may want to consider petitioning the district for permission to pilot restructured or rescheduled time strategies such as regularly scheduled late start times, to supplement their efforts. I recommend that district leaders afford school leaders enough local control to incorporate restructured or rescheduled time strategies as part of their TLC SI initiatives. By restricting school leaders' ability to provide time for TLC activity, they handicap the development of TLCs.

Resource/Power Broker. Drawing on literature, school leaders identified half of the 12 conditions that they would alter prior to the start of the school year (i.e., culture of expectations, facilitator support, Keys 2.0/SIT Retreat, teacher choice, some aspects of time, and curricular changes, the Common Core, and RTTT). Participants identified the other half during the study. Teachers identified three of these conditions during focus group interviews (i.e., some aspects of time, technology and technology professional development, and coverage for peer observations). After the focus group interviews, I accompanied teacher facilitators to the principal's office where we asked for the resources together. Without the focus group interviews, would teachers have felt comfortable enough to approach the principal about their needs? School leaders identified the rest of the conditions (the study itself, department chair professional development, and power relationships) through observation of TLC activity.

Throughout the study, I observed several instances where school leaders asked department chairs and SIT members whether their TLCs needed resources. Despite our persistent offers of support, teachers did not request resources during department chair or SIT meetings. The math and world language participants made requests for resources

during focus group interviews. Often, other TLCs heard about these resources and made similar requests, or school leaders approached TLCs with similar offers. Perhaps teachers involved in the study felt more comfortable asking for resources during focus group interviews. Another explanation may be that teachers held much more reflexive dialogue during focus group interviews than during department chair and SIT meetings. Regardless of the reason, my role during the study became resource/power broker for the Math and World Language TLCs.

This role extended beyond seeking tangible requests for resources; I also voiced new ideas to the other school leaders. Because I spent a significant amount of time conducting interviews, listening to teachers' feedback, transcribing, and coding those interviews, other school leaders came to rely on my observations for identifying alterable conditions to foster joint work within TLCs further. In my journal, I questioned whether further development of TLCs would be possible without my research. Many of our ideas came only after I spent time reflecting on the interviews. These observations are consistent with scholar-predicted benefits of collaborative action research. I found that action research both validated my role as a producer of knowledge (Burbank & Kauchak, 2003) and developed reflexivity in my personal practice (Alvesson, 2003; Coleman, 2007) As suggested by Kasl and Yorks (2010), I learned about my own practice and became a more reflexive practitioner.

At the conclusion of the study, the principal suggested I continue to record and transcribe meetings so that I could provide additional critical insight. He said that he shared my fear of losing the insights gained from my analysis of interviews and observations. The practitioner component of this research clearly facilitated the

immediate application of findings at this school. A practitioner-researcher, like me, appears to be a viable person to fill the role of power/resource broker at a school. Therefore, school leaders seeking to implement a TLC SI initiative should seriously consider conducting their own practitioner research in order to capitalize on the kind of critical insight that I gained during the process. I question, however, whether the power/resource broker *has* to conduct formal research, although it appears to offer additional advantages.

While it is unusual that an assistant principal would fill this role, school leaders attempting to foster TLCs should seek someone to fill the role of power/resource broker. One possibility is to use an "internal" educator. In our school, we could use the academic facilitator this way. Many schools have corresponding positions (e.g., academic coaches, deans, content specialists). Catherine's academic facilitator position is not supervisory, yet she has more freedom with her daily time than teachers because she only teaches one class. She could meet regularly with TLCs and teacher facilitators to assess progress, perceptions, and resource needs. Another option is to seek a partnership with a college or university and draw on their personnel in this capacity. Several scholars recommend external facilitators to help school leaders fill this type of role (Butler et al., 2004; Gitlin, 1999; Nelson, 2009; Nelson & Slavit, 2007; Supovitz, 2002). If they choose not to conduct practitioner research, school leaders should consider seeking the support of a non-supervisory educator within their school or an external facilitator to serve as a power/resource broker.

Many scholars working with TLCs may serve the role of power/resource broker for TLCs, especially if they operate as practitioner researchers. I recommend that scholars

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pay attention to school actors operating as power/resource brokers for TLCs. Better understanding of the way that school leaders and teachers broker power and resources may further illuminate how these relationships support TLC development.

Curricular Changes, Common Core, and RTTT. Significant evidence suggests that NCLB stifle teachers' work within TLCs (e.g., Giles & Hargreaves, 2006; Little 2002; Skerrett 2010). In particular, scholars suggest that accountability-based assessments hinder the development of TLCs (e.g., Boardman & Woodruff, 2004; Valli et al., 2008). In this study, World Language TLC participants characterized curricular changes as an obstacle to their joint work. While the Math TLC addressed the state math assessment, I did not locate evidence to suggest that NCLB influenced the work of their TLC. One explanation is that the Math TLC chose to work on goals and action plans distant from the state math assessment. No evidence suggested that the state math assessment fostered collaborative activity as in Wolf et al. (2000). The difference between the Math TLC and Wolf et al.'s study was that the standardized assessment served as the motivation for, and the common purpose in, Wolf et al.'s schools.

While math teachers anticipated additional obstacles to their joint work from pending Common Core curricular revisions and RTTT standardized-assessment, neither of these conditions influenced teachers during the course of the study. District leaders planned to implement math Common Core curricular changes the year after the study. State officials do not plan to implement the RTTT standardized-assessment for another two years. While I had hoped to capture the RTTT context's effect on TLC development, the timing did not work out.

Based on changing curricula and the impending RTTT standardized-assessment, I can only speculate that the nature of RTTT will be similar to NCLB's on the work of TLCs. Math teacher participants were fearful of the changes and felt daunted by the pressure of standardized-assessments, as predicted by scholars (e.g., Leithwood, 2007). The absence of significant RTTT implementations during the study, combined with school leaders purposeful strategy to downplay RTTT-related mandates, diminish the ability of this study to speak to the RTTT context further.

Practice Implications

Many TLCs failed to achieve their goals. School leaders and teacher participants alike recognized that their TLCs could have accomplished more. While both TLCs in this study moved from traditional community levels into professional community levels, they fell short of their full potential, especially with data-driven decisions, where neither TLC improved. However, this does not characterize the entire SI initiative as a failure. Instead, the implication is that fostering TLCs is a multi-year process. These TLCs have only engaged in the first year of this process and have gained some movement along the TLC Level Rubric.

In order to attempt to capture their full potential in the future (i.e., influence teaching and learning) school leaders should continue to support the work of TLCs by continuing to identify and alter conditions. The findings of this study lead to five implications for school leaders' future practices in this and other schools: 1) develop shared commitments; 2) increase communication about common purpose and expectations; 3) increase facilitator support; 4) increase data analysis support; and 5) increase opportunities for reflective dialogue.

Developing Shared Commitments. School leaders sought to create buy-in by incorporating teacher choice into the work of TLCs; however, teachers reported that they struggled with the freedom to choose their own goals and action plans. School leaders reported that it was hard for them not to give advice to teacher facilitators, especially when TLC work did not align with student learning. When school leaders intervened, they confused teachers and created doubt and mistrust. I attribute the conflict between teacher choice and the culture of expectations to a lack of shared beliefs and common values at this school. Had teachers and school leaders surfaced conflict about the culture of expectations, instances of these tensions may have decreased. School leaders who value teacher choice and want teachers to work with student outcomes should work toward developing shared beliefs and common values. When teachers form a collective responsibility for student learning, scholars find evidence that student learning improves (Lee & Smith, 1996; Louis & Marks, 1998).

Sergiovanni (1994) suggests that every decision made in a school should reflect its common values. He says that common values should be so significant that they permeate every aspect of the school, including TLCs. Scholars agree that the process of working toward shared beliefs and common values is essential to TLC development (Elmore, 2007; Huffman, et al., 2001; Hulpia et al., 2009; McGuinness, 2009; Newmann et al., 2000). DuFour and Eaker (1998) and the Middle States Association of Colleges and Schools (2010) provide viable models for developing shared beliefs within their vision-setting processes. Both of the vision-setting processes recommend that staffs start by discussing and selecting a set of "core" values (e.g., all students can learn, teachers are responsible for student learning). Once schools develop their vision, scholars recommend

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that they set goals based on the discrepancies between the vision and student learning data. During the summer SIT Retreat, school leaders missed the opportunity for this step. School leaders did not discuss shared beliefs and common values with stakeholders prior to selecting the common purpose. Without having shared beliefs as an anchor, TLCs interpreted the common purpose differently. In the future, school leaders should discuss beliefs and values with their faculties prior to selecting a common purpose. That way, school leaders can assist TLCs in developing goals and action plans congruent with the faculty's agreed upon vision, values, and beliefs. Similarly, I recommend that school leaders create opportunities for discussions with individual TLCs about beliefs and values specific to their TLC's goals. While these discussions are likely to produce conflict, negotiating consensus through these disagreements may assist teacher facilitators and school leaders with future instances of conflict, something that participants struggled with in this study.

   Increase Communication about Common Purpose and Expectations. In addition to the missteps of school leaders in this study to work toward shared beliefs and common values, school leaders also failed to develop a consistent understanding of common purpose and expectations for goals and action plans with teachers. At the end of the year, school leaders asked teachers to write out the Key Indicators on the annual SIT evaluation survey. Widely varied responses on that informal survey suggest that many teachers misunderstood the Key Indicators. While the informal survey responses were opposite to the faculty's statistically significant response to the Keys 2.0 survey for indicator 1.1: *Shared goals for achievable education outcomes are clear and explicit* and participants' qualitative data, they corresponds with the lack of statistically significant

increases the two Key Indicators selected at the SIT Retreat (Key Indicators 2.2: *Parents are involved in supporting the work of the school* and 2.3: *Teachers, administrators, educational support personnel, and other school employees collaborate to remove barriers to student learning*). In addition, few goals and action plans met all of the school leaders expectations (e.g., analyze data, choose a goal that aligned to the Key Indicators selected at the SIT Retreat, etc.).

Upon reflection, I think we could have done a better job emphasizing the common purpose and communicating our expectations to TLCs. For example, beyond the first faculty meeting, school leaders never presented the Key Indicators to staff again. While school leaders frequently discussed Key Indicators 2.2 and 2.3 with each other, we took for granted that teachers had the same level of understanding. Similarly, we communicated the expectation that teachers should analyze data with their goals and action plans but provided little guidance on how to do so. In hindsight, this seemed to be a real weakness. I attribute school leaders' lack of support with developing those plans to the absence of action plans among TLCs. The implication of these findings is that school leaders need to do a better job communicating the school's common purpose and their expectations. School leaders should not assume that because the common purpose and expectations are clear to them, that they are as clear to other school actors. I recommend that school leaders seeking to foster the development of TLCs over-communicate the common purpose and expectations of TLCs. School leaders should not only put the common purpose and expectations on meeting agendas, letter head, and posters throughout the school, but they should increase discourse about them during meetings and with individual teachers. Additionally, I recommend that school leaders remain

skeptical throughout the SI process that teachers and other actors fully understand the common purpose and expectations. Just like a teacher with students in the classroom, school leaders should constantly assess teachers' understanding of common purpose and expectations.

Increase Facilitator Support. Participants reported that professional development during department chair meetings was less helpful than consistent one-on-one facilitator support. In addition, teacher facilitators suggested that providing professional development during department chair meetings hindered their ability to function as department chairs.[29] Based on this, school leaders' will increase individual facilitator support next year at Carter's Run. In particular, teacher facilitators in this study needed more structure with their goals, action plans, and meeting plans (e.g., agendas, timeline). School leaders in the study recognized this need prior to the end of the study and began seeking resources to support facilitators during the next school year.

Additionally, Carter's Run's school leaders requested and received additional funding from the district office to pay facilitators for summer planning meetings prior to the end of the study. School leaders planned to provide individualized support for each TLC's facilitator during these meetings. At the conclusion of these meetings, facilitators will complete draft action plans and meeting timelines (see Figure 13 and Figure 14). School leaders believe that the meeting timelines in Figure 14 also clarified which meetings school leaders designated for disciplinary or transdisciplinary TLC meetings. School leaders planned to add two additional practices for the following school year. First, they would meet with teacher facilitators prior to each TLC meeting throughout the

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[29] Teacher facilitator participants conceptualized their role as department chair separately from their role as teacher facilitator for their disciplinary TLCs. This separation suggests that they may have viewed their teacher facilitator role as an "add-on."

next school year. Second, they would expect teacher facilitators to circulate meeting

agendas to TLC members in advance of the meeting.

Figure 13: Action Plans Developed for the Next School Year

ACTION PLAN

Goal #1:

Objective 1_:
Baseline Data:

Activity Step	Person/Group Responsible	Timelines for Completion	Resources Needed	Evaluation/Indicator of Success	Status

Goal #2:

Objective 2_:
Baseline Data:

Activity Step	Person/Group Responsible	Timelines for Completion	Resources Needed	Evaluation/Indicator of Success	Status

I recommend that school leaders desiring to implement TLCs develop and

implement similar action plan and meeting timeline templates with their TLCs. Doing so

may better support teacher facilitators who are not used to facilitating teacher groups. I

also recommend that school leaders meet with individual teacher facilitators one-on-one

consistently throughout the school year (biweekly or monthly) similar to how Nadia and I

met with a few of our TLCs during the study. The regular school leader/teacher

facilitator meetings in this study helped TLCs. Those TLCs achieved more of their goals

than other TLCs at Carter's Run. While time-consuming, these meetings provide school

leaders with the ability to address the specific contexts and challenges facing each TLC.

Figure 14: Meeting Timeline Developed for the Next School Year

Meeting Plans 2012-13

Dates	Time	Agenda Items
August PD Time	2 hrs.	
September __ Monthly Meeting	60 min.	
October 2 Faculty Mtg	60 min.	
October 8 (PD)	No Time	Transdisciplinary Committees
November __ Monthly Meeting	60 min.	
December __ Monthly Meeting	60 min.	
January __ Monthly Meeting	60 min.	
February 5 Faculty Mtg	30 min.	
February 19 PD Time	1-2 hr.	
March 4 PD Time	No Time	Transdisciplinary Committees
March 5 Faculty Mtg	40 min.	
April __ Monthly Meeting	60 min.	
May __ Monthly Meeting	60 min.	

Committee Membership

Chair:

Co-Chair:

SIT Representative:

Staff:

Student Representatives:

Parent Representatives:

*Shaded boxes are dates where you will schedule meetings by the beginning of the school year. Please include the location of your meetings.

Increase Data Analysis Support. The findings illustrate that neither TLC successfully worked with data when making decisions. Only a few of TLCs began working with data during the study. The lack of data analysis by TLCs within their goals and action plans mean that school leaders must support teacher facilitators and TLCs better with how to make data-driven decisions.

Many participants said that they were making correct decisions but rarely referenced data to support their conclusions. Toward the end of the study, school leaders and teacher facilitators recognized that they were making "gut" decisions rather than data-driven decisions. School leaders speculated that data analysis intimidated many teachers. To support teachers' work with data, school leaders should institute structures to support teachers with managing and analyzing data. For example, school leaders in this study are planning to work closely with TLC facilitators beginning at the summer facilitator meetings. They intend to use action plans with spaces for baseline data and evaluation/indicators of success to develop goals and action steps with teachers. School leaders should anticipate needs and prepare data for these meetings. Doing so may make the data and its analysis more accessible to teachers. For example, if the English TLC has an interest in working on Advanced Placement scores, school leaders can gather that data for teachers and model its interpretation during TLC meetings.

I also recommend that school leaders incorporate discussions about data during regular facilitator support meetings. In this study, school leader participants emphasizing the expectation anchoring goals in data in the beginning, but did not readdress that expectation until the middle of the study. I suspect that school leaders were distracted

with other roles and responsibilities and forgot to address data consistently. As a result, very few TLCs worked with data.

I recommend that school leaders continually emphasize expectations throughout the course of the SI process. School leaders looking to implement TLCs should plan to incorporate regular discussions about data with their TLCs. Without these regular discussions, TLCs are likely to proceed with goals and action plans devoid of data.

Increase Opportunities for Reflective Dialogue. Teacher participants reported that they found the focus group interviews particularly helpful to their TLC work. They also believed that participating in these focus group interviews gave them an advantage over the other 13 TLCs operating at Carter's Run that were not participating in the study. They reported that the focus group interviews were sites of reflective dialogue where they respectfully listened to each other's viewpoints and interpretations. At the conclusion of the study, participants requested that I continue focus group interviews during the next school year. Without the study, how could school leaders implement similarly effective opportunities for reflective dialogue?

Scholars agree that structures like focus group interviews assist with the development of TLCs (Butler et al., 2004; Supovitz, 2002). School leaders desiring to foster the development of TLCs may choose to implement their own action research and include regular focus group interviews for TLCs. That strategy appeared to be effective for the two TLCs in this study. In addition, I found that conducting, transcribing, and analyzing these interviews had the additional benefit of improving my own professional practice. However, implementing regular focus group interviews for numerous TLCs may not be practical for school leaders. Fortunately, scholars suggest multiple strategies

designed to promote reflective discourse: Nelson and Slavit's (2008) inquiry cycle, Aubusson et al.'s (2007) action research, Curry's (2008) critical friends, and Lieberman's (2009) lesson study. I recommend school leaders implement some combination of these strategies to promote reflective dialogue within TLCs.

In addition, Lipman (1997) suggests that school leaders seek the influence of school actors' dominant assumptions by engaging in reflective discourse with teachers. For example, are teachers directing their attention to aspects of students' lives that they cannot control rather than those that are within their power to change? Lipman (1997) suggests that these dominant assumptions are largely unquestioned by school actors. When detected, school leaders my encourage teachers to shift their focus to issues that are within their power to change. When possible, school leaders should engage with their own action research so that they can capture the additional benefits associated with improving their own leadership practice. School leaders could also use critical friends protocols to surface and debate underlying beliefs and values embedded within TLCs' action plans and goals.

Recommendations for Future Research

Participants suggested a compatible yet dynamic conceptualization of TLC characteristics when compared to other scholarly literature. While my "precursor" characteristics may not be new, the idea that participants' perceptions may change as their TLCs develop is new. I view other scholars' descriptions of characteristics as static endpoints. It is possible that after subsequent years of investigation at this research site the development of these conceptualizations will be more in line with scholars' advanced descriptions. Or, they may not. In this study, the emerging/novice viewpoints leaves

room for TLCs to play community. Does the space for teachers to play community lead to the emerging/novice conceptualization or is it the other way around? Scholars studying TLCs should pay close attention to the level of TLC they are studying and how participants' view TLC characteristics. How do other educators operating in novice/intermediate TLCs conceptualize TLC characteristics? Do those conceptualizations include precursor conditions that leave space for growth? For example, do novice/intermediate TLCs conceptualize trusting relationships in a manner consistent with the tenets of deprivatized practice described in the literature (e.g., Kruse et al. (1995). Similarly, do educators operating in advanced TLCs conceptualize TLC characteristics with less room for participants to operate under the "illusion of consensus"? A wide realm of possibilities exists for scholars to investigate the dynamic views of TLC characteristics.

Time was the most reported obstacle for TLCs in this study. While school leaders manipulated the next master schedule to include additional common planning periods for teachers within two disciplinary TLCs, trying to incorporate common planning periods for each of the 15 TLCs is impossible. Because of contextual restrictions, Carter's Run school leaders could not provide Watts and Castle's (1993) restructured or rescheduled time strategy. Without regularly scheduled late starts or more frequent professional days, school leaders do not know whether the other time delivery strategies are powerful enough to develop advanced professional community levels. An appropriate question for the continuation of this study into the second year is: how do we explore teachers' and school leaders' perceptions of the adequacy of time without restructured or rescheduled time? Another question for future research at this site is: how do we explore the

difference in teachers' and school leaders' perceptions of the adequacy of time for TLC

activity between a TLC with common planning time and one without?

Next, how likely are other school leaders conducting practitioner research on the

development of TLCs to serve as power/resource brokers for TLCs? If non-school leader

facilitators serve in the role of power/resource broker, does the presence or absence of

practitioner inquiry facilitate or hinder the development of those TLCs? How do other

brokers navigate the complex power relationships between school leaders, teacher

leaders, and teachers? Is there a difference between a power/resource broker who

operates as a school leader, non-school leader internal facilitator, or external facilitator?

Although I anticipated the influence of my practitioner research on my practice, I did not

foresee myself in the role of power/resource broker when the study began. Documented

instances of assistant principals facilitating TLCs in this manner are rare. Investigating

these and other questions may strengthen the case for school leaders to engage in

practitioner research while fostering the development of TLCs.

Repeating this same study during subsequent years at the same site should provide

descriptive answers to the original research questions in addition to other more specific

research questions. Additional research questions for the second year at this research site

could also explore the specific influence of newly identified conditions: balancing

teacher choice and the culture of expectations through negotiating consensus about

shared beliefs and common values; increasing communication with teachers about the

common purpose and expectations; increasing facilitator support structures; increasing

data-driven decision making; and increasing opportunities for reflexive dialogue. In

addition, scholars could also investigate the original research questions and the specific

influence of those newly identified conditions at other research sites.

Given that some conditions simultaneously hindered and facilitated the

development of TLCs, another line of questioning that I recommend would be to examine

how and why certain conditions had this dual effect. For example, teacher choice

facilitated some TLCs work by allowing teachers to address other competing needs (e.g.,

English TLC developing goals and action plans to address new Common Core curricula).

On the other hand, other TLCs struggled with teacher choice and wanted to school

leaders to direct them on what to do. While I suspect that the individual circumstances of

each TLC's context would influence the proper balance, what happens when school

leaders intervene when teachers make these requests? What happens when they do not

intervene? Similar questions would be appropriate for other conditions that

simultaneously hinder and facilitate TLCs' work (e.g., time and power relationships).

Continuing the study could also shed light on how the Common Core and RTTT

influence the further development of these TLCs. As district officials continue to change

curricula to match the Common Core and when the state implements RTTT standardized-

assessment, researchers may be able to determine changes in the development of these

TLCs. Will the RTTT standardized assessments influence TLCs in similar ways as

NCLB? Answers will speak to the connections discussed in scholarly literature about the

effects of national reform efforts on the development of TLCs. While my hope was to

make some of these connections in this study, the early stages of development with the

Common Core and RTTT did not influence either TLC. Continuing the study at this, or

another research site, in two years when the state implements the RTTT assessment would shed light on these proposed questions for future research.

Closing Notes

Earlier I asked whether TLCs are too complex and contextual to be a viable reform tool to positively influence teaching and learning in American schools. After all, TLCs are not abundant in American Schools. Participants in this study learned that fostering TLCs is a complex, difficult, and contextual process that requires a unique blend of resources from school leaders. Teachers and school leaders at this site believed that TLCs were worth the time and effort. Participants believed many positive results came from their efforts working together as a team, despite the additional work. Teachers requested to continue operating within TLCs again next year, although they desired to adjust some of the transdisciplinary TLCs (combining and separating some TLCs to better address goals and action plans). In their final interviews, participants made unsolicited comments about what they will do differently as they proceed with their TLC work next year. They also gave advice to other groups preparing to embark on a similar TLC initiative: be open, honest, and willing to try new things. They emphasized a willingness to admit mistakes and to remain open to failure. School leaders recognized their errors and shortfalls and planned to address them in the second cycle of their action research. School leaders remained hopeful that once TLCs matured into advanced levels, teachers would reap the benefits of reduced workloads and improved efficacy through their collaborative efforts. Similarly, they hoped that student learning would benefit from the changes in teacher thinking and teacher practice predicted by scholars.

This study offers a glimpse into how two TLCs developed from traditional communities to novice professional communities, in part because of school leaders' efforts to alter conditions for them. Are TLCs really a viable tool for school leaders to use to reform schools? The answer gleaned from this study is . . . not yet. For these TLCs, it will take more than one year to provide a more definitive answer. Neither TLC reached the advanced level where school leaders would expect to realize changes in teaching and learning. Like the participants, however, I am hopeful that continued efforts to alter conditions will foster the development of advanced TLCs capable of reforming schools in that manner.

Epilogue[30]

At the end of the 2011-12 school year, school leaders realized that TLCs and teacher facilitators needed more structure for time (e.g., action plans) and support with their leadership skills (e.g., how to run meetings and plan). Over the summer, school leaders met with each disciplinary and transdisciplinary TLC teacher facilitator. During those meetings, school leaders revisited the purpose and expectations for our TLC school improvement initiative. In particular, school leaders emphasized that teacher facilitators keep action plans manageable and anchor decisions in data. We then drafted timelines and action plans for the 2012-13 school year. A major component of the action plans involved identifying resources to accomplish TLC goals (e.g., remunerated time, substitute days, materials).

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[30] I completed a draft of this epilogue in January 2013. Thomas, Catherine, Joan, Georgia, and the SIT chairperson read and commented on the draft version of the epilogue. All readers indicated that the epilogue resonated with their understandings of the first semester of the 2012-13 school year SI TLC Initiative.

Action plans and timelines provided teacher facilitators with structure for how to use time and resources. Some TLCs seemed to have benefited from the structure and have already achieved many of their action items. For example, the Character Education TLC has already accomplished many action steps and has further revised its action plan for the spring. Some TLCs, however, have neglected their action plans and have not made as much progress. Other TLCs have been busy working on items not included in their action plans.

School leaders have found, however, that helping TLCs plan how to use time is not enough. To assure that they address their plans, school leaders need to support teacher facilitators through regular planning meetings. At the start of the school year, we set a goal to meet with each teacher facilitator to address and revise action plans before and after every TLC meeting. Although we initially met this goal, other business has increasingly interfered with the process of maintaining consistent formal meetings.   In many cases, school leaders have resorted to impromptu, informal conferences with teacher facilitators. The gradual decrease of facilitator support has affected each TLC differently.

The math teachers found that their original action plan did not meet their needs. Early in the fall, they realized that students were unprepared for the new Common Core curriculum. To address this concern, they have been working to incorporate mastery learning strategies into their instruction. To manage curricular changes, math teachers have made use of the common planning time that school leaders implemented into this year's master schedule. Two groups of math teachers have common planning during the fall semester (3 geometry teachers, 2 algebra teachers). Despite these alterations, the

Math TLC has not yet revised its action plan to reflect the new goals. In addition, they have not used their allotted resources (93 remunerated hours allotted). One explanation for these observations could be the lack of consistent facilitator support from school leaders. Another explanation for the unused remunerated hours could be that common planning time is sufficient.

The World Language TLC is one group that has stayed on track with their original action plan and has used all of their allotted resources. They have eagerly continued work with their new instructional technology. Over the summer, school leaders fulfilled the request for additional wireless slates and an upgraded student response system. The new student response system allows students to type in answers rather than just select from a multiple-choice list. They have used two substitute days this semester for professional development and work sessions on the instructional technology. Already, the World Language TLC has requested additional substitute time. In addition, two of the teacher participants have enrolled in a graduate course for instructional technology.

Compared to last year, I feel detached from TLCs and the SI process. Without the study, I do not feel as compelled to trace and document the effects of altered conditions on TLC work. As I invest more in other projects, my "pulse" for the SI initiative has dulled. It appears that participants have also noticed my shifting focus. Several members of the Math and World Language TLCs have met with me and expressed disappointment that the study has ended. Despite some significant accomplishments with instructional technology and mastery learning, participants relate a perceived lack of progress on their TLC work. Participants cite the absence of focus group interviews and my "attention" to their progress as evidence for this conclusion. At some point during the fall semester,

each of the teacher participants has requested that I continue focus group interviews. Despite their requests, I have not continued them.

Teacher participants have reported that they miss the reflective dialogue during focus group interviews. It appears that without the focus group interviews, reflective dialogue will be more difficult to sustain. The focus group meetings may have also provided some accountability for teacher facilitators to continue addressing and revising their action plan. Sustaining TLCs requires continuous attention and significant commitment from school leaders. Going forward, it is clear that school leaders have to meet frequently with teacher facilitators to revise and adjust action plans and timelines. Additionally, it is imperative that school leaders develop a vehicle for reflective dialogue for TLCs. Without adequately addressing these and other significant school conditions (e.g., support with gathering and analyzing student data, creating regular time built into the school-day), TLCs will not have a chance to positively influence teaching and learning, and, thus, achieve their optimistic premise.

Appendix A: Empirical Studies TLCs and Related Literature Table

Studies	Question(s) and Focus	Research Design	Findings
Achinstein, B. (2002)	**Question(s)** = How do teachers in community manage conflict? How do teachers suppress or embrace differences, and how that defines community borders and ultimately potential for organizational learning and change. **Focus** = Conditions influencing the development of TLCs.	**N** = 2 school-wide learning communities. **Data Sources** = interview transcripts, observations, document collection, and teacher survey. **Analysis** = coding, case vignettes, cross-case analysis, and T-tests of teacher survey data.	The author shows that when teachers engage in collaborative reform, conflict often emerges. How teachers manage conflict determines the potential for organizational learning.
Aubusson, P., Steele, F., Dinham, S., & Brady, L. (2007)	**Question(s)** = What influences enhanced and inhibited community building? In particular, what is the role of action learning with peer observation on community building? **Focus** = Conditions influencing the development of TLCs.	**N** = 50 action learning projects involving literacy, Mathematics, science and/or technology across 82 schools. **Data Sources** = teacher surveys, school reports on progress, teacher journals, and nine case studies. **Analysis** = coding.	Engaging in peer observation is an intimidating process for teachers. Schools where peer observation and/or direct sharing of classroom experience occurs, at least the antecedents of trusting a trusting, sharing learning community exist.
Ben-Peretz, M. & Schonmann, S. (1998)	**Question(s)** = How do strong learning communities develop in schools. How can school cultures be transformed into settings which value sharing and communal reflection? **Focus** = Conditions influencing the development of TLCs.	**N** = 17 schools, 19 teachers. **Data Sources** = video recordings, observations, interviews, and teacher monologues. **Analysis** = coding.	The teachers' lounge is a natural site for the transformation of schools into active learning communities. The interactions there provide opportunities for communal knowledge development and collective catharsis.
Boardman, A. & Woodruff, A. (2004)	**Question(s)** = What is the impact of a standardized testing climate on the ability of teachers to learn and effectively implement new teaching methods in their classrooms? **Focus** = Conditions influencing teachers' instructional practice.	**N** = 20 fourth- and fifth-grade teachers from 3 urban schools. **Data Sources** = observation, teacher implementation logs, interview transcripts, and field notes. **Analysis** = grounded theory	Statewide assessments had a significant impact on teachers' approaches to teaching and implementation of a new instructional practice.

Studies	Question(s) and Focus	Research Design	Findings
Bolam, R., McMahon, A., Stoll, L., Thomas, S., & Wallace, M. (2005)	**Question(s)** = How feasible and useful is the idea of a PLC? **Focus** = Evidence of changes in teacher practice and student learning from teachers' participation in a TLC.	**N** = 393 schools. **Data Sources** =survey responses, case studies (semi-structure interviews, document collection, and non-participant observation), and student outcome data. **Analysis** = descriptive statistics, factor analysis, coding.	The idea of a PLC is well worth pursuing as a means of promoting school and system-wide capacity building for sustainable improvement and pupil learning.
Burbank, M. & Kauchak, D. (2003)	**Question(s)** = How can teacher collaboration through action research teaming serve as professional development? **Focus** = Conditions influencing the development of TLCs.	**N** = 20 teachers. **Data Sources** = questionnaire, document anaylsis, interviews, and observations. **Analysis** = descriptive statistics and grounded theory.	Preservice-inservice dyads using action research to examine, analyze, and reflect upon teaching was generally accepted by both new and experience teachers as a method of professional development.
Butler, D., Lauscher, H., Jarvis-Selinger, S., & Beckingham, B. (2004)	**Question(s)** = What is the interplay between social and individual learning processes within one collaborative professional development initiative? What is the relationship between the learning achieved and shifts in teachers' practice? **Focus** = Conditions influencing the development of TLCs. Evidence of changes in teacher thinking from their participation in a TLC.	**N** = 9 teachers. **Data Sources** = interviews, observations, and document collection. **Analysis** = coding.	Teachers' conceptual knowledge can be reshaped within collaborative learning communities.
Clement, M. & Vandenberghe, R. (2000)	**Question(s)** = How do teachers' collegiality and autonomy relate to one another in primary education and how does this relation affect teachers' professional development? **Focus** = Conditions influencing professional development.	**N** = 94 teachers. **Data Sources** = interviews, document collection, observations, and written questionnaires. **Analysis** = coding.	More and more profound variants of autonomy and collegiality provide more and more fundamental professional development learning experiences.
Cohen, D. (1990)	**Question(s)** = How does one judge innovative progress and from whose perspective (the new policies or the teacher's vantage point) should changes be considered? **Focus** = Conditions influencing professional development.	**N** = 1 teacher. **Data Sources** = observation and interview. **Analysis** = narrative.	A revised Mathematics program designed to replace mechanical memorization with Mathematical understand resulting in one teacher implementing what she thought was correct. However, observation revealed that the innovations of her teaching were filtered through her traditional approach to teaching.

Studies	Question(s) and Focus	Research Design	Findings
Cosner, S. (2009)	**Question(s)** = How do principals build their capacity (organizing resources to support local reform)? **Focus** = Conditions influencing school leadership.	**N** = 11 high school principals. **Data Sources** = interviews and document collection. **Analysis** = coding.	The cultivation of trust is an essential way for high school principals to build capacity. Principals did this by increasing interaction times at meetings and new interaction forums.
Crow, G. & Pounder, D. (2000)	**Question(s)** = The purpose of this article is to use a comprehensive theoretical model of effective work groups to frame discussion and organize results. **Focus** = Conditions influencing the development of TLCs.	**N** = 4 teacher teams within a middle school. **Data Sources** = observations and interviews. **Analysis** = coding.	Teams need greater flexibility and autonomy in instructional planning time and continuous professional development in order to fully develop.
Curry, M. (2008)	**Question(s)** = How does teachers' professional inquiry communities at the high school level constitute a resource for school reform and instructional improvement? **Focus** = Conditions influencing the development of TLCs. Evidence of changes in teacher thinking from their participation in a TLC.	**N** = 6 school-based inquiry groups. **Data Sources** = observations, teacher and school leader interviews, and document collection. **Analysis** = coding and discourse analysis.	The enactment of design choices within teacher communities holds consequences for the nature and quality of teacher learning and SI.
Desimone, L., Porter, A., Birman, B., Garet, M., & Yoon, K. (2002)	**Question(s)** = To what extent are districts nation-wide engaging in effective management and implementation strategies? How do these strategies relate to the quality of professional development activities that districts provide? **Focus** = Conditions influencing professional development.	**N** = 363 district coordinators. **Data Sources** = computer-assisted telephone interviews and surveys. **Analysis** = descriptive statistics, ordinary least squares analysis.	Certain management and implementation strategies are related to the quality of professional development that districts provide teachers. Specifically, alignment with standards and assessments, district confounding, continuous efforts such as establishing indicators, teacher involvement in district-level planning predict the core and structural features of professional development activities.
Drago-Severson, E. & Pinto, C. (2006)	**Question(s)** = How do principals make use of specific human resources to minimize teacher isolation and support learning in their communities. **Focus** = Conditions influencing the development of TLCs.	**N** = 25 school leaders. **Data Sources** = interviews and documents. **Analysis** = coding.	School leaders desiring to incorporate new human resource strategies to reduce isolation must consider their mission, their teachers' needs, and how various implementations and initiatives that support teacher learning may play out in their communities.

Studies	Question(s) and Focus	Research Design	Findings
Drennon, C. (2002)	**Question(s)** = What are the challenges that facilitators encounter in the struggle for democracy while negotiating the possibilities of learning communities. **Focus** = Conditions influencing the development of TLCs.	**N** = Unreported. **Data Sources** = interviews. **Analysis** = coding.	Democratic leadership is packed with inherent tensions and outright contradictions. Negotiating these tensions is a significant task for practitioners studying inquiry communities.
Eisenman, L., Hill, D., Bailey, R., Dickison, C. (2003)	**Question(s)** = How would participation in an Institute affect teachers' understanding of integrating academic and occupational learning? What roles would the collaborative aspects of the Institute and different school contexts play in changing teachers' practice? How would teachers understandings of integrated learning relate to the types of projects created, implementation issues, and student learning? **Focus** = Conditions influencing the development of TLCs.	**N** = 4 teacher teams. **Data Sources** = document collection, teacher interviews, and student interviews. **Analysis** = coding.	Creation of school teams, summer work, and availability of technical support were insufficient to overcome school-related constraints. More time should be given to structural supports and to examine curricular concepts in teachers' academic and technical disciplines.
Ermeling, B. (2010)	**Question(s)** = Is there evidence that teachers' participation in collaborative inquiry groups has a specific effect on classroom practice? **Focus** = Evidence of changes in teacher practice from their participation in a TLC.	**N** = 4 teachers. **Data Sources** = document collection, interviews, videotaped lessons, and observations. **Analysis** = video case study reports and coding.	Collaborative teacher inquiry systematically investigating shared problems to discover cause-effect connections between instructional plans and student outcomes can lead to detectable changes in teachers' practice.
Firestone, W., Mangin, M., Martinez, C.,& Polovsky, T. (2005)	**Question(s)** = How can districts officers influence teaching through professional development? **Focus** = Conditions influencing professional development.	**N** = 12 schools in three school districts. **Data Sources** = interviews and document collection. **Analysis** = coding.	Coherence of professional development influenced teacher practice. District leadership teams that aggressively implement coherent, content-focused professional development take political conflict.
Firestone, W. & Martinez, M. (2007)	**Question(s)** = How do districts influence teacher practice? How do teacher leaders influence teaching practice? What is the relationship between teacher leaders and districts in educational change efforts? **Focus** = Conditions influencing school leadership.	**N** = 4 schools. **Data Sources** = teacher and principal interviews, observations, document collection. **Analysis** = coding.	Teacher leaders can play a complementary role to district leadership. Districts may be able to have more influence over teaching than thought in the past.

Studies	Question(s) and Focus	Research Design	Findings
Gigante, N. & Firestone, W. (2007)	**Question(s)** = How do teacher leaders help improve Mathematics and science teaching? **Focus** = Conditions influencing school leadership.	**N** = 7 teacher leaders. **Data Sources** = interviews. **Analysis** = coding and cross case analysis.	Teacher leaders conduct two sets of leadership tasks. Support tasks help teachers do their work, but do not contribute to teacher learning. Developmental tasks do facilitate learning.
Giles, C. & Hargreaves, A. (2006)	**Question(s)** = Can innovative schools maintain their innovative focus in the face of three common forces behind their eventual decline or demise: the evolutionary process of aging, envy and anxiety among competing institutions, and the regressive effects of large-scale, standardized reform strategies? **Focus** = Conditions influencing the development of TLCs.	**N** = 3 schools. **Data Sources** = interviews, ethnographic observations, and document collection. **Analysis** = coding.	Schools as learning organizations and professional learning communities have the capacity to offset two of the three change forces that threaten the sustainability of innovated efforts: halting the evolutionary attrition and managing envy and anxiety among competing institutions. Standardized reform strategies, however, actively undermine the efforts and successes of even the most developed schools.
Gitlin, A. (1999)	**Question(s)** = The author attempts to determine if, and in what ways, collaboration represents an educational "good." **Focus** = Conditions influencing the development of TLCs. Evidence of changes in teacher thinking from their participation in TLCs.	**N** = 14 teachers in 2 schools. **Data Sources** = observations and document collection. **Analysis** = coding.	If commonplace structures that reflect hierarchical power relationships such as administrative forms of teacher evaluation and district controlled professional development are left in place, they may conflict with and bound the learning processes resulting from collaborative relationships. The cultural differences of teachers and the role of the external change agent influence the amount of teacher learning from collaborative relationships.
Grodsky, E. & Gamoran, A. (2003)	**Question(s)** = How and to what extent does professional development affect the professional communities experience by teachers within schools? **Focus** = Evidence of changes in teacher practice and student learning from teachers' participation in a TLC.	**N** = 50,923 teachers and 10,831 schools in the 1993-1994 Schools and Staffing Survey. **Data Sources** = survey. **Analysis** = hierarchical linear models.	Most (81%) of the variance in professional community is within rather than between schools. School-based professional development can help create or maintain professional community.
Grossman, P., Wineburg, S., & Woolworth, S. (2001)	**Question(s)** = How do teachers negotiate the tension between professional development geared to learning new pedagogical practices and those devoted to deepening teachers' subject matter knowledge in their disciplines? **Focus** = Conditions influencing the development of TLCs.	**N** = 24 teachers. **Data Sources** = interviews, document collection, and observations. **Analysis** = coding.	Any attempt to foster professional community must attend to both professional development for teachers' pedagogical practices and subject matter knowledge. The pursuit of community requires the maintenance of diverse perspectives that threaten the pursuit of community itself.

Studies	Question(s) and Focus	Research Design	Findings
Hecht, J. & Roberts, N. (1996)	**Question(s)** = Can teachers effectively integrate technology and team teaching? What are the impediments? What are the benefits? **Focus** = Evidence of changes in teacher practice and student learning from teachers' participation in a TLC.	**N** = 363 students. **Data Sources** = student academic records, document collection, observations, and teacher interviews. **Analysis** = ANOVA.	Student in treatment groups with team teaching outperformed in almost all quarterly course grades and overall GPAs. Students in treatment groups with technology and team-teaching did not show statistically significant differences to the team teaching group.
Hindin, A., Morocco, C., Mott, E., & Aguilar, C. (2007)	**Question(s)** = What is the relationship between teachers' collaborative learning experiences and their classroom practices? **Focus** = Evidence of changes in teacher practice from their participation in a TLC.	**N** = 3 teachers. **Data Sources** = document collection, observation, and interviews. **Analysis** = coding.	Teachers gained new ideas about teaching literature and writing within their collaborative learning experience and applied this knowledge to their classroom practice. They brought these experiences back to other teachers in their collaborative learning groups.
Hollins, E., McIntyre, L., DeBose, C., Hollins, K., & Towner, A. (2004)	**Question(s)** = Can teachers' involvement in a self-sustaining learning community enable them to foster high academic achievement in literacy for African American students in grades K through 4? **Focus** = Evidence of changes in teacher practice and student learning from teachers' participation in a TLC.	**N** = 12 teachers. **Data Sources** = interviews, observations, field notes, and student achievement data. **Analysis** = coding, descriptive statistics.	Conversations among teachers at the study-group meetings changed to be more positive about children, to make linkages between themselves and students' culture, and to show enthusiasm for sharing their own strategies including instruction. Teachers' participation may have contributed to teachers' ability to improve student achievement.
Huffman, J., Hipp, K., Pankake, A., & Moller, G. (2001)	**Question(s)** = How do professional learning communities emerge and develop? **Focus** = Conditions influencing the development of TLCs.	**N** = 20 principals and 20 teachers. **Data Sources** = phone interviews. **Analysis** = coding.	Three resources distinguished schools at a high level of readiness for becoming professional learning communities from those with a low level of readiness: proactive principal and teacher leadership, purposeful decision making, and job-embedded professional development.
Hulpia, H., Devos, G., & VanKeer, H. (2009)	**Question(s)** = What is the relation between teachers' perceptions of leadership characteristics and the organizational commitment of teachers. What is the relation between demographical and school structure variables and the organizational commitment of teachers? **Focus** = Conditions influencing the development of TLCs. Evidence of changes in teacher thinking from their participation in TLCs.	**N** = 1,522 teachers. **Data Sources** = questionnaire. **Analysis** = multilevel models.	Teachers' perceptions concerning the cooperation of the leadership team and the maximum amount of support were the most important predictors for teachers' organizational commitment. Teachers' participation in decision making increased their commitment to the organization.

Studies	Question(s) and Focus	Research Design	Findings
Kain, D. (1996)	**Question(s)** = How do teachers build collaborative relations and norms through an investigation of a teacher team working to establish commonality in grading. **Focus** = Conditions influencing the development of TLCs. Evidence of changes in teacher thinking from their participation in TLCs.	**N** = 2 teacher teams. **Data Sources** = participant observation, interviews, and document collection. **Analysis** = coding.	Articulating a purpose, inducting new members, and keeping track of goals are crucial activities for the success of a teacher team. Regardless of the messiness of this team's haphazard development of a grading policy, the authors suggest that this team still reached some of the potential for collaborative teams. Through this process, team members opened their practice to scrutiny and allowed the possibility of growth.
Lee, V. & Smith, J. (1996)	**Question(s)** = Do teachers attribute the responsibility for student success or failure lies mostly within the students or themselves? Do organizational features of teachers' work lives influence their students' learning? Are high levels of responsibility for student learning associated with learning that is equitably distributed according to students' social background? **Focus** = Evidence of student learning from teachers' participation in a TLC.	**N** = 22,000 students in 1,000 middle schools from the National Educational Longitudinal Study of 1988. **Data Sources** = questionnaires and student achievement scores **Analysis** = descriptive analyses and multivariate analyses.	In schools with high levels of collective responsibility, where attitudes are consistent among the faculty, students learn more in all subjects. Schools with high levels of cooperative and supportive activity among staff are places where students learn more in some subject areas. Teacher control over work life dimensions evidenced no direct effects on student learning.
Leithwood, K., Steinbach, R., & Ryan, S. (1997)	**Question(s)** = How do teacher teams learn in the context of secondary schools? **Focus** = Conditions influencing the development of TLCs. Evidence of changes in teacher thinking from their participation in TLCs.	**N** = 6 teams in 5 schools. **Data Sources** = focus group interviews and questionnaires. **Analysis** = coding and descriptive statistics.	Several school conditions (e.g., a clear, compelling shared purpose, high morale, adequate time) influenced internal team learning. In addition, the context (out-of-school, in-school, and school leadership), team leadership, and stimulus for learning influenced team learning.
Levine, T. & Marcus, A. (2010)	**Question(s)** = What kinds of teacher collaboration are most likely to improve what teachers learn during their time in school? **Focus** = Evidence of changes in teacher practice from their participation in a TLC.	**N** = 1 teacher team with 7 teachers. **Data Sources** = observations of collaborative meetings, observations of instruction, and interviews. **Analysis** = coding.	The structure and focus of a collaborative activity can influence how often and how concretely teachers discuss their teaching with colleagues, which aspects of schooling collaboration will address, and what opportunities for teacher learning are afforded and constrained.

Studies	Question(s) and Focus	Research Design	Findings
Lieberman, J. (2009)	**Question(s)** = Can lesson study facilitate changing the norms of individualism, conservatism, and presentism typically found in American schools by providing a structure for developing teacher learning communities. **Focus** = Conditions influencing the development of TLCs. Evidence of changes in teacher thinking from their participation in a TLC.	**N** = 1 teacher team with 7 teachers. **Data Sources** = observations, video analysis, teacher interviews, and document collection. **Analysis** = coding.	When teachers interact with one another about teaching, they develop and re-develop their skills, knowledge, beliefs, and philosophies of teaching and learning that directly influence how they teach.
Little, J. (2002)	**Question(s)** = How do professional communities supply intellectual, social, and material resources for teacher learning and innovations in practice. **Focus** = Conditions influencing the development of TLCs. Evidence of changes in teacher thinking from their participation in a TLC.	**N** = 2 schools. **Data Sources** = observation, interviews, document collection, and video-analysis. **Analysis** = discourse analysis.	Learning teacher learning from professional communities in the context of ongoing daily work is difficult because of several reasons; the ambiguity of events in the world, the ambiguity of the nature and meaning of practice possible within professional communities, the difficulty of locating learning in practice, and the difficulty of interpreting context in practice.
Little, J. (2003)	**Question(s)** = What is afforded by accounts of classroom events, circumstances, relations, possibilities, and dilemmas that teachers put forward in work that transpires largely outside the classroom as a part of naturally occurring workplace interaction. **Focus** = Conditions influencing the development of TLCs. Evidence of changes in teacher thinking from their participation in a TLC.	**N** = 4 teacher groups in 2 schools. **Data Sources** = observation, interviews, document collection, and video-analysis. **Analysis** = coding.	TLCs reserve time to identify and examine problems of practice; they elaborate on those problems in ways that open up new considerations and possibilities; they readily disclose their uncertainties and dilemmas and invite comment and advice from others; and artifacts of classroom practice are made accessible.
Louis, K. & Kruse, S. (1998)	**Question(s)** = Can two "typical" schools become a learning organizations? **Focus** = Conditions influencing the development of TLCs.	**N** = 2 schools. **Data Sources** = interviews and observations. **Analysis** = coding.	Both schools were able to become learning organizations by exhibiting organizational shared memory, creating knowledge individually and within groups, and systematically distributing information and interpretations.

Studies	Question(s) and Focus	Research Design	Findings
Louis, M. & Marks, H. (1998)	**Question(s)** = To what extent does professional community influence the social and technical organization of the classroom? What is the relative effect of school professional community and classroom social and technical organization on school achievement? **Focus** = Evidence of changes in teacher practice and student learning from teachers' participation in a TLC.	**N** = 910 teachers from 24 schools from the School Restructuring Study of the Center on Organization and Restructuring of Schools data set. **Data Sources** = questionnaires, student achievement data, interviews, and observations of classroom instruction. **Analysis** = coding, one-way ANOVA, and three levels of hierarchical linear modeling.	In schools with professional communities, students achieved at high levels. Elementary schools were less organizationally complex than middle and high schools, and their teaching staffs reported greater respect from the community, more participation in decision making, and more openness to innovation than their peers at other grade levels.
Louis, K., Marks, H., & Kruse, S. (1996)	**Question(s)** = What school characteristics support the development of professional community within schools? What are the consequences of professional community for the responsibility teachers take for student learning? **Focus** = Conditions influencing the development of TLCs.	**N** = 910 teachers from 24 schools from the School Restructuring Study of the Center on Organization and Restructuring of Schools data set. **Data Sources** = questionnaires, interviews, and observations of classroom instruction. **Analysis** = coding, descriptive analysis, and three levels of hierarchical linear modeling.	School-wide professional community is an observable phenomenon in some schools, although it is heavily context dependent. Many of the factors that support professional community can be altered by policy and administrative practice including structural conditions, human resources, school culture, time for collaborative planning, and shared decision-making.
Marks, H. & Louis, K. (1999)	**Question(s)** = How does teacher empowerment and the capacity for organizational learning intersect in schools? **Focus** = Conditions influencing the development of TLCs.	**N** = 910 teachers from 24 schools from the School Restructuring Study of the Center on Organization and Restructuring of Schools data set. **Data Sources** = questionnaires, interviews, observations of governance and professional meetings, and document collection. **Analysis** = coding, one-way ANOVA, and three levels of hierarchical linear modeling	There is a strong and consistent relationship between organizational learning and teacher empowerment. The relationship is particularly strong in the domains of teacher work life and student school experience.

Studies	Question(s) and Focus	Research Design	Findings
McGuinness, R. (2009).	**Question(s)** = How embedded and shared is the vision and the ethos of the school? What is the nature of leadership in the school? How do organizational learning, teaming, and innovation work within the school? **Focus** = Conditions influencing the development of TLCs.	**N** = 1 school. **Data Sources** = telephone interviews. **Analysis** = coding.	This school featured a strong sense of shared vision, highly supportive leadership, and deep levels of trust.
McLaughlin, M. & Talbert, J. (2006)	**Question(s)** = How can teachers work together in learning communities to improve practice and increase student learning? **Focus** = Evidence of changes in teacher practice and student learning from teachers' participation in a TLC.	**N** = 9 schools (Bay Area School Reform Collaborative). **Data Sources** = student achievement data and surveys. **Analysis** = coding.	Learning communities are an indispensable but generally ignored way to influence teacher practice and student learning.
Meister, D. & Nolan, J. (2001)	**Question(s)** = What did teachers experience during a shift from subject-centered to interdisciplinary curriculum? How did the teachers understand these experiences? How did the interaction with each other as a team contribute to this understanding? **Focus** = Conditions influencing the development of TLCs.	**N** = 1 school. **Data Sources** = participant observation, interviews, informal conversation, and document collection. **Analysis** = coding.	These teachers did not have the understanding or skill to deliberate and formulate an interdisciplinary curriculum, they did not share the school leader's vision and understanding of this innovation, and they did not successfully navigate the tension their two loyalties: subject area and team.
Melville, W. & Yaxley, B. (2009)	**Question(s)** = How do teachers in one school utilize the contextual opportunities afforded by changing conceptualizations of professional learning within a school science department? **Focus** = Conditions influencing the development of TLCs.	**N** = 1 science department. **Data Sources** = audiotaped meetings and document collection. **Analysis** = narrative analysis.	The school's change to the professional development policy did not influence the work of teachers. Teachers were willing to look beyond their own department for expertise in their professional learning. The conceptual shift between professional development and professional learning is not one that can be imposed by school leaders. Teachers are in the position to shape their own professional learning.

Studies	Question(s) and Focus	Research Design	Findings
Miller R. & Rowan, B. (2006)	**Question(s)** = What are the effects of organic management on student achievement growth in reading and Mathematics at the elementary and secondary levels of schooling? In which schools will the effects of organic management be highest? In which subject will the results of student achievement be greater? **Focus** = Evidence of student learning from teachers' participation in a TLC.	**N** = Two large data sets, NELS:88 and Prospects: The Congressionally-Mandated Study of Educational Opportunity. **Data Sources** = student achievement scores in reading and Mathematics and teacher questionnaires. **Analysis** = t tests, three-level hierarchical linear modeling.	Organic forms of management are not especially powerful determinants of student achievement in elementary or secondary schools. There is no evidence that the effects of organic management have a greater effect at a particular grade level or subject.
Murphy, J., Smylie, M., Mayrowetz, D., & Louis, K. (2009)	**Question(s)** = What is the role of formal administrative leadership in the ways distributed leadership takes root and flourishes, or fails to do so, in schools. **Focus** = Conditions influencing school leadership.	**N** = 1 middle school. **Data Sources** = interview and document-based data. **Analysis** = coding.	Shared leadership is the final element in the re-culturing agenda to ensure the spread of leadership across faculties. At this middle school, there is strong participatory management, the work around shared leadership is informal, and distributed leadership is successful.
Nelson, T. (2009)	**Question(s)** = What makes a PLC approach to professional development valuable to teachers? Does working in a PLC influence their beliefs about teaching, learners, learning, or their content areas? **Focus** = Conditions influencing the development of TLCs. Evidence of changes in teacher thinking from their participation in a TLC.	**N** = 9 PLCs. **Data Sources** = audio and video recordings, observations, and interviews. **Analysis** = coding and dialogic inquiry.	The development of an inquiry stance transformed teachers' beliefs about learners, learning, and instructional activities.
Nelson, T. & Slavit, D. (2007)	**Question(s)** = How do PLCs serve as a resource for teacher growth and improvement of practice to facilitate student learning? **Focus** = Conditions influencing the development of TLCs. Evidence of changes in teacher thinking from their participation in a TLC.	**N** = 5 PLCs. **Data Sources** = audio and video recordings, document collection, observations, focus group interviews, informal interviews/conversations. **Analysis** = coding, cross case analysis, and dialogic inquiry.	Facilitator support in helping teachers develop ownership in the PLC process and the inquiry cycle. Imposing an inquiry cycle onto a nine-month school year may not be realistic and meet teachers' needs.

Studies	Question(s) and Focus	Research Design	Findings
Newmann, F., King, B., & Youngs, P. (2000)	**Question(s)** = What are the factors that help to explain why professional development in some schools addressed multiple aspects of capacity more than others? **Focus** = Conditions influencing the development of TLCs.	**N** = 9 schools. **Data Sources** = interviews, classroom observations, professional development activity observations, and document collection. **Analysis** = case reports and cross case analysis.	Professional development should address five aspects of school capacity: teachers' knowledge, skills, and dispositions; professional community; program coherence; technical resources; and principal leadership.
Pang, M. (2006)	**Question(s)** = How does teachers' participation in a collaborative learning study influence their professional learning? **Focus** = Evidence of changes in teacher practice from their participation in a TLC.	**N** = 10 teachers. **Data Sources** = videotaped lessons, student interviews, and teacher interviews. **Analysis** = coding.	Teachers demonstrated a more complex way of experiencing the teaching of economics after participating in learning study. Seven teachers were classified as having moderate changes in their ways of experiencing economics teaching.
Plauborg, H. (2009)	**Question(s)** = Did participation in action learning processes contribute to teachers' professional learning and changes in classroom teaching practices? **Focus** = Evidence of changes in teacher practice from their participation in a TLC.	**N** = 7 teachers. **Data Sources** = interviews and observations of teacher teams. **Analysis** = coding.	When teachers are given the opportunity to observe one another's practice and when they get the chance to discuss, evaluate, and reflect upon teaching with colleagues, action learning comprises a useful method for teacher learning within teams.
Rinke, C. & Valli, L. (2010)	**Question(s)** = How is school-based professional development delivered within a high-stakes accountability context? **Focus** = Conditions influencing professional development.	**N** = 3 schools. **Data Sources** = interviews, observations, and document collection. **Analysis** = coding.	Teacher learning experiences from professional development are shaped by contextual factors such as school leadership, culture, and resources.
Scribner, J. (1999)	**Question(s)** = What motivates teachers to seek professional development? What are the ways teachers experience their own professional development? How does teacher work context influence professional development? **Focus** = Conditions influencing professional development.	**N** = 45 teachers and 7 school leaders. **Data Sources** = interviews, observations, and document collection. **Analysis** = coding.	Teachers in this study were motivated to learn by four intrinsic and two extrinsic factors. Intrinsic factors include content knowledge needs, pedagogical skill deficits, challenges to classroom management, and gaps in student-centered knowledge. Extrinsic factors include remuneration and licensure requirements. School-level leadership, district factors, and district professional development priorities influenced teachers work contexts.

Studies	Question(s) and Focus	Research Design	Findings
Scribner, J., Cockrell, K., Cockrell, D., & Valentine, J. (1999)	**Question(s)** = How does this SI process foster the development of professional communities? What organizational factors support and/or impede the development of professional communities? **Focus** = Conditions influencing the development of TLCs.	**N** = 35 school principals, teacher leaders, and teachers. **Data Sources** = interviews, observations, document collection. **Analysis** = coding.	Organizational learning can occur at any point along the continuum of professional community to bureaucratic operation styles within a school. The SI process provides an organizational architecture that supports the premise of professional community and organizational learning.
Scribner, J., Hager, D., & Warne, T. (2002)	**Question(s)** = How do teachers and principals perceive both teachers and learners? How do these perceptions influence the micropolitics of teacher-principal and teacher-teacher relationships surrounding teacher learning? What are the implications of these micropolitical relationships for principals in fostering strong professional communities? **Focus** = Conditions influencing the development of TLCs.	**N** = 2 schools. **Data Sources** = interviews, observations of classrooms, and observations of teacher team meetings. **Analysis** = coding.	Teachers and principals viewed teachers simultaneously as both autonomous and collaborative learners. Teachers should maintain both "I-ness" (professional autonomy) and "we-ness" (shared identity) when coming together to work in professional communities. The degree of autonomy provided by principals affects the strength of professional communities.
Scribner, J., Sawyer, R., Watson, S., & Myers, V. (2007)	**Question(s)** = What factors contribute to or interfere with team decision making? What discursive patters are associated with leadership within teacher work teams? What organizational conditions foster or impeded leadership within teacher work teams? **Focus** = Conditions influencing the development of TLCs.	**N** = 2 teacher teams. **Data Sources** = videotape and audiotape analysis **Analysis** = coding and discourse analysis.	Teams are more successful when members share clearly defined purposes, have the capacity to take action, and engage in active discourse.
Skerrett, A. (2010)	**Question(s)** = What constraints do departments encounter when they transform themselves from communities of practice into learning communities? **Focus** = Conditions influencing the development of TLCs.	**N** = 1 teacher team. **Data Sources** = interviews and document collection. **Analysis** = coding.	Standardized tools constrain some teachers' work within their learning communities. Time and space are necessary for teachers to learn within their learning communities.
Spillane, J. (2002)	**Question(s)** = How do district officials describe their beliefs about teacher change and learning? **Focus** = Conditions influencing professional development.	**N** = 9 districts and 165 participants. **Data Sources** = interviews, document collection, teacher questionnaires (TIMSS), and observation. **Analysis** = coding.	The behaviorist perspective dominated the situated and cognitive learning theory perspectives among district officials. The prominence of the behaviorist perspective is cause for concern when it comes to classroom implementation of the fundamental changes caused by state and national standards movements.

Studies	Question(s) and Focus	Research Design	Findings
Stoll, L. & Temperley, J. (2009)	**Question(s)** = What might help promote the creativity needed for schools to be successful and students to achieve? **Focus** = Conditions influencing school leadership.	**N** = 274 school leaders. **Data Sources** = interviews, surveys, journaling, and project tasks. **Analysis** = coding.	School leaders often find themselves caught between their own internal belief for what should change and external pressures. Building a school-wide professional learning community, a precondition for creative leadership, may be difficult in a secondary school.
Supovitz, J. (2002)	**Question(s)** = Did teaming influence the culture within which teams operate? Did teaming change teachers' instructional practices? Did teaming improve student learning as measured by standardized test performance? **Focus** = Evidence of changes in teacher practice and student learning from teachers' participation in a TLC.	**N** = 79 schools (approximately 3,000 teachers and school leaders). **Data Sources** = surveys, interviews, observations, document collection, and student test data. **Analysis** = factor analysis and hierarchical linear modeling.	The team-based schooling initiative had no clear effects on the culture of schools including no sign of change for both the individual and group instructional practices. While the structures existed for teams, the focus of the majority of groups was not instructional in nature. Teams which had an instructional focus showed evidence of higher student achievement on student tests.
Talbert, J. & McLaughlin, M. (1994)	**Question(s)** = To what extent do particular local contexts of the school system – sector, district, school, and subject area departments- matter for teacher professionalism? To what extent does teacher professionalism appear to be socially negotiated or constructed within school communities? **Focus** = Conditions influencing the development of TLCs.	**N** = 16 schools. **Data Sources** = surveys and interviews. **Analysis** = descriptive statistics and regression analysis.	Teacher professionalism depends on the extent and character of local teacher community. Teachers who participate in strong professional communities within their subject area departments or other arrangements have higher levels of professionalism.
Thompson, S., Gregg, L., & Niska, J. (2004)	**Question(s)** = What does professional learning community look like in a middle school? What kind of principal creates professional learning community in his school? What are the beliefs and dispositions of such a leader? Do teachers perceive their school to be a professional learning community? Is there a relationship between professional learning communities, leadership, and student learning? **Focus** = Conditions influencing the development of TLCs.	**N** = 6 schools. **Data Sources** = principal interviews, teacher focus group interviews, questionnaires. **Analysis** = descriptive statistics, factor analysis, and coding.	The middle school principals and teachers generally regarded their schools as professional learning communities and cited the following characteristics as support: systems thinking, personal mastery, mental models, shared vision, team learning, data-driven decision making, strong relationships, and risk-taking behavior.

Studies	Question(s) and Focus	Research Design	Findings
Timperley, H. (2005)	**Question(s)** = How might examination of student achievement information serve to improve instruction? **Focus** = Conditions influencing the development of TLCs. Evidence of changes in teacher practice from teachers' participation in a TLC.	**N** = 5 TLC members. **Data Sources** = observations and interviews. **Analysis** = coding.	Promoting professional learning that influences student achievement presents challenges for school leaders and may be unrealistic. School leaders should support distributed instructional leadership by distributing skills of instructional learning.
Visscher, A. & Witziers, B. (2004)	**Question(s)** = To what degree do departments operate like professional communities. What is the relationship between department functioning and student achievement levels? **Focus** = Evidence of changes in teacher practice and student learning from teachers' participation in a TLC.	**N** = 175 teachers in 39 Mathematics departments. **Data Sources** = questionnaires and student test scores. **Analysis** = descriptive statistics and multilevel analysis.	Mathematic departments show signs of professional community through deprivatized practice, shared values, and formal agreements. Mathematic departments operate more as mechanical units aimed at increasing efficiency rather than professional communities aimed and developing teachers and improving education. In most cases, there are not strong correlations between teachers' joint work in Mathematics departments and student achievement.
Wells, C. & Feun, L. (2008)	**Question(s)** = What is being learned about the early days of transition to a PLC? What are the changes that occur over the course of three years as faculties work together to function as PLCs? **Focus** = Conditions influencing the development of TLCs.	**N** = 1 school. **Data Sources** = surveys and interviews. **Analysis** = descriptive statistics.	Schools developing professional learning communities find faculty resistance in the areas of establishing a purpose, collaborating, maintaining a result driven focus, implementing action plans, and sharing practices. Resources such as administrative support, time and trust are essential to establishing professional learning communities.
Wolf, S., Borko, H., Elliott, R., & McIver, M. (2000)	**Question(s)** = What are the effects of recent Kentucky assessment reform on school structures, professional relationships, classroom practices, and teachers' and students' understandings of assessment? What factors explain the patterns of success within an across exemplary sites? **Focus** = Conditions influencing the development of TLCs.	**N** = 4 schools. **Data Sources** = observations, interviews, and document collection. **Analysis** = coding.	Schools that had success with meeting the challenge of the Kentucky assessment reform had critical commonalities: regard for history and heritage, efficacy of cooperative leadership, careful reflection on the reform, and dedication to students.

Appendix B: Focus Group Interview Protocols (TLC Members)

1. Describe the recent work within your Disciplinary SIT Committee.
2. Briefly describe your team's SIT goals and action plan.

   > Have there been any recent changes to your SIT goals and action plan? Explain.

3. What is your assessment of your team's progress toward these goals? Explain.
4. To be successful in achieving goals like these, what are some characteristics that you would expect a team such as yours to have?

   a. Describe the presence of these characteristics in your team.

   b. Have there been any changes in the presence or depth of these characteristics in your team? Explain.

5. Has there been a resource or condition that has facilitated or hindered the work within this team?

   > Follow-up: Describe how this resource/condition has influenced the work of this team. Could there be another explanation?

   > Follow-up: Has this resource/condition or its influence on the work of this team changed over time? Explain.

6. Recently, school leadership has attempted to change [insert description of the resource/condition here]. Has this resource or condition facilitated or hindered the work of this team?

   > Follow-up: Describe how this resource/condition has influenced the work of this team. Could there be another explanation?

Appendix C: Individual Follow-Up: Classroom Observation (TLC Members)

1. Describe the classroom lesson that I observed. What was your objective for the lesson?
2. Were any aspects of your lesson influenced by the work within your Disciplinary SIT Committees? Explain.
3. If some part of this lesson was influenced by the work within your team, has there been a resource or condition that has facilitated or hindered that work? Explain.

    Follow-up: Describe how this resource/condition has influenced the work of this team. Could there be another explanation?

    Follow-up: Has that resource/condition influenced any aspect of the lesson I observed today? Could there be another explanation? Explain.

    Follow-up: If so, how does that play out for your work within team?

4. Recently, school leadership has attempted to change [insert description of the resource/condition here]. Has this resource or condition facilitated or hindered the work of this team?

    Follow-up: Describe how this resource/condition has influenced the work of this team. Could there be another explanation?

    Follow-up: Has that resource/condition influence any aspect of the lesson I observed today? Why or why not? Could there be another explanation?

    Follow-up: If so, how does that play out for your work within the team?

Appendix D: Individual Follow-Up: TLC Meeting Observation (TLC Members)

1. Briefly describe your team's SIT goals and action plan.
   a. Have there been any recent changes to your SIT goals and action plan? Explain
2. What is your assessment of your team's progress toward these goals? Explain.
3. Describe the Disciplinary SIT Committee meeting that I observed. What was the purpose of the meeting? What activities occurred during the meeting?
4. During the meeting I observed that [insert observation here]. Would you explain how you perceived that [event/discourse/action]?
5. During the meeting, were there any resources or conditions that has facilitated or hindered the work within this team? Could there be another explanation?
   Follow-up: Has this resource/condition or its influence on the work of this team changed over time? Explain.
6. Recently, school leadership has attempted to change [insert description of the resource/condition here]. Did this resource or condition facilitated or hindered the work of this team during the meeting that I observed? Could there be another explanation?

Appendix E: Initial Individual Interview (School Leaders)

1. Describe your role in at Carter's Run High School.

2. What do you think are the most important aspects of your job?

3. How do you define school leadership? What is your role as a school leader in the development of teacher learning communities?

4. How would you define teacher learning communities? Are teacher learning communities presently operating within this school? If so, how do you know?

5. Do you see any benefits of developing teacher learning communities? If so, describe.

6. Have you ever served on a school-based leadership team that attempted to develop teacher learning communities? If so, describe the experience.

    Follow-up: During your involvement with that teacher learning community, did you learn anything about school leadership? If so, what did you learn?

7. When you were a teacher, did you ever participate in a teacher learning community? If so, describe the experience.

    Follow-up: During your involvement in that teacher learning community, did anything change in your professional beliefs and/or practice? If so, describe that change.

8. Which school conditions do you think have to be in place to foster teacher learning community?

9. How would you describe the nature of these school conditions here at Carter's Run High School?

10. Can these conditions be created or modified? What is your role in creating and modifying these school conditions?

    Follow-up: If you assign some responsibility to teachers, how do you agree on which school conditions to improve and how to do so?

11. What is your plan to develop teacher learning communities here at Carter's Run High School?

Follow-up: How will you address conflicting interests resulting from this plan?

12. How will you evaluate whether changing these school conditions influences the development of teacher learning communities?

Appendix F: Continuing Individual Interview (School Leaders)[31]

1. Describe your recent work with Disciplinary and Transdisciplinary SIT Committees.

2. Briefly describe your teams' SIT goals and action plans.

    a. Have there been any recent changes to your teams' SIT goals and action plan? Explain.

3. What is your assessment of each team's progress toward these goals? Explain.

4. To be successful in achieving goals like these, what are some characteristics that you would expect these teams to have?

    a. What is your assessment of these conditions in each team?

    b. Have there been any changes in the presence or depth of these conditions in any of your teams? Explain.

5. Have you attempted to modify or create resources or conditions for any of these teams? Explain.

    Follow-up: If so, how this resource/condition has influenced the work of the team. Explain. Could there be another explanation?

    Follow-up: Has this resource/condition or its influence on the work of this team changed over time? Explain. Could there be another explanation?

    Follow-up: Did you consider modifying or creating other resources? Why did you choose this resource? Explain.

6. Has our school leadership team attempted to modify or create any resources or conditions, intentionally or unintentionally, that have influenced the work of your teams? Explain.

    Follow-up: If so, describe how this resource/condition has influenced the work of the team. Explain. Could there be another explanation?

    Follow-up: Has this resource/condition or its influence on the work of this team changed over time? Explain. Could there be another explanation?

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[31] Note: All three continuing individual interviews will include these questions. The first and third continuing interviews (second and fourth overall) will also include Critical Incident Technique questions.

7. If either you or the school leadership team attempted to modify or create any resources or conditions for the SIT Committees, how did you identify these conditions as those needing to be changed? Explain.

8. What observations have you made regarding the relationship between the resources or conditions you have attempted to modify and the work of your teams? Explain.

9. Do you suspect that any of your observations are applicable to the other Disciplinary or Transdisciplinary teams?

Appendix G: Interview Critical Incident Technique (School Leaders)

Before conducting the critical incident technique interviews with participants, I will provide school-based leadership team members with journal directions which asks them to describe an occurrence concerning the operation of a TLC or a school condition which interacts with a TLC that they consider "atypical" or surprising. Additionally, I will encourage participants to focus on an atypical instance (i.e., something that makes them stop and think, not necessarily something that's spectacular, but it should hold significance) so that I may uncover tacit knowledge. I will ask them to think about any assumptions they or someone else may have made that led to their classifying this occurrence. These questions are adapted from those recommended by Anderson and Herr (2009), Serrat (2010), and Tripp (1993). Although asking "why" is strongly encouraged by Tripp (1993) as a way to deeply explore participants' thinking, I plan to keep the "why" questions conversational.

1. In your journal entry you wrote about [insert description here], can you tell me more about [insert specific question here]?
2. What were the outcomes of this incident?
3. What makes this event atypical? Why?
4. What assumptions did you make in your reflection? Why?
5. What would you do if you are faced with a similar situation? Why?
6. What are the possible future outcomes if behaviors of you and others remain unchanged? Why?

Appendix H: Concluding Focus Group Interview Protocols (TLC Members)

1. Describe the recent work within your Disciplinary SIT Committee.

2. Here's a list of characteristics developed from what you and other participants have said about teacher groups being able to accomplish goals such as yours. Describe the presence of these characteristics in your teacher team at the beginning of the study. How would you describe the presence of these characteristics now?

   - Common Purpose (members of team understand and support a shared set of goals)

   - Agency (each member has input/voice and exerts influence on the group's work)

   - Trust & Relationships (members are comfortable with honest critique and risk taking)

   - Collaborative Activity (members support each other through sharing and joint work)

   - Self-Reflection (members critically evaluate actions and adjust accordingly)

   - Data-Driven Decisions (goals are created, implemented, and evaluated based on data)

3. Are there any characteristics included on the list that you feel should be excluded or are there any characteristics excluded from this list that you feel should be included?

   > Follow-up: If so, describe the presence of these characteristics in your teacher team at the beginning of the study. How would you describe the presence of these characteristics now?

4. Here's a list of conditions identified by participants as helpful for fostering teacher groups. In particular, these conditions have been modified by this school's leadership team. Do you feel that any of these have been adequately addressed? If so, have any of these conditions facilitated the work of your teacher group? Did any of these conditions end up having negative side effects?

   - Common Lunch (lunch shifts as departments)

- Common Planning (presence or absence of common planning mods)
- Culture of Expectations (school leadership team's expectations for SIT process)
- Facilitator Support (opportunities for teachers to lead and PD/support to do so)
- KEYS 2.0 Process (survey & SIT retreat process leading to selection of school-wide goals 2.2 and 2.3)
- New Technology & Technology Support (active inspire, active slates, PD activities)
- Sub Time (collaborative planning sessions and/or technology PD)
- Teacher Choice (freedom for teams to choose specific goals and action plan steps)
- The Energy Bus & Professional Literature
- The Study Itself (your own and others participations in interviews and journal entries)
- Time (during faculty meetings and PD days)

5. Are there any other conditions or resources that you feel were needed but were not adequately provided for your teacher group? Are there conditions or resources provided that you feel were not needed?

6. In your judgment, which of these conditions or resources, if any, impacted the development of teacher groups- for better or worse? Explain.

7. Did participating in the study put you at an advantage or disadvantage when compared to other teacher groups in the building?

       Follow-up: If so, explain how your teacher group had an advantage or disadvantage. Could there be another explanation?

8. What advice would you give to a teacher group preparing to engage in a similar teacher group/SI process next year?

Appendix I: Concluding Individual Interview Protocols (School Leaders)

1. Describe the recent work within your Disciplinary and Transdisciplinary SIT Committee(s).

2. Here's a list of characteristics developed from what you and other participants have said about teacher groups being able to accomplish their goals. Describe the presence of these characteristics in your Disciplinary and Transdisciplinary SIT Committee(s) at the beginning of the study. How would you describe the presence of these characteristics now?

   - **Common Purpose** (members of team understand and support a shared set of goals)

   - **Agency** (each member has input/voice and exerts influence on the group's work)

   - **Trust & Relationships** (members are comfortable with honest critique and risk taking)

   - **Collaborative Activity** (members support each other through sharing and joint work)

   - **Self-Reflection** (members of the team critically evaluate actions and adjust accordingly)

   - **Data-Driven Decisions** (goals are created, implemented, and evaluated based on data)

3. Are there any characteristics included on the list that you feel should be excluded or are there any characteristics excluded from this list that you feel should be included?

   Follow-up: If so, describe the presence of these characteristics in your Disciplinary and Transdisciplinary SIT Committees (s) at the beginning of the study. How would you describe the presence of these characteristics now?

4. Here's a list of conditions identified by participants as helpful for fostering teacher groups that have been modified by this school's leadership team. Do you feel that any of these have been adequately addressed? If so, have any of these

conditions facilitated the work of teacher groups? Did any of these conditions end up having negative side effects?

- **Common Lunch** (lunch shifts as departments)
- **Common Planning** (presence or absence of common planning mods)
- **Culture of Expectations** (school leadership team's expectations for SIT process)
- **Department Chair Professional Development** (scenarios, protocols, & literature)
- **Facilitator Support** (opportunities for teachers to lead and PD/support to do so)
- **KEYS 2.0 Process** (survey & SIT retreat process leading to selection of school-wide goals 2.2 and 2.3)
- **New Technology & Technology Support** (active inspire, active slates, PD activities)
- **Sub Time** (collaborative planning sessions and/or technology PD)
- **Teacher Choice** (freedom for teams to choose specific goals and action plan steps)
- *The Energy Bus* **& Professional Literature**
- **The Study Itself** (your own and others participations in interviews and journal entries)
- **Time** (during faculty meetings and PD days)

5. Are there any other conditions or resources that you feel were needed but were not adequately provided for your Disciplinary and Transdisciplinary SIT Committee(s)? Are there conditions or resources provided that you feel were not needed?

6. In your judgment, which of these conditions or resources, if any, impacted the development of teacher groups-for better or worse? Explain.

7. How did the school leadership team identify items on this list as conditions and resources that affect the development of teacher groups?

8. What advice would you give to a school leadership team preparing to engage in a similar teacher group/SI process next year?

Appendix J: Journal Entry Prompts (School Leaders)

1. Describe your experiences in planning and implementing professional development designed to foster development of learning communities (e.g., Transdisciplinary and Disciplinary SIT Committees). How do you assess this professional development? How do you gauge faculty buy-in? How do you gauge faculty trust with school leaders and each other through this process?

2. Describe occurrence concerning the operation of a learning community (e.g., Transdisciplinary and Disciplinary SIT Committees) or a resource/condition which interacts with a learning community that you consider "atypical" or surprising. Please choose an incident you feel is "atypical." In other words, something that made you stop and think. The incident does not have to be spectacular, but it should hold significance to you. Think about any assumptions you or someone else may have made that led to you classifying this occurrence.

3. Describe your current assessment of your effectiveness in creating or modifying resources or conditions influencing the work of teachers within learning communities (e.g., Transdisciplinary and Disciplinary SIT Committees). What resources or conditions have you successfully created or modified so far? How do you know? What changes do you expect to see in the activity of these learning communities from these changes? Can you see any of them yet? Could there be other explanations for the changes you have seen? Could there be other explanations for changes you have not observed but expected to? What are the next steps?

4. Describe occurrence concerning the operation of a learning community (e.g., Transdisciplinary and Disciplinary SIT Committees) or a resource/condition which interacts with a learning community that you consider "atypical" or surprising. Please choose an incident you feel is "atypical." In other words, something that made you stop and think. The incident does not have to be spectacular, but it should hold significance to you. Think about any assumptions you or someone else may have made that led to you classifying this occurrence.

5. Describe your assessment of your effectiveness in creating or modifying resources or conditions influencing the work of teachers within learning communities (e.g.,

Transdisciplinary and Disciplinary SIT Committees). What resources or conditions did you successfully create or modify? How do you know? What changes did you expect to see in the activity of these learning communities from these changes? Did you see them? Could there be other explanations for the changes you have seen? Could there be other explanations for changes you have not observed but expected to? What conclusions can you draw? What relationships between resources or conditions and learning communities do you see?

Appendix K: Participant Identified School Conditions

Ability to See the "Big Picture" ^
Access to Resources (Curricular, Teaching) *
Accreditation Preparation
Agendas for TLC Meetings *
Attendance at SIT Retreat ^
Buy-in ^
Celebration of Successes *
Collegiality
Committee/TLC Membership *
Common Core
Common Curricular Pacing ^
Common Lunch *
Common Planning *
Common Course Preparations *
Common Purpose/Vision *
Community Context
Competing Professional Development Needs
Concern for Enrollment in Content Areas
Content Supervisor Support
Coverage for Peer Observations *
Cynicism about Change
Department Chair Meetings *
Department Chair Professional Development *
Discussion Protocols *
Dispositions
District Calendar
District Policies
Effective Communication *
Electronic Collaboration (Wikis/Twitter) *
Expectations *
Experts *
Facilitator Support *
Faculty Meeting Agenda Order *
Faculty Meeting Time *
Familiarity with Processes
Family /Personal Issues
Fear of Data/Data Analysis ^
Fear of Failure ^
First Year Teachers
Funding for Resources ^
Goals & Action Plan Mechanics *
Ground Rules for Meetings *
Housekeeping Issues for Meetings
Informal Interactions
Keys 2.0 *
Lack of a Facilitator Training Model *
Lack of Snow Days
Lack of Support from Feeder Schools
Local NEA Support with Keys 2.0
Location of PD Sessions *
Motivation for TLCs to Meet On Their Own
Nature of Goals *

New District Curriculum
New Course Preparations *
New Teachers in Department
New Technology *
New Technology Limitations
New Technology Professional Development *
Norm of Egalitarianism
Norm of Non-Interference
Norm of Privacy
Opportunity for District Curriculum Writing
Other Schools Interpretation of District Policies
Parent Involvement and Support ^
Pedagogical Philosophies and Approaches ^
Personalities
Physical Arrangement of Rooms *
Positive Attitudes ^
Power Relationships
Preparation for Sub Days
Previous Experience with TLCs
Professional Articles *
Professional Development Grant
Professional Disagreement/Conflict ^
Remunerated Time *
Race to the Top Requirements
SI Process *
School Leader Presence at TLC Meetings *
School-Based Control of PD Time *
Shared Purpose *
Size of Teacher Teams/TLCs *
Stable Teaching Schedule *
Staff Hired Under Different School Leaders
State Assessments
Student Teacher *
Study Itself *
Substitute Side Effects ^
Substitute Time *
Substitute Familiarity with School ^
Teacher Choice *
Teacher Leaders *
Teacher Motivation ^
Teachers' Personal Goals ^
Teachers' Experience at Other Schools
Technology
Textbooks
Time *
Timing of Other School Events *
Timing of Professional Development *
Traditions ^
Trusting Relationships
Value
Visit to Other Schools *
Years of Experience as a Teacher

> * Conditions mainly under school leaders' influence
> ^ Conditions only partially under school leaders' influence

Appendix L: Consent Form

Project Title	A Case Study of a School Based Leadership Team's Action Research Project to Foster Teacher Learning Communities
Purpose of the Study	*This research is being conducted by Dr. Linda Valli and Kenneth B. Fischer at the University of Maryland, College Park. We are inviting you to participate in this research project because you have agreed that your school leadership, professional development and/or instructional practices are influenced through your involvement in the development of a teacher learning community (TLC). The purpose of this research project is to gather information on how a group of school-based administrators facilitate or obstruct the development of TLCs by creating and altering school-based conditions.* *Specifically, our primary research question is: How does a school-based leadership team identify and alter school-based conditions that facilitate or obstruct the development of TLCs. To assist in the investigation of this research question, we ask three subquestions: 1) How do administrators and teachers conceptualize TLCs? How do administrators and teachers perceive school-based conditions that facilitate or hinder the work of their TLC? 2) How do adjustments to school-based conditions influence the work of TLCs? How does the leadership team evaluate the effect of these changes on the work within TLCs? 3) Finally, what is the role of the teacher in the leadership team's decision making processes? How does the leadership team share power, negotiate consensus, and manage instances of conflict? What opportunities does it provide for teacher input and direction of TLCs?*
Procedures	*The procedures involve a series of five in-depth interviews, several observations of either TLC meetings or school-based leadership team instructional planning meetings appropriate to your role, no more than two classroom observations, and several written journal entries for school-based leadership team participants. You will receive all interview questions prior to each interview, and we will meet at a time and in a location that is convenient for you.* *School-based leadership team members will be asked to make a series of at least five journal entries during the course of the study at time and length of your choosing. Although I will supply prompts for the journal entries, you may choose to reflect in your writing about any aspect of school leadership or TLC development you find relevant. These journal entries can be returned to me in electronic or hard copy format, depending on what is most convenient to you.* *Each interview will take about 1 hour. Interview questions will range from questions like "Describe your role in the school?" to "Which school-based conditions need to be in place for a teacher learning community to get started?" These questions will help me understand your role(s) and perspective(s) in the school regarding teacher learning communities,*

	supportive conditions, and school leadership. The interview questions and journal entries will all center on your experiences and reflections of school leadership and TLC activity that you wish to share. Should I have follow-up questions after any of the interviews, I may contact you to schedule additional time for us to talk. *I hope to observe all announced school-based leadership team instructional planning meetings and TLC meetings, but encourage you to invite me at the last minute during any impromptu meetings that may occur. I will observe these meetings in order to gain insight on your teacher learning community's process and its interaction with various school-based conditions (e.g., time, resources, professional development needs, etc…). During these meetings I hope to assist the teacher learning community as a contributing member of the team, as a resource, and within my role as an assistant principal.* *I will also observe classroom instruction of teacher learning community members a few times during the year (no more than three times). The purpose of these observations will be to gain insight on how the work within the teacher learning community unfolds in the classroom and/or how teachers bring work from the classroom to the teacher learning community. These observations will be about an hour in length and will be linked with a follow-up interview* *Finally, I will be asking you to supply artifacts such as meeting agendas, meeting minutes, curricular materials, and lesson plans when possible to support and augment the interview, observations, and journal entries.* *The interviews, observations, and journaling will take place over the course of the entire school year, but it is important that you are available during that time. Following transcription of your interview, observations, and throughout the writing process, you will have opportunities to review the written documents in order to let me know whether they accurately represent what you want to communicate.*
Potential Risks and Discomforts	*There may be some risks from participating in this research study, for example, you may experience a sense of discomfort or embarrassment at discussing personal experience. The risks to participants are primarily the same risks that all administrators, teachers, and instructional assistants face in collaborative inquiry, namely their concern about exposing their own professional practice to others and their resultant fears about how others may judge their ideas and their teaching skills. To mitigate these risks, I will offer participants the opportunity to engage in member checks to allow for a fair representation of their contributions. In addition, the researcher will not be solely responsible for any participant's evaluation process at any point during or after the study. Finally, transcripts and audio recordings of interviews and observations will serve only as a data sources for the study and will not be reviewed by anyone other than the researcher and the researcher's critical friend. Only the researcher will see data sources without pseudonyms. The critical friend will assist the researcher in building trustworthiness in data analysis and lending an "outsider" perspective. The critical friend will not be employed within the school and will not be in a supervisory relationship with participants. All participants will be encouraged to ask the researcher questions throughout the*

	duration of the study, and they will be informed that they may withdraw from the study at any time without penalty.
Potential Benefits	*There are no direct benefits to participation. However, possible benefits includes increased insight into your professional experiences. I hope that, in the future, other people might benefit from this study through improved understanding of school leadership designed to benefit the development of TLCs. I believe that you have knowledge to share that will benefit the teaching and school leadership communities.*
Confidentiality	*Only pseudonyms will be used during data analysis, interpretation, and reporting in order to protect the identity of each participant and ensure confidentiality. Only I will have access to the information linking participants' names within the assigned pseudonym.* *I will store all data electronically in password-protected folders in my personal computer, with electronic versions to be erased 5 years after the end of the study; and hard copy in a locked file cabinet in my home, with hard-copy versions to be shredded 5 years after the end of the study.* *If we write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.* *I will be audiotaping our interviews and meeting observations in order to ensure the accuracy of the information I collect from you and other participants. A code will be placed on the collected data. Through the use of an identification key, I will be able to link your data to your identify. Only I will have access to the identification key.*

Right to Withdraw and Questions	*Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.*
	
	If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator
	
	      Dr. Linda Valli, Professor
	      2311 Benjamin Building
	      Department of Curriculum and Instruction
	      University of Maryland, College Park 20742
	      Phone: (301) 405 2234
	      Email: LRV@umd.edu
	
	You may also contact Kenneth B. Fischer at
	      Kenneth B. Fischer
	      2311 Benjamin Building
	      Department of Curriculum and Instruction

	University of Maryland, College Park 20742 Phone: (443) 398 4974 Email: kfischer@umd.edu
Participant Rights	*If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:* **University of Maryland College Park** **Institutional Review Board Office** **1204 Marie Mount** **College Park, Maryland, 20742** **E-mail: irb@umd.edu** **Telephone: 301-405-0678** *This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.*
Statement of Consent	*Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You will receive a copy of this signed consent form.* *If you agree to participate, please sign your name below.*
	*_____ I **agree** to be audiotaped during my participation in this study.* *_____ I **do not agree** to be audiotaped during my participation in this study.*
Signature and Date	**NAME OF SUBJECT** **[Please Print]**	
	SIGNATURE OF SUBJECT	
	DATE	

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