



Professional Learning Communities in JCPS

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Executive Summary

The challenge of school reform is fundamentally the challenge of creating practical and lasting change in teaching and learning in every classroom. Most efforts to improve systemically teaching and learning focus on broad philosophies or theories of action that do not translate into change in the classroom where it matters most. The research community has established the importance of teacher and instructional quality as the core of improving student learning. The catalyst for real and lasting growth in student learning then is to identify the ways to support continuous improvement in teaching. This reform effort needs to extend beyond simple strategies and skills, and practices and procedures that teachers and principals check off a list; reform needs to change the DNA of the teaching and learning in every school and every classroom. Professional Learning Communities (PLCs) is a reform effort that focuses on continuous instructional improvement in order to grow student learning. The Jefferson County Public Schools (JCPS) has adopted PLCs as its primary lever for change.

Research on professional communities in teacher teams has emerged in recent decades. The literature has revealed professional communities to comprise several important components, including a focus on student learning; committed and cohesive teacher teams; creation of collective teacher knowledge; ambitious instruction; trust among teachers, teachers and students, and teachers and parents; a caring environment among teachers, students, and school leaders;

and school leadership that organizes the above components. This definition of professional communities calls for teachers to de-privatize their practice, which counters the current professional culture.

Within the literature on professional communities, we identified three major constructs to define PLCs. Professional Learning Communities, well-known among practitioners as a teacher collaboration system designed and implemented by Rick DuFour, conceptually rests on tenets that align with the literature. We analyzed and aligned the DuFour framework with the literature's three major PLC constructs. We also assessed the PLCs efficacy as a model for change.

These three constructs, according to the literature, are:

- 1. Leadership to build professional climate of trust and provide supports for PLC.**
- 2. Teacher professional culture and collaborative practices.**
- 3. Focus on student learning.**

JCPS has chosen the DuFour model, as guided by their company, Solution Tree, for the creation and implementation of PLCs. To launch the work this year, the district selected 13 pilot schools (10 elementary and three middle schools) to participate in math-specific PLC's. The DuFours' company, Solution Tree, has provided initial and ongoing professional development in PLCs. Our early implementation study seeks to inform the district regarding four research questions:

1. **To what extent have pilot schools aligned the implementation of PLCs to the DuFour PLC model?**
2. **How do pilot schools differ from non-pilot schools in regards to measures of teacher collaboration?**
3. **What are teacher perceptions about the utility of the PLC model?**
4. **What are school-level conditions that contribute to the fidelity of implementation of the model?**

To explore these questions, we conducted surveys, interviews and observations of pilot school PLC meetings to identify patterns and themes regarding the current implementation. We examined district TELL Kentucky survey data (pre-implementation), and administered our own survey three months into the school year; we interviewed teachers and school leaders at both pilot and non-pilot schools; we observed PLCs at work; and we conducted a midyear survey in March to track progress.

By uncovering early findings between pilots and non-pilot schools and matching these patterns and themes to the research and the DuFour model, this study makes recommendations to guide the district in the expansion and enhancement of implementing PLC's with fidelity across the district.

EARLY IMPLEMENTATION FINDINGS

Overall, the pilot schools were found to demonstrate strong alignment to the DuFour PLC practices and were in the early

stages of development consistent with descriptions in the literature. The district support structures to Pilot schools have made a difference as pilot school teachers indicated hopefulness that PLC's will make a difference in improving instruction and student learning; pilot school teachers also indicated confidence that the district will sustain PLCs over time. Our study revealed the following key indicators in each construct.



Leadership: It Matters

- Pilot school principals are leading staff to focus on PLC. They are providing support structures, such as protected time and protocols, to keep the work on target and to stay the course over time.
- School leaders in both pilot and non-pilot settings actively promote the PLC, because they view it as a driver for school improvement.
- Principals foster teacher leadership to guide and lead the PLCs.



Teacher Culture: Continuous, Collaborative Learning

- Teachers recognize a new collective responsibility for the learning of all students.
- Teachers believe that in five years PLC's will have changed teacher culture and improved student achievement.
- Teachers have increased their expectations of their colleagues as well as their work in teams.
- Overall, teachers see PLCs as a contributor to de-privatizing practice and therefore useful as a way to address and improve ineffective teaching.
- In pilot schools, school leadership and PLC training have provided structures and purpose to team planning times. The teams focus their work on the analysis of data, creation of shared assessments, and planning instruction on curriculum targets.
- Teachers in pilot schools seem to recognize that "collaboration" means something more than "getting along." They note that they need to challenge one another, to hold each other accountable, and to receive more training in collaboration skills.



Focus on Student Learning: High Expectations for Every Student

- PLC teacher teams focus their work on answering DuFour's essential questions of what every student needs to know (standards), whether or not they know it, and what the team will do when students don't learn the standard. Teachers in pilot schools actively engaged in these discussions.
- PLC teams review student assessment results, discussed content mastery targets, plan common assessments, identified effective teaching strategies, and share lists of students who did not reach mastery.
- Training and supports received by pilots make a difference as there is a statistically significant difference between math teachers in pilots and non-pilot schools in academic focused team practices.

RECOMMENDATIONS

Based on these findings, we propose the following recommendations to enhance the effectiveness of the PLC initiative in JCPS:

1. Publicly reinforce the commitment and efficacy of PLC's as a model for improving student achievement.

- Publicly roll out a multi-year commitment plan to address staff skepticism that the district intends to stay the course on this initiative. Include in this plan a commitment and description of the resources that will be provided to support implementation.
- Regularly reference the extant literature to garner support and continue to deepen and clarify the vision and expectation of high-performing PLCs.

2. Provide mechanisms that both support and measure effectiveness and fidelity level of PLC implementation.

- Identify non-negotiable key structures and provide them in every building (e.g., protected time for PLC and protocols for agendas, norms and tracking the work on academic focus to ensure that all buildings have basic success structures in place.)
- Provide ongoing training and opportunities to learn what a highly effective, high performing PLC looks like, in particular provide visits, videos and observations of the work in action. Our findings indicated that teachers and principals alike want to see models of successful PLC implementation. They also emphasized that they need help

developing collaborative skills. After a lifetime of isolated practice, collaborative practice will not come easily, and schools need assistance in mastering them.

- Provide ongoing assessment, monitoring, and feedback of PLC development. In order to support and ensure implementation with fidelity that creates results, the district needs to continuously measure PLC implementation quality and student learning results. We recommend that the district use this study's survey on an ongoing basis to provide data to schools and teams regarding areas for PLC growth. Teams should use this survey in combination with self-assessment on the DuFour rubrics that describe levels of implementation; however, school should use both the survey and rubrics they should be used in combination as the rubrics alone do not provide enough detail for planning growth steps and may be sensitive to inflated ratings.

“The professional learning community model is a grand design—a powerful new way of working together that profoundly affects the practices of schooling. But initiating and sustaining the concept requires hard work.”

DuFour (2004)

In the initial year of PLC implementation in JCPS, pilots and non-pilot schools alike have engaged in the development of PLCs with commitment and fidelity. The district needs continued study of the pilot schools as well as PLCs' influence on student achievement results. Still, our initial findings indicate that teachers and principals believe that five years from now PLC will have a transformative effect on teacher culture and student learning. Deep PLC implementation that leads to student learning results is hard work and will likely take a long-term commitment. The recommendations included in the report will support the district in reaching this goal.

Section 1: Introduction to the Professional Learning Community (PLC) project and what we know about PLCs

Many school districts across the nation, including Jefferson County Public Schools (JCPS), continue to feel pressure from the No Child Left Behind (NCLB) as well as local parents and the community to improve underperforming schools. Students in urban districts such as JCPS are graduating at lower rates than the national norm, are performing at lower rates on state standardized test scores, and are underprepared for college or post-secondary education (National Center on Education and the Economy, 2006; NAEP, 2011)

significantly the economic success and well-being of the community (Hanushek, 2009; OECD, 2011; Rothstein, 2004; Ferguson, 2008). JCPS recognizes that quality education prepares students to contribute to the local economy and citizenry. The district wagers that Professional Learning Communities or PLCs will serve as the vehicle by which schools will improve student learning.

Of course, in-school reform strategies such as PLCs can accomplish only so much. As Rothstein (2004) and Furstenburg & Hughes (1997) have established, school effects account for only about a third of student learning achievement. Family and neighborhood effects also profoundly influence student learning. PLCs are not a panacea for all student learning effects. This study examines an initial implementation of PLCs as a primary strategy to impact school-

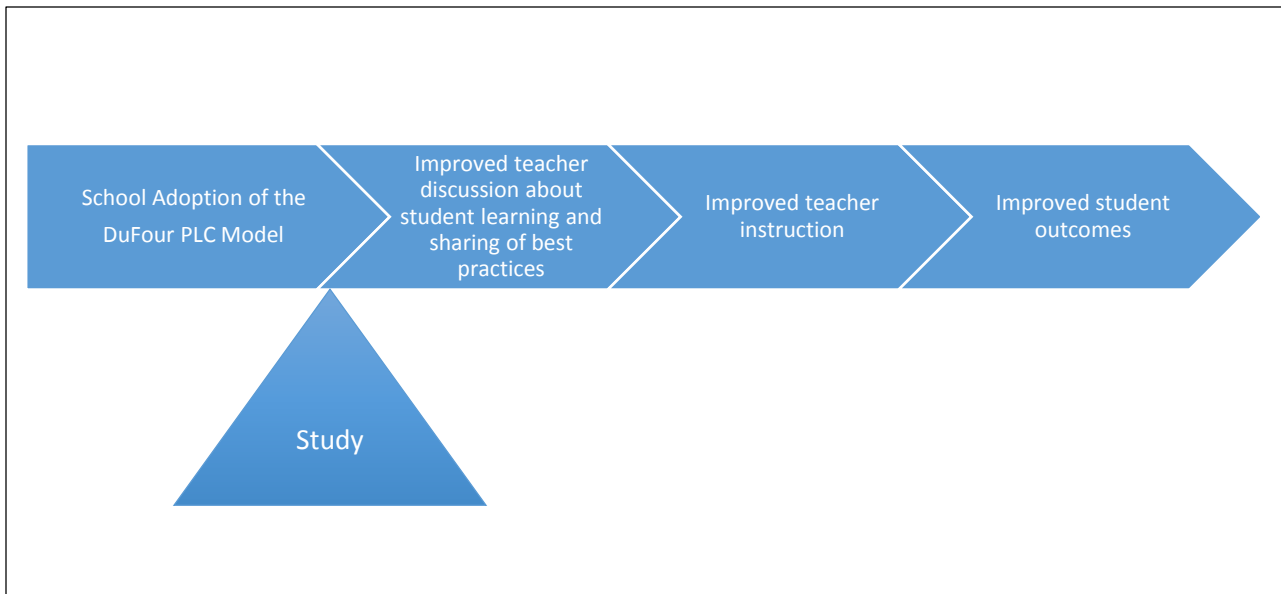


Figure 1: JCPS PLC Program Theory

A growing body of evidence indicates that local education achievement influences

related effects only. We recognize that PLCs will not counter other, non-school negative effects on student learning.

For urban school districts such as JCPS, the PLC concept is an important initiative that provides initial as well as sustained instructional improvement with potentially long-lasting effects. The district believes that PLCs, if well implemented, will lead to improved teaching, which in turn will lead to increased student learning. Figure 1 illustrates the JCPS program theory that PLCs, as defined by DuFour (2010), lead to improvements in teacher learning and instruction, which ultimately increases student learning.

This study examines the point in the program theory in which JCPS pilot schools have begun intensive efforts to improve teacher capacity via PLCs. Specifically, JCPS would like robust evidence that addresses the following questions:

1. **To what extent have pilot schools aligned the implementation of PLCs to the DuFour PLC model?**
2. **How do pilot schools differ from non-pilot schools in regards to measures of teacher collaboration?**
3. **What are teacher perceptions about the utility of the PLC model?**
4. **What are school-level conditions that contribute to the fidelity of implementation of the PLC model?**

Due to the timing of the student assessments calendar, this study does not correlate student learning data to the PLC initiative. That work is left for future research when 2012-2013 standardized test data are available. This study formatively assesses the current

early implementation and therefore is an implementation study.

Defining Professional Learning Communities (PLCs)

The concept of PLCs has existed for years in various monikers, such as professional community, collaborative culture, Grade Level Teams (GLTs), and communities of practice. Within the bounds of some definitions of PLCs, researchers have found evidence that links collective and collegial learning among teachers and learning among students (Mulford in Stoll & Louis, 2010; Horn & Little, 2010; Stoll & Louis, 2010; Saunders, 2009; Bryk, Sebring, Allensworth, Luppescu, & Easton, 2009; Ross, 2004; Wheelan & Tilin, 1997; Louis, 1998; Louis, 1996; Little (1982), Newmann & Wehlage (1995), Lee & Smith (1996), & Louis et al (1996) cited in Halverson, edited by Stoll & Louis, 2010; & McLaughlin & Talbert, edited by Stoll & Louis, 2010). Horn & Little (2010) cite research that links teacher collegial relationships with school improvement though their link is circuitous: teacher collegiality leads to discussion of instruction which leads to instructional improvement which leads to increased student learning. Bryk, Sebring, Allensworth, Luppescu, & Easton (2009) present compelling evidence of strong links in the long chain between teacher collegiality and student improvement. In Stoll & Louis (2010), several contributing authors (Andrews & Lewis cite Newmann, et al, 2010; McLaughlin & Talbert) link collaborative teacher work focused on student learning to higher student learning outcome.

Servage (2008) claimed that the definition and purpose of professional learning community has yet to be universally settled, but the literature has coalesced around several consistent components of PLCs. Servage (2008) reported that the only commonality of these various definitions of PLCs was a “persistent focus on student learning and achievement by the teachers in learning communities.” Saunders (2009) noticed that the research base that links PLCs to student learning is limited to case studies and surveys and not experimental or quasi-experimental designed studies. Moreover, a search of What Works Clearinghouse for “professional learning community,” “professional community,” “Grade Level Teams” returned no studies that had more than minimal effect sizes or fulfilled the standards of the Institute of Education Sciences (IES, 2012).

However, Stoll & Louis (2010) have condensed a consistent general, empirically-based definition of PLCs: “an inclusive group of people, motivated by a shared learning vision, who support and work with each other, finding ways, inside and outside their immediate community, to inquire on their practice and together learn new and better approaches that will enhance all pupils’

learning.” This definition coincides with the PLC dimensions put forth by other researchers, such as Hipp and Bumpers (in Stoll & Louise, 2010): shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, and supportive conditions (relationships and structures). It also mirrors

PLC’s are:

“An inclusive group of people, motivated by a shared vision, who support and work with each other, finding ways, inside and outside their immediate community, to enquire on their practice and together learn new and better approaches that will enhance all pupils’ learning.”

Stoll and Louis (2010)

Lieberman and Miller’s (2011) conception of learning communities that “create and maintain an environment that fosters collaboration, honest talk, and a commitment to the growth and development of individual members and to the group as a whole.”

A number of studies point to the importance of developing professional community to improve teacher learning. Bryk, et. al. (1999) reported several factors that improved professional

community—“when teachers trust and respect each other, a powerful social resource is available for supporting the collaboration, reflective dialogue, and de-privatization characteristics of a professional community” (p. 767); principal encouragement to teachers to experiment in order to improve teaching; professional community exists more often in small schools. The researchers warn that the social norms of the professional community can also stifle innovation and teacher collaboration. Bryk, et. al’s 1999 study

coincides with Saunder's (2009) conclusion that protocols and norms for professional community can provide the safety for teachers to collectively try new core technology that improves student learning. Merely creating small structures for PLCs does not lead to changes in instructional practice (Christman & Supovitz, 2005). Teacher teams need to focus on student learning by examining student work or analyzing instruction and not discussing administrative tasks.

Printy (2008) deepens the significance of teacher trust within professional community in her analysis of leadership within teacher communities. Principals can foster teacher trust through clear expectations and goals, sufficient resources, and encouraged innovation (Printy, 2008). Teacher-teacher, teacher-principal, and teacher-parent trust heavily affect student learning (Bryk & Schneider, 2003). They define trust as respect, competence, personal regard for others, and integrity. "A serious deficiency on any one criterion can be sufficient to undermine a discernment of trust for the overall relationship" (p. 23).

Trust then becomes an important component of PLCs as teachers work together to analyze student learning data and adjust instructional practices, and principals participate in the creation, support, or

guidance of PLCs. The teaming of teachers and the resulting collegial trust facilitates the development of social capital among teachers and across schools and networks. This sense of trust and accessibility to expertise significantly assists teacher discussion about student learning (Mulford in Stoll & Louis, 2010; Smylie, 1999). The intentional development of teacher social capital can play an important role in solidifying PLCs within and among schools and networks.

The growing literature on teacher teams suggests that teacher discussions on student learning can lead to improved instruction and correspondingly increased student learning. Horn and Little (2010) cite McLaughlin's summary of the research community's consensus of the conditions for the teacher team or professional learning community: norms of collaboration, focus on students and their academic performance;

Key conditions are: norms of collaboration; focus on students and their academic performance; access to a wide range of learning resources for individuals and the group; mutual accountability for student growth and success.

Talbert (2010)

access to a wide range of learning resources for individuals and the group; mutual accountability for student growth and success" (p. 183). They further clarify that the nature of interactions among teachers in a PLC owes its success not to personal dispositions but rather to conversational routines and agency (Horn & Little, 2009). These PLCs focused on the changes they would need to make in instructional practices to improve student learning (Horn & Little in Stoll & Louis, 2010).

Foundational conditions to support these routines and agency included shared language and frame of reference to interpret problems of practice, alignment between a common curriculum, instructional goals, and their perspectives of teaching and learning; and the norms and work of the PLCs leadership (Horn & Little, 2010). Stoll and Louis (2010) reinforced this definition of a professional learning community which focuses on: “(1) professional learning; (2) within the context of a cohesive group; (3) that focuses on collective knowledge, and (4) occurs within an ethic of interpersonal caring that permeates the life of teachers, students, and school leaders” (p. 3). Talbert (2010) further echoes these definitions of PLCs. Key conditions are: norms of collaboration; focus on students and their academic performance; access to a wide range of learning resources for individuals and the group; mutual accountability for student growth and success. The literature on professional learning communities documents the social, technical and organizational conditions that enable PLC’s to grow and flourish in schools.

Professional communities may exist within schools, across grade levels within schools, across schools, or span networks (Mulford, 2010; Coburn & Stein, 2010; Wenger, 2000). Coburn and Stein (2010) warn that professional communities may reify policy initiatives to the expectations of pre-existing teacher communities—i.e., adapt imposed curriculum or instructional practices to established values and practices. These conclusions dovetail with other definitions of professional learning community and teacher trust.

Aligning DuFour’s PLC model with the research literature on PLCs

One of this study’s goals is to provide JCPS robust recommendations regarding improving student learning through PLC implementation based on the extant research. We could not locate empirical studies to reinforce the efficacy of the DuFour PLC model (see Table 1). We examined the literature on professional communities and aligned it with the DuFour PLC model as a basis for future analysis and action. JCPS has adopted the PLC model, which Richard DuFour and his team developed when he was Superintendent of Stevenson High School in Lincolnshire, IL. Stevenson High School won four US Department of Education Blue Ribbon Awards for significant levels of student learning or improvement in student learning (US Department of Education, 2012). Essentially, the purpose of DuFour’s PLC model is to shift “from a focus on teaching to a focus on learning” (Eaker, 2008).

Teams of teachers share a common vision of collective responsibility and clear goals for student learning success through analysis of common formative assessments and ways to adjust instruction accordingly (DuFour, 2003). PLCs meet to ask and answer three questions that advance that vision and deliver results that align with clear learning goals.

PLCs ask themselves:

- **What do we want each student to learn?**
- **How will we know when each student has learned it?**

- **How will we respond when a student experiences difficulty in learning?**

(DuFour, 2004)

PLCs need to respond to student learning difficulty in ways that are timely (during the learning difficulty and not afterwards), require the student’s participation, and provide substantial feedback to the student and parents. DuFour calls for teacher teams to agree on formative assessments that gauge student learning progress. Importantly, teachers need to share practices, visit each other’s classrooms, and talk about their students’ assessment results

(Dufour, 2008).

These components of DuFour’s PLC model mirror the definitions of professional community set forth by Louis (1999), Bryk (1998), Stoll & Louis (2007); Talbert (2010); and Printy (2008). DuFour’s PLC also fits with Vescio’s definition (see above) and Horn and Little’s conditions (see above) of a PLC. Figure 2 shows that the DuFour PLC model matches the extant literature definition of professional communities.

Literature on PLCs	DuFour’s Model
Professional learning focused on student learning (Horn & Little, 2010); (Little & Horn and McLaughlin & Talbert in Stoll & Louis, 2010; Bryk & Schneider, 2002)	Focus on student learning results: PLCs discuss student learning goals, instructional strategies, and results (DuFour, 2004)
Committed, cohesive team of teachers (Stoll & Louis, 2010; Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010; McLaughlin & Talbert in Stoll & Louis, 2010)	Teachers “work together to achieve their collective purpose of learning for all” (DuFour, 2004)
Creation of collective knowledge that benefits the team of teachers (Stoll & Louis, 2010; Horn & Little in Stoll & Louis, 2010; Coburn & Stein, 2010); ambitious instruction (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010)	Common formative assessments aligned to standards (DuFour, 2002)
Context of caring among teachers, students, and school leaders (Stoll & Louis, 2010); relational trust: teacher-student, teacher-student, teacher-parent (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010);	Teachers “work together to achieve their collective purpose of learning for all” (DuFour, 2004)
Leadership is key to organizing and focusing the above steps (McLaughlin & Talbert in Stoll & Louise, 2010); Halverson in Stoll & Louis, 2010.	Leadership behavior needs to be congruent with values of PLCs—i.e., follow-through, data analysis, adjust based on data (DuFour, 2002)

Figure 2: Comparison of Literature and DuFour Model

Section 2: Context of PLCs in JCPS

The Jefferson County Public Schools serves approximately 100,000 students in grades PreKindergarten-12th grade. It comprises 90 elementary schools, 25 middle schools, 21 high schools, and 24 specialized schools. The district reports its student population as 51% white, 36% African-American, 5% Hispanic, 3% Asian, and 5% other. About 60% of students receive free or reduced-price meals. Roughly 5% of students are English Language Learners (ELLs) with over 100 languages spoken. The number of homeless students has increased in recent years to about 10% of students. Almost 14% of students have special needs. Student attendance has hovered at almost 94% the past four years. The district indicates the drop-out rate is 4.22%. More than 900 buses transport over 66,000 students daily to fulfill the district's choice plan.

The Kentucky Core Content Test (KCCT) indicates that approximately 90% of students are proficient or distinguished in Reading, while in math 84% of elementary students, 77% of middle school students, and 74% of high school students are proficient in math. However, the National Assessment of Educational Progress (NAEP) shows 32% of 4th graders and 25% of 8th graders at Proficient or Advanced levels in Math and 35% of 4th graders and 27% of 8th graders in Reading. JCPS Seniors average approximately 19 on the ACT in recent years, while the Educational Testing Service estimates that an ACT score of 21 is the minimum score for college readiness. The

KCCT measured ELLs at 38% proficient or distinguished in 2011 in Reading and 51% in math. A little more than 52% of low-income students reached proficient or distinguished in Reading and 46% in math. Some 30% of students with disabilities were proficient or distinguished in Reading and 27% in math (JCPS website, 2012).

In 2010, the Kentucky legislature mandated the JCPS adopt the Common Core State Standards (CCSS). Subsequently, the state joined the Partnership for Assessment of Readiness for College and Careers (PARCC), which is in the process of developing an assessment based on the CCSS. District accountability metrics stress increased student learning outcomes, especially in the face of the upcoming rigorous PARCC assessments in two years (2014-15).

In 2011, the JCPS Board of Education hired a new superintendent, Donna Hargens, who previously served the Wake County (North Carolina) Public Schools as the Chief Education Officer. She left Wake County following the Wake County School Board's decision to forego its student assignment plan and favor of neighborhood schools. She arrived in JCPS a year after the district had implemented a new student assignment plan that embraced diversity and choice by assigning students to schools based on household income. Specifically, the plan stated that "no school shall have less than 15% nor more than 50% of students who reside in" an area that is below the district average in median household income, in educational attainment, and in the percentage of minority students.

PLCs as a new initiative for embedded school improvement

The primary lever of change in JCPS is PLCs (Rodosky & Munoz, personal communication, 2012). In March, 2012, the district invited school leaders, including building principals, to a meeting regarding a pilot project in PLCs. From this meeting, the district selected ten elementary and three middle schools for the pilot. Principals and teacher teams received professional development regarding PLCs from Rick and Becky DuFour's consulting group, Solution Tree. Consultants from Solution Tree have provided subsequent monthly on-site training.

The goals of the pilot are not only to show the effectiveness of the PLC model in the JCPS context but also to ascertain the necessary supports that will plant strong PLC roots. With teacher-led PLCs eventually guiding relevant growth at each school, schools themselves can serve as catalysts for on-going instructional improvement. PLCs can drive instructional improvement even at specific grade-levels or subject disciplines, so teaching grows according to individual student needs. JCPS envisions PLCs as responsive to immediate student learning needs depending on particular contexts. Professional communities, then, systematically reveal, through continual assessment, student academic strengths and needs; they provide the space for teachers to analyze student needs; and, professional communities guide teacher planning to effect positive student learning growth. The pilot's design also is meant to indicate the extent to which resource teachers and other district

leaders significantly enhance or accelerate the realization of PLCs.

Selection of pilot schools

The district process for selecting the pilot schools varied. Some schools volunteered and were selected, while others were encouraged or required to participate. In response to questions of district personnel, the district did not indicate there was a pre-determined set of criteria by which pilot schools were selected.

Trainings on the PLC model

The pilot schools are elementary schools: Engelhard, Frayser, McFerran, Coral Ridge, Wheeler, Minors Lane, Rangeland, Kenwood, Dunn, and Field; as well as middle schools: Frost, Lassiter, and Noe. Principals and teams of teachers from pilot and non-pilot schools attended two days of training in March from Solution Tree. The pilot schools received additional training in the summer of 2012 and five site visits from Solution Team during the 2012-13 school year. In the trainings, the Solution Tree consultants focused on developing school capacity to implement a continuous cycle of asking and answering these questions:

- What do we want each student to learn?
- How will we know when each student has learned it?
- How will we respond when a student experiences difficulty in learning? (DuFour, 2004).

The focus of the academic work with the pilots was targeted to math teachers and math content, assessment and instruction. The DuFour team used a set of rubrics (DuFour,

2012) to provide feedback through observations of pilot school PLCs.

Non-pilot PLC schools in JCPS

Independent of PLC pilots working with the Solution Tree consultants, a number of non-pilot JCPS schools have implemented PLCs on their own. Some non-pilot school leadership teams attended the March, 2012 introduction to the DuFour PLC model but were not subsequently selected to participate in the pilot. Notwithstanding, these non-pilot schools began to implement the PLC model without support of the pilot school resources. Other, non-pilot school leadership teams had previous experience with PLCs which they brought to their schools and began implementation concurrent to the pilot schools. As a result, the delineation between pilot and non-pilot schools, though matched demographically, blurs substantially when considering exposure to the DuFour PLC model. Some pilot and non-pilot schools were almost indistinguishable when comparing their levels of PLC implementation and their acceptance of the model.

DuFour's model in JCPS

The district endorsed the DuFour PLC model as presented and did not require adjustments to the model. District support of pilot schools entailed payment to the DuFour team (Solution Tree, Inc.) to provide initial training to schools as well as on-going training and feedback during the school year through five visits to each school. This study does not evaluate Solution Tree's work in JCPS.

Section 3: Project Design and Methodology

For our study we applied a mixed-methods design to capture the effects of the PLC training taking place in pilot schools and examine the nature of professional collaboration across schools in the district. We began by reviewing the scholarly literature around learning communities and collaboration in schools. We then related that analysis to the DuFour PLC model embraced by the district.

To understand the PLC literature in the context of the DuFour model and the district, we developed a framework that grouped concepts into three primary domains: Leadership, Teacher culture/collaboration and Academic Focus. We used the domains to develop our survey and interview protocol. By utilizing both the quantitative survey results and qualitative findings from interviews and team observations we hoped to capture the variations in practices between schools across the three domains and to determine what, if any, effect was present from the PLC training going on in pilot schools.

Tell Kentucky Survey

We were able to gather the results of the 2011 Tell Kentucky Survey for the pilot and matched schools through the Tell Kentucky website. These survey results were reported at the school level and for each item a percent agreement was available. As the data was reported at the school level, rather than the teacher level, it was not possible to do a direct comparison between the 2011 Tell Kentucky results and the survey we

administered. However, we were able to examine the descriptive statistics in SPSS and look for differences between pilot and matched schools prior to any PLC training (the results are reported in the Appendix). This comparison with 2011 Tell survey data provided a useful historical context for us to understand general views on professional communities in JCPS.

On average, 82% of teachers in both pilot and non-pilot schools agreed that they worked in professional learning communities on the 2011 Tell Kentucky Survey.

Survey Data

The primary sources of quantitative data for our study were two surveys we created and sent electronically to teachers in pilot and matched schools. The fall survey was administered in November and the spring survey was administered in March. The fall survey was comprised of 45 items drawn from both the Tell Kentucky survey and the Five Essentials developed by the Consortium on Chicago School Research and fit into the three domains of our study. The scales for the domains can be found in Table 1.

Table 1: Domains and Scales

Domain	N of Items	Cronbach's Alpha
Leadership	8	.802
Teacher Culture	21	.870
Academic Focus	9	.714

Prior to administration, we provided the survey to the JCPS office of Data Management and Research for feedback. We received consent from that office and proceeded with an electronic administration. An email requesting teacher participation was sent out to principals along with a description of the project and a link to the online survey. The window for completing the survey was open for three weeks and a reminder email was sent out before the final week. In total we received 330 responses to the survey of which 292 were usable (those that were unusable were due to teachers failing to select their school). The breakdown of respondents by pilot and matched schools can be found in

Table 2: Response Rates

	School Type	N	Respondents	Potential Respondents	Rate
Fall Survey	Pilot	11	135	325	41%
	Non--Pilot	17	162	474	34%
Spring Survey	Pilot	12	133	349	38%
	Non-Pilot	26	189	699	27%

Table 2.

Since the PLC training provided by the district focused on math, respondents were also asked if they taught math at any point during the school day. The results of the survey could be explored for four groups: math teachers in PLC pilot schools, non-math teachers in PLC pilot schools, math teachers in matched schools and non-math teachers in matched schools. The results from the survey will follow in later sections. The data was exported into SPSS and independent sample t-tests were used to test for differences between groups in broad domains and individual items.

In the spring, we followed the same procedures as the fall survey. We sent out a brief follow-up survey comprised of questions asking about specific PLC practices and gauging teacher interest in maintaining or increasing the scope of the PLC in their building. We report and analyze the results in a later section. The response rates for the spring survey can be found in Table 2 and the items can be in the Appendix.

Representativeness of the sample

The 13 pilot schools were each matched with two non-pilot schools with

similar demographics: size, FRL population, ELL population and previous academic performance. A table with the demographic information for pilot and matched schools can be found in the Appendix.

Survey design

The PLC pilot started before our project began, ruling out the use of a simple pre-test/post-test design. As noted above, we could not compare the 2011 TELL survey data to our data, because the TELL data did not provide teacher-to-teacher comparisons. Instead, the survey design matched pilot and non-pilot schools through demographic data provided by the district. These matched pairs gave us the means to determine the variance in attitudes and perspectives on implementation of DuFour's PLC model.

Interview and Observation Data

To accomplish our project goals of gauging school views on PLC implementation, we employed semi-structured interviews (Patton, 2002). Over two days in November, our team conducted interviews and observations at three pilot and three matched non-pilot schools. The pilot schools chosen for interviews were selected at random and the corresponding matched school was selected at random from the two available for each pilot school. We interviewed a total of 32 teachers and five administrators using a set of questions we wrote to match our three conceptual domains (see the Appendix for the interview protocol).

In addition to the interviews, we observed seven PLC meetings at the school sites. In most schools the principal selected teachers to be interviewed during their

planning periods and the interviews lasted between 30 and 45 minutes. When possible we observed PLC teams at work and took notes on those observations. We recorded via audio recordings both interviews and observations, and we used those recordings to complete a framework with our three domains (Appendix). The results from each interview were then combined into a higher level analysis document.

Limitations of the project design

Quantitative Survey Data Limitations

Since the 2011 Tell Kentucky Survey data was not available by individual teacher and because we used items from the Chicago Consortium on School Research 5 Essentials Survey, it was not possible to do a direct comparison to gauge the difference between pilot and matched schools across our three domains. We also were unable to use a number of fall survey responses because some teachers failed to select the name of their schools or whether they taught math. We depended upon principals to forward our fall and spring surveys to their teachers and some seemed to not have sent the survey out or encouraged their teachers to complete it. The response rates for the spring survey were lower, but more schools participated. While we feel our number of respondents was adequate, the quality of the analysis would have been improved by having more data.

Qualitative Interview and Observation Limitations

While we used a pre-established set of guiding questions for the interviews, we allowed the interviewer the freedom to follow lines of inquiry with the teacher and so the

length and depth of the interviews varied between teachers. It should also be noted that the principal in most cases selected the teachers to be interviewed thus adding the potential for bias through their possible selection of teachers who they believed would represent the school well. There were also limitations to the team observations because of challenges in scheduling since our visit to the school was established without knowing the meeting schedule for the PLC.

Section 4: Project Question 1 - To what extent have pilot schools aligned the implementation of PLCs to the DuFour PLC model?

Introduction:

Our first question explores the evidence of implementation of the DuFour PLC model that can be gleaned through interviewing teachers, coaches and administrators as well as observing PLC team meetings. The DuFours use three main concepts to define PLCs: building positive collaborative culture; ensuring all students are learning; supporting students who aren't learning. As provided in Figure 2, the review of the extant literature aligns with the DuFour model. To organize the major characteristics necessary for successful professional learning communities we have created the following conceptual framework, which assesses PLC through three lenses: leadership, teacher collaboration, and academic focus.

Our findings indicate that the pilot schools implementation aligns with the DuFour model and as would be expected in the first 6 months of implementation the level of skills and understanding varies among different pilot school teams. In other words, the work is just beginning but is aligned with PLC model. Interestingly, a strong alignment

to the DuFour concept of PLC is also evident in the non-pilot buildings in which interview and observations data were gathered.

Specifically, the extent of implementation was assessed through observations of four elementary PLC teams and three middle school PLC teams. One team meeting of each team was observed and observations were recorded across the three domains in the conceptual framework: Leadership, Teacher Collaboration, and Focus on Academics. In addition to the observation of team meetings, three or more teachers from the observed pilot school team and the principal were interviewed to gather evidence to support the assessment of the extent of alignment of current PLC implementation with the DuFour model. The interview questions focused on the staff perceptions of the PLC implementation. The questions

reflected implementation perceptions across leadership, teacher professional culture and practices and beliefs focused on student learning.

"[Before PLCs], I feel as if I have one year of experience, nine times. With PLCs, I'm learning. I'm getting better. "

Pilot School Teacher

Summary of Findings: Alignment in the Pilots

Our findings indicate that the PLC pilot teams are aligned with the DuFour model at this stage in their implementation. The interviews and observations also reveal that there is widespread implementation of PLCs in non-pilot schools. As would be expected with the first 6 months of an initiative, there is a wide range of depth across teams in terms of level of understanding and the depth of the collaboration and conversation. It appears

that leadership is focused on providing resources and keeping the process on course by aligning staff time and expectations around the initiative.

The focus on student learning is clear.

Teams understand that they must talk openly about student performance on assessments and the review of results. The discussion of results was consistent across all pilot teams observed and interviewed. Most teams demonstrate that they know they must focus their time on what students should know and that their instruction and conversation should address these shared learning targets. Most teams use the data to talk openly about how many students do not master a target and it is implied that intervention will be provided to close these learning gaps although specific plans for intervention were not observed or explained. Some teams also include discussion of teaching strategies related to the results including a specific emphasis on strategies that will address student misconceptions.

Teacher culture is developing in line with the expectation for professional collaboration and open dialogue about teacher practice to enhance student learning. Teachers in the pilots were unanimous in their belief that they can work smarter together than in isolation, and they recognize that the requirement to work together is a difficult change in practice. They acknowledge that collaboration is difficult but essential. The skills of collaboration are nascent and

evolving. Many staff talked openly about the difficulty in creating a culture of openly sharing teaching and results as well as the difficulty in overcoming collaborative challenges of naysayers or those who

dominate team time or simply want to work in isolation. All staff indicated concerns about the time to implement with fidelity and the difficulty with ensuring staff buy in and changing culture.

“This is the first year we are really data driven.”

Pilot School Teacher

Alignment with DuFour

Model –Focus on Student Learning

To assess the focus on student learning practices, seven PLC pilot school teams were observed regarding the professional practices of focusing on what all students should know (curriculum), common assessment to determine if students have learned the

essential curriculum (assessment and data analysis), and systematic interventions that ensure all students learn (intervention.) While the teams observed had ranging levels of focus in their

conversations, they consistently focused on student learning through either conversations of assessment and student results, learning targets to be taught, and/or identifying the students in need of intervention.

Data as the glue of teamwork

The focus of all the meetings and work of the team was reviewing curriculum, sharing student results on common

“They are ALL our kids!”

Pilot School Teacher

assessments, designing assessments together and identifying who is not mastering the standards and needs intervention. The focus on assessments, the construction of assessments, the results of assessments including the ratio of students in each class who do not master a common assessment dominated the team time. This use of data is a clearly understood focus for the work of the team. Team members commented the strength of this commitment with comments such as *“This is the first year we are really data driven.”* And *“Now we can see if what we are doing is actually working.”*

Teams were observed to start meetings by analyzing recent common assessment data. In some cases, each teacher in the team shared the student ratio of content mastery to non-mastery in their class. They talked about shared targets that they were approaching and how they would scaffold instruction to prepare to assess the shared benchmark. In interviews, they noted that now the work on these areas was more systemic and purposeful. They claimed it as their day-to-day work and wanted more time to do it. Some teams quickly shared results, activities, and strategies, while others deeply discussed possible student misconceptions with questions such as: what

does mastery of the concept really look like and how will we know? They asked honest questions from one another about what works, and they shared reasons for doing do what they do. A few teams struggled to move beyond the simple review of assessment results and were pulled into off-topic conversations. These teams did not demonstrate a focus on curriculum or intervention, however, it is notable that only one team meeting for each of the seven teams was observed.

“We have to work together to reach high goals for students – everyone seems very concerned for all children.”

Pilot School Teacher

Alignment with the DuFour Model – Culture of Collaboration

The DuFour’s work aligns with the research on teams that focus collaboration on building collective knowledge to improve

student learning. A collaborative team shares a vision of and values high expectations for all students while sharing results and effective instructional practices. The DuFour model reinforces collaborative practices that lead to the development of teacher trust and shared efficacy. These practices provide structures meant to build trust and the resulting transparency that creates productive professional dialogue. In turn, teachers

“These are OUR kids. I’m going to give her as much as I can because I care about those kids and so I’m going to work really hard. It doesn’t matter that they are not my kids.”

Pilot School Teacher

continually improve their practice. Evidence of these key expectations in a culture of collaboration was emerging in a few of the PLC pilot schools.

Everyone “owns” the kids

One of the primary tenets of the DuFour model is building shared values around high expectations for all students and collective responsibility for the achievement of all students. In most of the pilot PLC schools, we saw strong evidence of this shared belief. We observed team meetings in which teachers shared the results of their class on common assessments and then discussed teaching strategies they would use as a team for students who did not reach mastery. Several interviews also yielded resonating responses indicating shared commitment and accountability for student learning.

As with any emerging strategy, the strength of this belief varied among observed teams and interviewed teachers. However, it was evident that most teachers moved beyond sharing opinions about curriculum and instruction to sharing the responsibility for student success as well as a belief that *“they are all our kids!”*

Structures = Trust

The DuFour practices and the extant research reinforce that teams that have strong structures for collaboration including norms, agendas, protocols and templates provide trust for open sharing and authentic collaboration. The structures also reinforce and guide the

team to stay on target and focus on student learning as the sole purpose for the collaborative time. Overwhelmingly, most observed pilot teams used some form of agenda or protocol to provide structure to the team time. However, the skill level of the teams varied in their ability to collaborate with strong adherence to norms and protocols and to the agenda of the team. Bryk & Schneider (2008) are clear that these professional norms are critical to the development of trust among teacher teams. Most had a clear agenda to review data, to discuss and plan assessment and to share instructional practices. Most teams also productively dialogued without off-topic conversations and unresolved conflict.

“PLC gives us permission to do what we need to do anyway.”

Pilot School Teacher

A few teams referred to having an agenda as a reference they use but their meetings wandered and had difficulty staying on topic. In these few teams, it was difficult to determine if there was an

ongoing conversation that focused on student learning. However, again, most teams used protocols, norms, and agendas to focus and to use efficiently their time to talk about the curriculum targets for students, to plan assessments, to explore misconceptions in student work, and to adjust the pacing and sequencing of content to build student understanding. The structures for collaboration provided tools to ease the transition from isolated to collaborative practice. Collaboration is not natural and takes guidance and practice (Stoll & Louis, 2004).

Working “smarter not harder”

Whether teacher, coach, or principal, there was a strong shared belief in the pilot schools in the power of developing collective knowledge about what works for student learning. Our findings echoed the DuFour theory of action (DuFour, 2008) and the empirical research (Stoll & Louis, 2004; Bryk, et. al, 2010) in that teacher teams synergistically created collective learning. Interviews with several pilot school teachers revealed that many realized the impact of shared planning, common assessments, and interventions for students that struggle and sharing of highly effective strategies for instruction. “[Before PLCs], I feel as I have one year of experience, nine times. With PLC’s, I’m learning. I’m getting better.” Consistently, teachers shared that they do not feel that PLCs did not create extra work, although it is very time consuming. Rather, they said PLCs help them work smarter on the “work they have to do anyway.”

The pilot schools were in the process of developing a sense of efficacy around the impact of PLCs on teacher work. There was a growing sense that collaboration is a powerful way to continually grow and improve both teaching and learning.

It forces us to collaborate a lot more. Second, it helps us do more in common, so we can improve.”

Pilot School Teacher

Leadership insisting on goal alignment and clearing the path to discussing instructional practices

Implementing PLCs as described in the DuFour model depends upon leadership with the focus and the strength to insist on vision, values and goals aligned with collaboration and high expectations for all students. Specific leadership skills critical to building a PLC include building a context of caring and trust among teachers, students and school leaders as well as insisting on participation of all staff in the building’s work to build a PLC and providing the resources and focus to keep the work moving forward.

The role of the Principal as vocal and active champion for PLCs was evident in all pilot schools. Overwhelmingly, teachers stressed that it was critical that

the principal “requires that everyone get on the same page” and that the Principal made sure they provided regular time for professional collaboration. The most frequent comment and concern noted by teachers in interviews was that protected time to meet weekly was critical to teachers’ ability to implement this work. One teacher summarized this feeling by pointing out that the “principal pulls it all together and gets us excited”.

Several pilot school teachers noted that their principal expressed to teachers, upon their school's entrance to the pilot, that this was going to be the way the building worked; those who did not want to work in a PLC should use it as an opportunity to request a transfer to another school.

Teachers noted that only a few staff did choose to self-select out of the building. Nevertheless, the principal's vision of and commitment to PLCs had a profound impact on all teachers and convinced them that the work was going to be expected and supported.

Teachers stressed that it was critical that the principal "*requires that everyone get on the same page.*"


Pilot School Teachers

Some pilot principals also commented that they assessed whether to be directly involved in weekly team meetings in order to empower teacher leadership. These principals still actively engaged teachers in ongoing staff meetings to discuss progress and send other messages of support and reinforcement. These pilot principals used other methods to check in and keep the teams on track. They used staff meeting time for whole school collaboration. They also provided rubrics by which teams could assess their own effectiveness of implementing PLCs as well as the extent to which their own PLCs aligned with the DuFour model. Along with the focus on providing resources, pilot school leaders also made it possible for ongoing connection and engagement with the DuFour Solution Tree consultants. Even in the non-pilots, there was evidence of principals providing similar resources and reinforcement for teachers to learn about PLC and to create time for teams to meet to implement the work.

Section 5: Project Question 2 - How do pilot schools differ from non-pilot schools in regards to teacher collaboration?

This study also sought to determine the extent to which PLC training influenced PLC implementation in pilot schools as well as the differences between pilot and non-pilot schools. Pilot schools received support that non-pilot schools did not receive. According to the district’s theory of action, the PLC training would result in higher levels of teacher collaboration and that in turn would increase levels of student achievement. Initiatives such as PLCs take time to develop in schools and that to compare the results of benchmark assessments so early in the school year would likely yield little or inaccurate results. In our recommendations section, we suggest future study on the use of student achievement data to determine the effects of PLCs on student learning. Since assessment data could not be used at the time of this study, we sought data concerning teacher perceptions about professional collaboration in their buildings through our survey and interview protocols.

Leadership



When we compared teacher responses to questions regarding the role of leadership on professional collaboration we did not find statistically significant differences between pilot and non-pilot schools (Table 3). When we divided teachers into those that taught math and those that did not, we found no significant differences between the four

groups (pilot math teachers, non-pilot math teachers, pilot non-math teachers, and non-pilot non-math teachers).

We learned from our interviews that principals played a key role both in adopting of the PLC and in committing the resources to implement it with fidelity. However, these findings contradicted the survey results in that teachers did not report differences in the actions of school leaders. One possible explanation is that the actions of a principal in establishing a PLC do not differ dramatically from their traditional activities in the eyes of a teacher. For example, a principal regularly reviews the results of benchmark assessments with grade level teams, not as part of a PLC, but as part of a program to increase data-informed decision making with their staff. Another possible explanation is that the PLC is a teacher-centered activity and so the principal’s actions may go unnoticed.

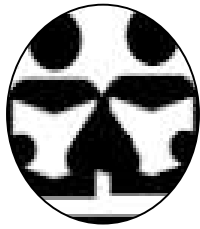
In our survey only one item from leadership showed a statistically significant difference between the groups. It pertained to teacher perception of sufficient amount of time provided by school leadership for

Table 3: Pilot and Non-Pilot Schools Across PLC Domains

Domain	School Type	N	Mean	Std. Deviation	Sig.
Leadership	Pilot	142	2.99	.524	.879
	Non-Pilot	123	2.98	.537	
Teacher Culture	Pilot	151	2.86	.462	.542
	Non-Pilot	128	2.89	.410	
Academic Focus	Pilot	152	3.08	.510	.083
	Non-Pilot	127	3.18	.472	

collaboration. In our interviews, principals at pilot schools noted the changes they had to

make to their school schedules to accommodate increased meeting times.



Collaborative practice

When we compared the survey results for our variable for collaborative practice between pilot and non-pilot schools, again we found no significant difference between the two types of schools (see Table 3). However, when we divided responses by where teachers taught math, we found a statistically significant difference in their average rating for academic focus (Table 4). In particular, there were two items that were highly significant. The first directly asked about teacher participation in a PLC (Figure 3), and the second concerned collaboration to develop new instructional materials. The former result was not surprising in that teachers, given PLC training, could recognize when they work in PLCs. The latter survey result confirmed team observation data of shared teacher labor in the creation of new classroom materials. This shared work mirrored both DuFour (2004) and the literature’s emphasis on collaboration (Stoll and Louis, 2003; Bryk, et. al., 2010). Math teachers in pilot schools reported in the survey that they engaged in jointly developing materials more frequently than the other three groups.

What does Collaborative Practice Look Like?

The spring follow up survey provided a view the activities that teachers participate in during their collaborative time. We questioned teachers about five activities that

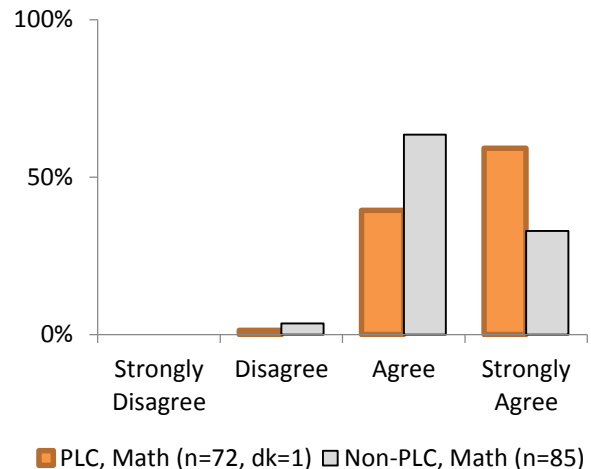
they might participate in during their collaborative time: writing common assessments, creating classroom activities, go over the results of benchmark, create groups for intervention and enrichment, and write lesson plans. The survey results can be found in Table 5.

Table 3: Pilot Math and Non-Pilot Math Teachers Across Domains

Domain	Teacher Type	N=	Value	Sig.
Leadership	PLC, Math	69	3.01	.729
	Non-PLC, Math	73	2.98	
Teacher Culture	PLC, Math	69	2.94	.509
	Non-PLC, Math	73	2.90	
Academic Focus	PLC, Math	69	3.28	.035*
	Non-PLC, Math	73	3.13	

Figure 3: Fall Survey: Teachers work in professional learning communities

Teachers work in professional learning communities to develop and align instructional practices



Math teachers in pilot schools more strongly agree that they work together to write common assessments than their non-pilot counterparts (Figure 4). This was consistent with teachers’ description of their new

planning practices where a portion of each PLC meeting is devoted to sharing and developing items for assessment. By using common assessments, teachers helped to expose students to the same content and to hold consistent expectations for rigor and student understanding classrooms.

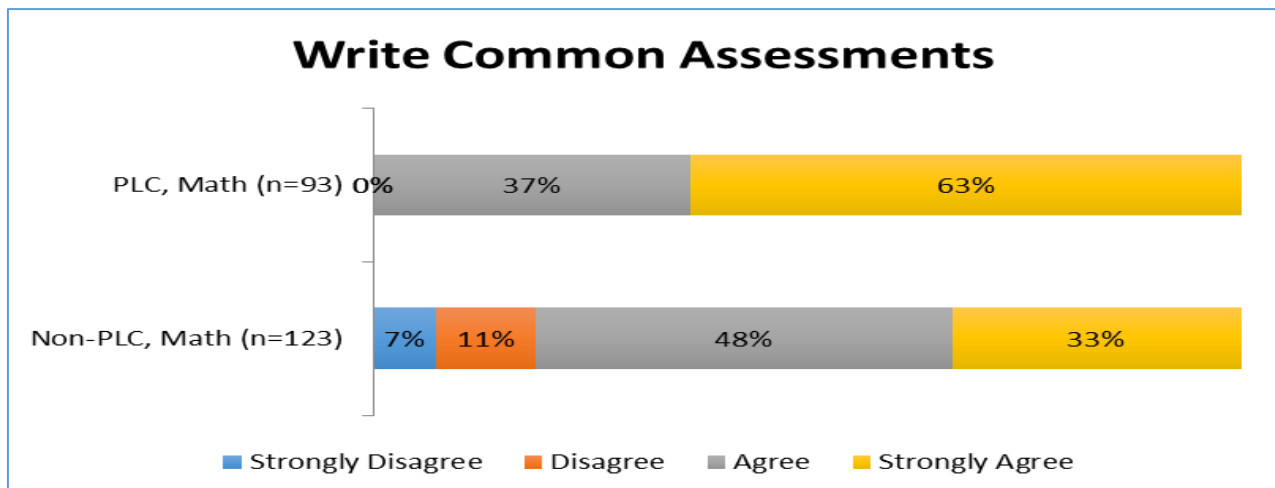
Table 5: Spring Survey Items

Item	Pilot Math (n=93)	Non-Pilot Math (n=123)	Sig.
Write Common Assessments	3.63	3.07	0.000
Create Classroom Activities	3.33	3.12	0.066
Go over the Results of Benchmark Assessment	3.37	3.3	0.481
Create Groups for Intervention and Enrichment	3.23	2.98	0.040
Write Lesson Plans	3.1	2.75	0.017

During one of our observations, we heard teachers discuss their flexible grouping strategy and what they planned on doing for intervention time that week. This led us to wonder if teachers in other pilot schools were using collaborative time similarly. Indeed, teachers in pilot schools more strongly agreed that they used their time together to create groups for intervention and enrichment (Figure 5). If PLC time is helping support the RTI model in the school, it may provide an additional benefit to students in need of additional support to reach grade-level performance.

Math teachers in pilot schools were also more likely to work together when planning classroom activities and writing lesson plans (Figure 6). Taken together, the results of the Spring follow-up survey point to changes in the practice of PLCs. This survey

Figure 4: Spring Survey: Write Common Assessments

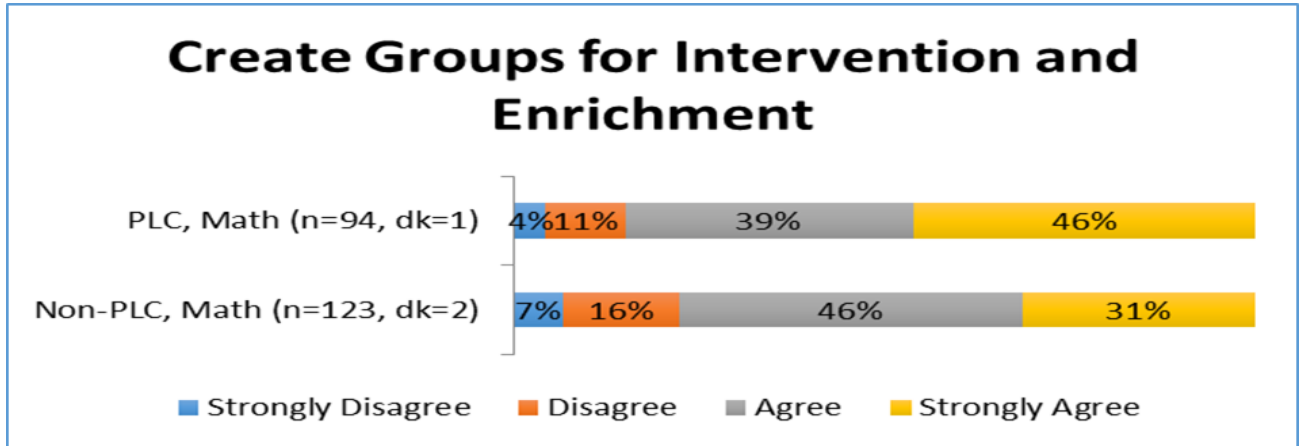


indicated that teacher teams have increased their collaboration as they cycle through planning, teaching, assessing and re-teaching.

4).

Academic focus is one way to distinguish PLCs from other forms of collaboration or meetings. Math teachers

Figure 5: Spring Survey: Create Groups for Intervention and Enrichment



Academic Focus

In the domain of Academic Focus, as with Leadership and Collaborative practice, there was not a statistically significant difference between pilot and non-pilot schools (Table 3). However, we found our strongest level of significance when we compared math teachers in pilot and non-pilot schools (Table

rated academic focus high. There were two particularly significant items within this domain; teachers reviewing assessment data to make instructional decisions (Figure 6) and teachers having conversations about what helps students learn best (Figure 7). Both these findings support what we observed in the schools, teachers regularly reviewed the results of weekly or bi-weekly tests and conversations in those meetings often turned toward what could meet the learning needs of individual students.

Figure 6: Spring Survey, Write Lesson Plans

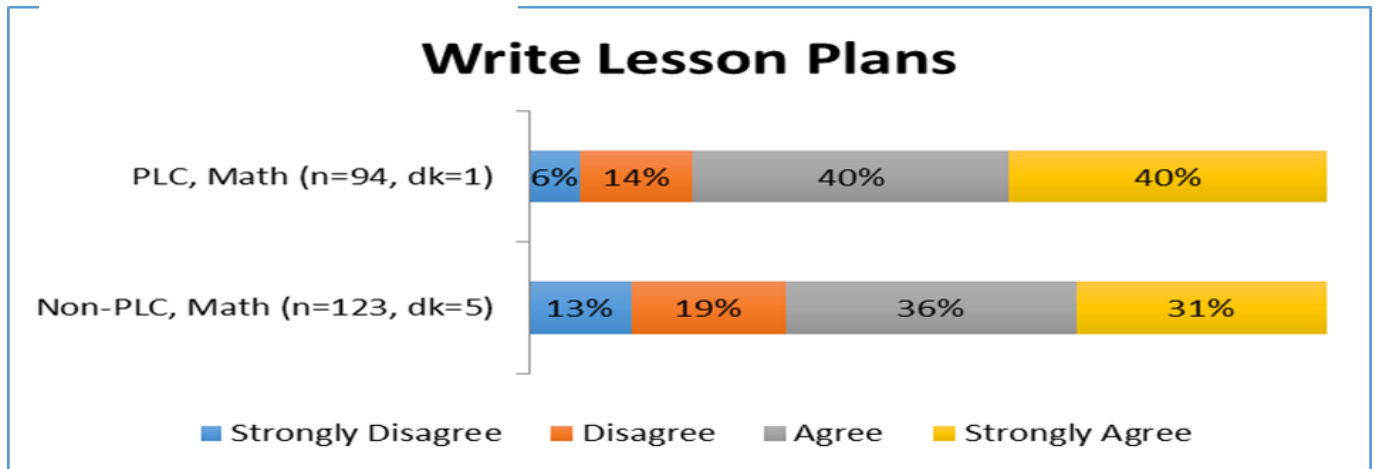


Figure 7: Fall Survey, Gone Over Student Assessment Data

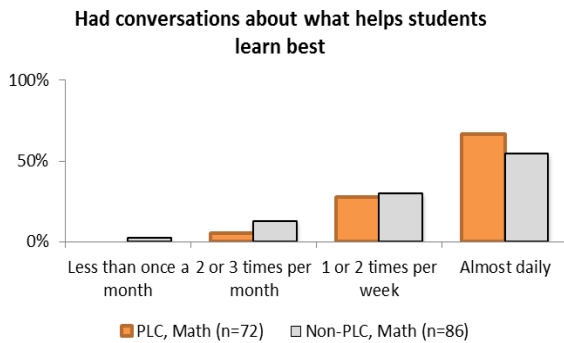
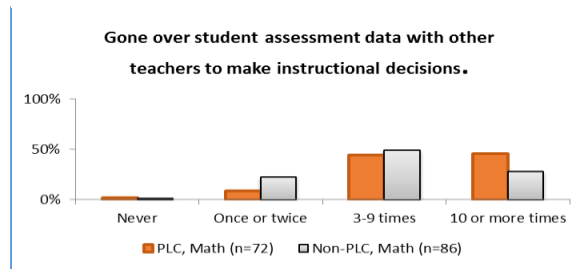


Figure 8: Fall Survey, Students Learn Best

Conclusion

How can we explain the lack of significant differences when comparing pilot and non-pilots at the school level? In all schools, some form of collaboration occurs. may occur at high levels without outside training as seen in non-pilot schools. One of the major challenges in determining the effect of the training is the pervasiveness of the PLC concept, regardless of the presence actual practice. Also, at the time of the survey the pilot schools had worked with their consultants for a few months. Teachers may not yet have adopted PLC practices. The PLC benefits seem also to be limited to those teaching math within the pilot schools. Even at this early point in the implementation, there appears to be areas where pilot schools differ from non-pilots in regards to professional collaboration and the academic focus of that collaboration.

Section 6: Research Question 3 - What are teacher perceptions about the utility of the PLC model?

In order for PLCs to have the sustainable and systemic power to improve student learning across campuses for years, teacher beliefs about the efficacy of the PLC initiative as a strategy for change are key. Teacher ownership, belief and “buy in” about the usefulness of a change initiative have direct impact on whether or not the model will be implemented with fidelity and if the strategy will become engrained standard practice.

JCPS has widely communicated the district focus on PLC as a reform strategy to improve student achievement. This emphasis and its widespread use has made PLCs an improvement strategy at a variety of levels of understanding and engagement among non-pilot schools. To further understand the current perception of teachers about the utility of PLC as a model for improving student learning, interview data from teachers in both pilot and non-pilots and observations at pilot and non-pilot schools were analyzed. Pilot and non-pilot teacher perceptions were explored across the three domains of the conceptual framework: focus on student learning, professional teacher culture and leadership.

Teachers need each other

Teachers in both pilot and non-pilot schools shared that they focus on student data and

assessment and they share the goal that all students will be proficient. Teachers in both settings also indicated a shared urgency to make sure that students who are not learning receive interventions. The strength of team commitment to achieve these goals and concerns about follow-through by members of the team vary between pilots and non-pilots.

Teachers in pilot schools talked transparently not only about the need for all students to learn but also how they relied on one another to reach this goal. They indicated that it is personally useful to have the support of their teammates and their school for students who don’t learn, students whom they may not have known what to do for in the past; and, helpful when they may not have the best ideas for lessons to teach a certain concept or when they may not know how to analyze their assessment results. One example was a teacher who honestly acknowledged *“I would be pretty adrift if I were on my own.”*

Pilot teachers also indicated that PLCs were useful because it keeps the focus of teacher team time on student learning and student results and sustained teachers’ focus on improving their practice. Many stressed the power of a type of peer pressure: *“If there is not someone there, teachers revert to what they used to do.”*

PLC pilot teachers also indicated the model was useful because team practices led them to quantify results and make them public. *“Now we can see if what we are doing is actually working.”* Finally, pilot teachers stressed that PLCs are useful because they the

“I would be pretty adrift if I were on my own.”

First year teacher at a pilot school

constant tracking of student mastery ensures that students do not fail. The teachers noted that PLCs establish a consistent and ongoing practice of identifying students that do not master common assessments and the subsequent ongoing planning to make sure students who need help get the help they need. Across many pilot teacher interviews, when teachers were asked what the school would be like in five years if PLC implementation continues, there was a resounding belief that in five years more students would be proficient, there would not be as many achievement gaps, and that teacher culture would be significantly more professional and focused on collaboration for results.

Teachers in non-pilot schools also referenced that they recognized the impact on student learning that PLC strategies may have but their confidence was hedged with doubt about widespread commitment from other staff. During interviews, teachers suggested that they had a lower level of certainty of what full implementation of PLC might look like and how it could improve student learning. In addition, they were highly skeptical that all teachers would engage. They did not express specifics or confidence that leadership could create the necessary conditions to ensure this result.

I didn't buy in easy. I was the teacher who wanted to be in my cave. The days of teachers closing their doors and doing their own thing is over. I am coming around to PLCs.

Pilot school teacher

"The days of teachers closing their doors and doing their own thing is over."

Pilot School teacher

Non-pilot teachers also described that they use data and noted that they have conversations about student results as well as who needed intervention. However, non-pilot teacher conversations were not as in-depth, specific, or continuous. This tacitly suggested that non-pilot teachers have a weaker sense of usefulness about PLC's.

Collaboration as an engine for change

The construction of collaborative teacher culture that builds trust and openness so teachers build networks of continual professional learning is a core component of the DuFour model and is consistent with the research on teacher culture (Bryk, & Schneider, 1999). Teachers however have spent most of their careers in relative isolation, experiencing only congenial or social connections rather than authentic collegial culture (Cuban, 1993).

Given this deeply rooted reality, teachers hold widely varying views of the value of collaboration and typically cherish the autonomy of isolation. Therefore, exploring both pilot and non-pilot school teacher perceptions on abandoning isolation and the power of collaboration are keys to understanding whether teachers perceive this facet of PLC as useful and whether or not it is present in JCPS.

Pilot teachers spoke with frankness about the power of ending isolation and are able to identify the significant usefulness of moving from isolation to collaboration.

“I didn’t buy in easy. I was the teacher who wanted to be in my cave. The days of teachers closing their doors and doing their own thing is over. I am coming around to PLCs.”

Teachers more frequently described collaboration as useful because it brings teachers together to achieve shared goals for all children: *“It helps that we are all on the same page – we pull for each other a bit more.”*

Teachers further shared that it was clear to them that everyone’s success is tied to the success of all students. It was useful to collaborate, because people were more motivated to share what works knowing they are now accountable for the achievement of all students in the grade. Pilot teachers even described the leverage created by forced collaboration on student learning. They noted that it forced collaboration to be substantive and focused on the work of curriculum, assessment and intervention, rather than niceness and social relationships. One teacher described this as the difference between actually planning together and running ideas by each other in

“I think PLC is like a family. There are things that you don’t agree on but you work them out. It helps you become a better teacher. Otherwise you’re sitting by yourself and struggling. With PLC, you can come out and help one another.”

Pilot school teacher

“[It] helps that we are all on the same page- we pull for each other a bit more.”

Pilot school teacher

the hallway.

“It forces us to collaborate a lot more. Second, it helps us do more in common so we can improve. The more we do in common, the more we’ll able to evaluate what we’re doing”

Several pilot teachers described that the emphasis on collaboration created a power to effect change and keep the work moving; it created a pressure to “get on board.” *“This kinda makes you transparent...you can’t go behind your door and do what you want.”* Teachers shared that they see collaboration as useful as a tool to improve teacher quality, because those with ineffective practice are held accountable for their results and must collaborate around effective strategies. They even note that occasionally

when the work on PLC begins low performing teachers choose assignment out of the building.

Teachers in most non-pilot schools agreed that PLCs help get everyone on the same page but they are more concerned about naysayers and their ability to bring down the effort. The non-pilot teachers working to implement PLC indicate they felt alone. They worried that PLCs will never take hold in the culture and become the way the building

works. *“Some people want to do their own thing and they are not going to change.”*

Overall, teachers in non-pilot schools talked about the power of PLCs and the importance of sharing ideas and analyzing data together. They imagined that collaborating on student learning could have the possibility of improving results, but their confidence and the depth of their understanding were basic in most cases.

“(PLC’s)help us focus on what needs to be done.”

Pilot School Teacher

district will continue to increase expectations of their work with no provision of additional time or professional development on PLCs. The difference between the pilot and non-pilot teachers was the strength of resolve and belief in sustainability; pilot teachers had a stronger sense that district and school leadership will sustain the initiative, that their principal will continue to hold the staff accountable, and that the school and district will continue to provide the necessary resources.

Leadership makes it all possible

Although the PLC model has strong alignment with tenets in the research regarding professional community, the practical utility of the model depends upon focused leaders that develop teacher culture, provide resources and stay the course on a day-to-day basis and over time. Pilot and non-pilot school teachers alike saw the role of the principal as essential to clearing the obstacles for the work. This included creating the time for collaboration, reinforcing the expectation that “PLC is the work that we all will do,” and ensuring that naysayers cannot sabotage the PLC work.

Overwhelmingly, the resounding message from all teachers was the need for time. They feared that schools or the district would not sustain the commitment to provide time. Teachers were concerned that the

Pilot school teachers stressed that the PLC work is only possible with protected provided time within the school day. They are

“We haven’t had the chance to fully implement something before something else is given to us to implement.”

Pilot School Teacher

emphatic that it would not be a “useful” strategy without the time. For pilot school teachers who have had the opportunity to learn what we mean by PLC and how exactly it is to work, teachers found the work useful because it is based on the daily work they have to do. They reinforced that this is a key strength of PLC and that it is useful, because it is not something disconnected from the day to day work of teaching.

Working on curriculum, assessments, and interventions to improve student learning are exactly what teachers need to improve their instruction. Our interviews indicated that they recognized this. Therefore, they perceive the work in PLC to be useful. *“PLC gives us permission to do what we need to do anyway.”*

Teachers described that PLC works because it is based on the daily work and includes learning what works from others doing the work, which leads to consistency and ensures that all students get what they need. One teacher summarized this as *“They help us focus on what needs to be done.”* Teachers described PLC as useful because it provides the opportunity to have the help they need to do their work everyday.

Teachers in the non pilot schools also see the potential in PLC but their belief in usefulness is diminished by serious concerns about whether or not the initiative will be sustained. Skepticism about staying the course is high. *“We haven’t had the chance to fully implement something before something else is given to use to implement.”* Like

pilots, non-pilot school teachers identified that unless the leadership perseveres and continues the focus on PLC, there will be little to no impact and therefore they should be wary of investing their energy and time. Also like pilot teachers, non-pilot teachers resoundingly stressed that the initiative is only possible if time is provided and they worry that the leadership does not have the will or the resources to ensure that the time will be provided on a long term basis.

“It’s not about what you’re doing wrong but what can you do to become a better educator. That kind of dialogue helps build the culture ... build the climate. I feel like culture really dictates how successful you are... and we need to get back to that.”

Pilot School Teacher

Hope and skepticism for the long term

While pilot and non-pilot teachers alike believe that PLC can be a useful change initiative that can impact student learning, the difference between the two groups appears to be the strength of hope and belief that it will be implemented for the long term. Pilot teachers have a greater clarity of vision of how PLC can impact student learning and teacher culture as well as the belief that their leaders will insist that all staff participate and engage in the work.

Even though pilot teachers see the work as difficult, uncomfortable and time consuming, they express that they have no doubt that this will be powerful in changing their schools and improving student learning. They see the payoff for students and for their own work. They believe they

will all be better teachers and that student achievement will go up. When we asked teachers in the interview, what do you think the results will be in five years, they commented that the PLC work will improve both student achievement, the quality of teaching and the quality of teaching culture. They believe it creates an ambition vision for the future.

Non-pilot teachers, in most cases, have a lower level of confidence that PLCs have the ability to change the school. They

identified positives in the work and some have hope that it could make a difference, but they were highly skeptical of whether the consistent ongoing impact possible in a fully functioning PLC could ever be attained. They were more likely to believe that the time will no longer be given, and a new initiative will take its place. They worried that their colleagues will never buy in to the de-privatization and sharing required. Both groups expressed concern that the initiative will not be sustained and the time and professional development to implement with quality and fidelity will not be provided long term.

Section 7: Research Question 4 - What are school-level conditions that contribute to the fidelity of implementation of the PLC model?

Based on observations and interviews conducted in JCPS, the PLC models observed had relatively strong adherence to the DuFour PLC model and to the characteristics of strong professional community described in the research. The models observed demonstrated focus on student learning, collaboration to improve learning and teacher practice and the leadership that provides necessary resources and the focus on the implementation of PLCs. In this final research question, our analysis considered the school-level conditions that were observed in PLCs that had a high degree of fidelity to the PLC model. These conditions relate to how each of the three elements (focus on student learning, professional teacher culture, and leadership) were fostered and developed.

“Tight-Loose-Tight” leadership – staying the course

Loose-tight leadership refers to a characteristic of leadership that holds tight to the mission, vision and expectations of the work and is loose about the elements of day-to-day execution and how-to planning that can be led by internal leaders. DuFour (2004) uses this phrase to reinforce that principals must hold the focus of the school on the requirement to collaborate with a focus on student learning while insisting on high

expectations for all students and intervention for all who need it and simultaneously empower teachers to lead the ongoing team work necessary to achieve this vision and goal.

In the schools observed with strong implementation fidelity (whether pilot or non-pilot), principals were observed to strive to achieve this balance. In more than one example, interviewed teachers indicated that the principal made it clear from the beginning

Until you get the full vision, you can't fully embrace it."

Non-Pilot School Teacher

of the pilot that PLCs were going to be the way the building was going to work and teachers who did not want to work in this way should use it as an opportunity to request a transfer to another school.

Teachers that shared these stories saw this as a sign of commitment, a resolve to ensure implementation fidelity and to ensure sustaining that implementation over time. This commitment by leaders in turn strengthens teacher dedication to PLCs.

Another key characteristic of loose-tight leadership is the leader's continued assessment of where the building (and each teacher team) is in terms of implementation and culture development, and then to strategically choose how to engage the staff in the work. Some principals interviewed talked about choosing not to attend or facilitate actual team meetings in order to reinforce teacher leadership of the teams. Another principal was observed to have created a weekly rotation structure that would guide teacher teams to work through the curriculum-assessment-intervention cycle

without the principal leading constant agenda development.

In fact, this characteristic was also observed in a non-pilot school with strong implementation of PLCs. The principal in this school identified five teacher leaders as the building leadership team. This teacher team led staff meetings and trained other teachers about how to conduct PLC's. The principal then structured time so that staff meetings were dedicated to this work to reinforce the expectation of PLC implementation

Teachers in this building expressed how the principal provides support even though they stay away from team meetings:

"She let two PD's just be about PLC's – tell me what's working and what's not...let me watch...show me how you use data...tell me what resources you need...just so she could see it in action and [we could] talk with her about how it's going."

In some buildings, the principal was present at team meetings, and the staff felt it was necessary to keep teachers on track. In other buildings, the principal stayed away from team meetings but used other structures such as the use of time and protocols/templates to reinforce what is expected during PLC time.

"She let two PD's just be about PLC's.. [she said] let me watch... just so she could see it in action and [we could] talk with her about how it's going."

Pilot School Teacher

"This will take time – I hope they will give it time – this will take 5 years."

Pilot School Teacher

Protected time and essential training

One of the primary school level conditions necessary for implementation and cited by all teachers and principals is providing protected time that is specifically dedicated to the work of teacher teams working through curriculum, assessment, instruction and intervention to improve student learning. Time is critical, not only for the work to be completed but to also

create habits of how to work as a team through topics of student learning. Many teachers indicated that *"a lot of teachers are overwhelmed"*. The protected time is the support that begins to help teachers believe the change is possible. The PLC work challenges the historic isolation that is characteristic of the teaching profession

and de-privatizes planning and instruction at a level that is threatening. Overcoming this fear and building trust takes time.

Another key school level factor related to ensuring time is the elimination of other change strategies implemented simultaneously. The school needs a singular focus on PLC implementation. Giving PLCs time to take hold and reinforcing that this strategy that will be

sustained over time are critical to solidifying teacher commitment and engagement in the work. Examples of reinforcing the focus and use of time dedicated to PLC were the practices of principals who use staff meeting

time for PLC teams to meet as vertical teams, practicing the expected dialogues and deepening the collaboration around understanding student learning.

The fear that protected time will be eliminated is a constant concern expressed by teachers;

one stated, *“This will take time – I hope they will give it time – this will take 5 years.”*

In addition to the provision of time and the reinforcement of singular focus on PLC that is sustained, it is essential to provide training and ongoing professional development to understand exactly what is meant by teaming to discuss curriculum, review assessment results, design assessments, share instructional practices that work, identifying the interventions that will improve student learning and specifically the collaboration skills and practices that are needed to provide safe and transparent and authentic collaboration. Observed teams with strong implementation fidelity had structured protocols, established meeting norms, and effectively used PLC time. They openly shared student assessment results and talked about instructional interventions to address student misconceptions; or they planned subsequent assessments. During interviews, these

“We knew the definition [of the PLC] but did not know what it looked like. We had common planning time, we had RTI but were we systemic? No, we weren’t process oriented, the culture was not built in the school.”

Pilot school teacher

teachers indicated that the training they received from experts (whether the Solution Tree Consultants or the DuFour’s themselves) as well as the support of the tools provided by their principals were key to using their team time for authentic work on student learning.

Several indicated that they still needed much more training, including a hope that they would receive additional support for training in collaborative skills, specifically how to deal with conflict and how to build consensus. Key to building trust is recognizing that de-privatizing practice is new and threatening to teachers; therefore, another important school level condition for success is providing support to teach, develop and enforce

collaborative norms/behaviors.

Clarity of expectation – What exactly are PLCs?

The terminology of PLC has been pervasive for over a decade and is widely referred to as a key reform strategy by teachers and administrators alike. An interesting characteristic noted in the schools with strong implementation fidelity was that principals and teachers both stressed that clear understanding of expectations of teacher teams and the faculty as a whole empowered them to implement a

“I would love to know what it looks like when it’s great.”

Pilot School Teacher

“PLC”. One teacher noted, *“Until you get the full vision, you can’t fully embrace it.”*

Teachers noted that through the implementation process and guidance from Solution Tree consultants, they began to understand and envision a highly functioning PLCs. Many teachers mentioned that they had thought they had worked as a PLC in the past, but were beginning to realize that their past interpretation was not an implementation of the model with fidelity.

Principals also described that they used DuFour rubrics, protocols, and processes at staff meetings to conduct PLC team meetings (vertical and horizontal). This strategy helped to create public learning and accountability for implementation of the model. Teachers also noted the need for ongoing learning and support for their ability to lead what strong implementation looks like. *“I would love to know what it looks like when it’s great.”*

This honest ongoing assessment of exactly what strong PLC’s look like in action contributes to implementation with fidelity.

Teacher leaders – Models and Cheerleaders

Another characteristic observed in schools with a high fidelity of implementation was strong teacher leaders. These teacher leaders were observed to run team meetings with confidence and collaboration, align the work to protocols and expectations and reinforce norms of team behavior. Teachers indicated that some teachers “bought in” because other teachers said that PLC would improve student learning.

In one non-pilot school, the principal’s strategy was to send a teacher team to training with the DuFour consultants, so the team could learn to lead other teachers in PLC implementation. The principal stayed in the background as a strong and steady supporter, created time for meetings, provided templates, protocols, and expectations for meetings, and using staff meeting time for the teacher leaders to lead. This principal noted in her interviews that it was critical to *“always lead through the eyes of a teacher.”*

Both teachers and principals indicated that the consistent presence of role models in the team meetings were keys to ensuring the fidelity of implementation. One teacher reinforced that by saying, *“If there is not someone there, teachers revert to what they used to do.”*

Section 8: Discussion

This study served as a formative assessment of the first stage of PLC implementation, which is a key strategy for educational improvement in JCPS. The project sought to gain understanding of the implementation fidelity of the PLC model in the pilot schools as well as to identify the differences between conditions that support PLCs in pilots and non-pilot schools. Through mixed methods, we explored the alignment of PLCs in pilot schools, the collaboration among teachers in pilot and non-pilot schools, teacher perceptions in both sets of schools, and school-level conditions that contributed to strong fidelity of PLC implementation.

In the following discussion, the key PLC constructs in the extant literature (i.e., focus on student learning, teacher culture, and leadership) ground the summary of our findings to the research questions. The exploration of findings and the connections with the research revealed early strengths in the pilots and non-pilot schools that can guide considerations for the expansion of the PLC initiative to schools across the district.

As noted in Section 1, the lack of empirical evidence to support DuFour's specific model made the JCPS pilot particularly unique. Without an empirical base, the district pursued a model that possibly could not have been responsible for student learning results. To establish that the JCPS PLC initiative rested on an empirical foundation, this study reviewed the literature on professional communities and then mapped the extant literature to the DuFour model (see Section 1). Based on our review and analysis, the extant literature supports the

DuFour model through three constructs: focus on student learning, teacher culture, and leadership. With a strong foundation in the literature, the PLC model provided a plausible launching pad for PLCs in JCPS. The discussion below elaborates our findings.

Overall results

Our interviews and survey reveal evidence of PLCs as a driving structure to propel teaching and instructional planning based on assessment of student learning. As the JCPS program theory contends, if PLC changes teacher culture and creates a collaborative focus on student learning then student learning outcomes will improve. The district will need to pursue additional, ongoing research to confirm that causation linkage.

However, at this point in time, JCPS can point to a number of satisfactory accomplishments as a result of the PLC pilot. First, several specific school-level structures support the creation and sustainability of PLCs. Second, PLCs engender a sense of purpose and care for students among teachers as well as foster marked collegial trust and expectations that align with PLC constructs. Third, our findings show that school-based leadership plays a significant role in cultivating PLCs.

PLCs implemented with fidelity

We found, in response to Project Question 1, that pilot and non-pilot schools are implementing the DuFour's PLC model with fidelity. Over 97% of pilot schools and 88% of non-pilot schools reported working PLCs that develop and align instructional practices. Our interviews and survey data

show that schools use several structures that the DuFours recommend and that these structures significantly foster PLC implementation. All pilot school teachers and 92% of non-pilot teachers said that they had some collaborative planning time. Teacher and principal interviews showed that schools arranged schedules to provide common planning time for teachers to meet. *“The more we do in common, the more we’ll be able to evaluate what we’re doing.”* They typically met weekly as grade-level (e.g., all Kindergarten teachers) or subject discipline-based teams (e.g., all 6th grade math teachers in a middle school). Common planning time provided roughly 40 minutes on a regular and frequent basis for teacher teams to focus on student learning.

Pilot schools also employed another PLC structure, regular assessments of student learning tied to student learning outcome objectives and common to all students in a particular grade and subject (e.g., all 6th grade math students took the same quiz). Our survey showed that at least 96% of pilot schools and 62% of non-pilot schools went over student assessment data with other teachers to make instructional decisions at least three times in the first three months of school. The district required schools to assess student learning at regular intervals throughout the school year. Teacher interviews showed that teachers embraced the district set of assessments, known as Cascade,

with varying degrees of enthusiasm. Some teachers used the Cascade data in PLCs and other teachers preferred the assessments created at the school level. In addition to the district’s assessments, the schools we visited typically created additional assessments in PLCs to assess student learning at more frequent intervals (e.g., every other week). As one teacher said, *“Now we can see if what*

we are doing is actually working.” The assessment data supplied PLCs with a gauge by which they could determine class and individual student growth and by which to plan subsequent lessons.

The DuFour model also calls for common planning. That is, PLCs jointly design lessons and units based on end-of-year learning objectives and assessment data results of student learning. Teachers generally reported collaborating on lesson plans

and a few teams submitted one lesson plan for multiple classrooms. Over 90% of surveyed pilot schools said they worked with other teachers to develop materials or activities for a particular class at least three times before November of this school year, and 72% of non-pilot schools claimed the same. The common planning time and common assessments facilitated the capacity for PLCs to plan together lesson plans. *“We all share a singular focus. Instructional planning is changing...no longer planning in isolation...all teachers [are] teaching the same standards, same expectations for mastery.”*

“We all share a singular focus. Instructional planning is changing...no longer planning in isolation...all teachers [are] teaching the same standards, same expectations for mastery.”

Pilot School Teacher

mastery.” With regular, weekly planning time as well data from frequent common assessments, PLCs lead teacher teams to depend on these structures to plan instruction as a group.

PLCs observed used common planning time to create common assessments, to analyze student learning data from assessment results, and to plan instruction based on the assessment results.

While teacher and principal interviews as well as survey data (90% of pilot schools; and 62% of non-pilot schools; supported this as the purpose of PLCs, the implementation varied from PLC to PLC based on limited observations. With only seven observations of PLC team meetings, our observation data may be suspect to sampling error; however, we noted that some teacher teams used PLC time to discuss non-PLC topics such as the value and cost of an on-line math program.

We cannot ascertain, through observations, if the PLCs maintained sufficient focus on their agendas. Indeed, we observed some teams using agendas, protocols and keeping notes, whether an administrator was present or not. The DuFour model requires these three structures—PLC agendas, protocols, keeping notes—yet not all teams observed utilized these tools and those who did had widely varying levels of rigor in their implementation of the tools. The district and future research may look to mechanisms that can both support and measure school effectiveness in focusing PLC time on data

analysis, generating assessments, and instructional planning based on assessment data.

As we have seen, common planning time and common assessments have served as helpful structures to establish the conditions in which PLCs may flourish. They have not, however, ensured the actualization of the PLC’s

“[It] helps me be comfortable talking...It helps you become a better teacher...With PLCs, you can come out and help one another.”

Pilot School Teacher

purpose—i.e., teacher discussion of student learning and corresponding instructional planning. Elmore (1996) exposed this weakness of school reform that relied on structures without the development of teacher norms and trust. Only with professional norms and collegial trust do professional communities lead to profound

discussions about student learning. Indeed, DuFour’s model called for these structures to enable the development of teacher trust and the establishment of PLC norms (DuFour, 2004). To this extent, PLC structures in JCPS established a base upon which schools can build teacher professional communities, but structures alone do not guarantee PLCs. JCPS should take note for the ongoing assessment of PLC and when buildings and teams claim they are implementing with fidelity. Assessment for strong fidelity must include an exploration of the depth and authenticity of teacher collaboration and determine if it is in fact producing open, honest, and robust dialogue about instructional practices and an implicit and ongoing willingness to learn from others.

Clear purpose and practices for PLCs leads to professional community

Our findings suggest that common assessments, assessment results, and common planning encourage the development of coherent PLCs. In interviews with teachers, we heard consistently a sense of individual commitment to team and to the team's goal of increasing student learning through discussion of assessment results and instructional planning. To that end, 97% of pilot schools and 88% of non-pilot schools reported working in PLCs to develop and align instructional practices. These discussions connected teachers to each other professionally, to the PLCs, to the PLC model, and to students and classes of students. *"Strong collaboration around real work and improvement for students creates collegial cohesiveness and trust. [It] helps me be comfortable talking...It helps you become a better teacher...With PLCs, you can come out and help one another."* PLCs laid the foundation for teachers to care about each other's professional success in increasing student learning. Interestingly, teachers interviewed rejected colleagues who did not subscribe to this group dedication to student learning. *"Teachers that don't want to be part of this or are low-quality have to take transfers [to other schools]."* Teachers reported that PLCs seemed to encourage group commitment to student learning and, inversely, to discourage isolation among teachers. Given the constancy among teachers to work alone (Cuban, 1993), PLCs

"Strong collaboration around real work and improvement for students creates collegial cohesiveness and trust."

Pilot School Teacher

seem to help to deprivitize teaching. This evidence suggests that the teacher teams cohered around professional norms that fostered teacher-to-teacher learning about better instructional practices (Stoll & Louis, 2010).

Similarly, PLCs seemed to promote teacher care for students and their learning. Teachers in pilot schools and non-pilot schools had at least one conversation per week about what helps students learn best.

Encouragingly, these data also purported that two-thirds of pilot teachers and over half of non-pilot teachers held such conversations daily. Teachers rallied around their students' learning. One teacher reinforced her commitment to helping

another teacher in the grade level and her commitment to learning for all students regardless of which classroom they were in this way: *"These are OUR [original emphasis] kids. I'm going to give her as much as I can because I care about those kids and so I'm going to work really hard. It doesn't matter that they are not my kids."* Overwhelmingly across the interviews, teachers attributed to PLCs a growth in collective responsibility for all students' learning.

In both pilot and non-pilot schools, teachers reported increased professional trust. *"I think PLC is like a family. There are things that you don't agree on but you work them out. It helps you become a better teacher. Otherwise, you're sitting by yourself struggling."* This teacher's willingness to

share her professional shortcomings with colleagues represented a key shift in the development of teacher trust. Bryk, et. al (2010) confirmed, in their research, the importance of teacher trust as a prerequisite to developing the conditions for professional community, the resulting improvement in instruction, and finally the corresponding student learning. PLCs provided the conditions and expectations by which JCPS teachers have shared their questions and concerns about their students' learning. Math teachers in pilot schools reported having conversations about what helps student learn best more frequently than their non-pilot counterparts (Figure 8)

PLCs also have engendered a sense of ownership for student learning as well as agency among JCPS teacher teams. A math teacher in a pilot school commented, *"[PLCs give] us permission to do what we need to do anyway. It forces us to collaborate a lot more. Second, it helps us do more in common so we can improve. The more we do in common, the more we're able to evaluate what we're doing."* As teachers review, discuss, and share their instructional practices, instruction improves and students benefit (Smith, J., Lee, V., Newmann, F., 2001). When teachers discuss their problems and concerns about their instruction and their students' learning, they can learn from each other and devise concerted responses to problems. Similarly, pilot school teachers expected their colleagues to teach at a high level. *"The pressure is on those people who are just trying to slide by."* PLCs appeared to demand more of their colleagues when analyzing student learning data, planning instruction, preparing common assessments

and planning for intervention for students who have not yet mastered the learning targets.

Leadership fosters PLC development

Our data show that leadership comprised a critical element in the creation of PLCs, and the relevant literature on professional communities confirms (Hipp & Bumpers, 2010; McLaughlin & Talbert, 2010; Halverson, 2010). School and district leadership "set the agenda" for teacher teams to focus on student learning data, student work, instructional planning, and creation of assessments. Principals also assembled structures and resources that created the conditions by which professional community have developed. In our survey, teachers, especially in pilot schools, reported that they had consistent collaborative planning time. By prioritizing the creation of time during the creation of school schedules, principals played a key role in securing collaborative planning time.

District and school leadership also determined resources for initial and subsequent training for teacher teams on PLC implementation, including specific processes, tools and skills for collaboration. Interviewed teachers cited the spring (2012), summer (2012), and on-going trainings in the 2012-13 school-year as critical to understanding and implementing the DuFour PLC model. The district-supported PLC pilot funded trainings. Without this training in what PLC is and how to collaborate effectively, teacher teams might have floundered. Christman and Supovitz (2005) exposed the fallacy of supposing that small

committees will lead to changes in instruction. Indeed, we learned that leadership must drive team discussions, at least initially, through structures and either administrative presence or trained teacher leaders at PLC meetings, until strong collegial norms establish the clear expectation that PLCs stay focused on student learning. Schools and PLCs need more professional reading and training on the skill of effective collaboration and practices that guide the authentic establishment and implementation of collegial norms that keep teacher teams on focused student learning and open to the honest dialogue of what works so all are continually professionally learning better practice.

The DuFour model predicted that PLCs, if well implemented, will eventually sustain themselves and not depend on formal leadership. This is certainly the ultimate goal. However, this will take extensive time and perseverance to secure and embed this robust form of ongoing professional learning as the DNA of the school culture and the length of time and the constant care and support by the leader to create this cannot be underestimated. The literature reinforces this emphasis on establishing the deep roots and the necessity of focusing on student learning and creating teacher culture with the trust and openness to constantly de-privatize practice (Stoll & Louis, 2007). Again, we believe the practical difficulty of this cannot be underestimated. Given the constant presence of teachers new to the PLC model due to eventual teacher turnover, and the myriad distractions to teachers' time in addition to changes in leadership and changes to resource allocation and district priorities, this emphasis will take

constant and vigilant nurturing and development. A teacher indicated her concern about the fragility of the situation well, "*If there is not the [administrator] there, teachers revert to what they used to do.*"

Formal leadership, in the form of an administrator or a teacher, is needed to establish and develop teacher leadership, to provide the resources and to insist on the focus that this will be the work of the building for the long haul and this will become the undisputed way the building will operate. And finally, the leader must continually guide and insist that teacher teams be PLC's that focus on student learning, assessment-creation, data analysis, and instructional planning. Teacher leadership will likely develop as Printy (2005) showed, but the level of autonomous leadership among individual PLCs will ebb and flow as teacher leadership develops, departs, or is distracted by competing interests.

Section 9: Recommendations and Conclusion

Our analysis of interview and survey data as well as our review of the literature has led us to several recommendations for JCPS' subsequent support of PLCs. Overall, our findings suggest that teacher community in pilot and non-pilot has strengthened as a result of PLCs in JCPS. Coordinated, strategic district-wide support for PLCs is warranted. To this end, we make specific recommendations below.

Widespread empirical support for PLCs

We note the significance of the literature's support of the DuFour model as a pre-condition to further pursuing PLCs. Our analysis shows that indeed the literature maps comprehensively, if not directly, to the DuFour PLC model (see Section 1). With the literature's endorsement of the DuFour PLC model, the district's PLC pilot gains significant credibility for claims that student learning gains can be attributed to the PLC initiative. Future data gathering and research will need to establish these claims. As the district advances its PLC initiative, we recommend that it regularly cites a synopsis of the extant literature on professional communities to bolster its ability to garner support for PLCs among teachers, school-based administrators, district administrators, funders, and other stakeholders. Indeed, robust evidence from the research community endorses PLCs as a powerful, sustainable, and economical way to improve student learning and to empower teachers. The district can use this collection of studies on professional

community to not only justify the current PLC initiative but to expand it as a major strategy in its long-term planning.

Time and stability to foster professional relationships and trust

Repeatedly, teachers urged the district to give the PLC initiative time to develop. Based on these interviews as well as the research that calls for time to establish trust (Bryk, et. al, 2010), we recommend that the district publicly outline a multi-year commitment to PLCs. A three to five-year commitment, with a review after three years, would project an aura of confidence and stability to teachers, school leadership, and other stakeholders. Our data showed that pilot schools sensed the district's long-term commitment more readily than non-pilot schools. One non-pilot teacher said, "*We haven't had the chance to fully implement something before something else is given to us to implement.*" To expand the pilot, all schools need to know the district's level of commitment. Pilot schools, and some non-pilot schools, show indicators of readiness to deepen their PLC exposure and expertise; they need to know the district's "agenda-setting" includes PLCs as a central strategy, so they can engage in revising structures such as common planning time and strengthening the professional relationships and trust critical to the creation of PLCs. The literature shows that districts that embrace and support long-term professional development strategies experience sustained improvement in teaching practices (see Birman, et. al., 2000; Garet, et. al., 2002).

Flexible accountability and embedded PLC evaluation

Our experience with PLCs in JCPS taught us that professional communities grow organically dependent on commitment levels and the capacity of school-based leadership and teachers. Pilot and non-pilot schools implemented PLCs in different ways, at varying paces, and with distinct results. The district's vision for school improvement significantly influences schools (Supovitch, 2006), so district leaders need to carefully outline goals without prescribing particular paths to the vision. At the same time, the district can provide the guideposts, such as videos, visits and the DuFour's rubrics (DuFour, et. al., 2006), for the path to a clear and robust vision and deep understanding of well-implemented PLCs. Regular district observations of PLCs and monitoring of district assessments such as Cascade provide necessary evaluative data about the PLCs impact on student learning.

At the very least, the district should consider mandating common planning time as a prerequisite condition for PLCs as it is a simple essential for PLC implementation. JCPS should also provide training in collaboration skills and protocols, including such basic PLC requirements as creating common assessments aligned with learning objectives, analyzing student learning data and student work, and planning instruction and intervention collaboratively (DuFour, 2006). With these guideposts in place, the district should then allow individual schools to attend to their individual contexts including specific assessments that provide meaningful feedback on student learning progress, and ways to plan instruction based on assessment

data results. Accountability metrics already in place provide summative measures of individual school effectiveness. These metrics can provide further evidence of school level effectiveness on student learning vis-à-vis PLCs.

Make transparent the district's PLC expectation

Schools would benefit from a clear definition of PLCs and a transparent continuum upon which they can judge their progress toward full implementation. The DuFour model provides a series of rubrics (DuFour, et. al., 2006) by which schools can self-evaluate their growth and the district can use to confirm that self-evaluation toward PLC realization. Such a transparent continuum would help the district to select schools via process that aligns with the goals of the PLC initiative. Moreover, this public PLC continuum contributes to a necessary vision for the district (Supovitch, 2006).

Equally important, a transparent PLC continuum allows school communities to understand the model and its requirements so they can commit to it. Based on our interviews, we discovered that school commitment to PLCs varied based on the source of the commitment. In other words, while some schools volunteered eagerly for the pilot, the district "volunteered" other schools that had neither the capacity to develop nor commitment to implement PLCs. Based on the literature, we propose that both schools and district officials rate schools' commitment to PLCs prior to selection for district support. We suggest the below matrix as a way for the district to determine pilot schools that both want and need the district's

supports to implement PLCs. The district does not need to support schools that do not want PLCs or schools that do not need PLCs.

Figure 4: PLC Needs and Wants Matrix

	Low ← Need PLCs to improve → High	
Low ← School commitment to PLCs → High	High want/ low need District does not provide school with supports; rather, school uses continuum to gauge growth in PLCs	High want/ high need District provides supports to accelerate PLC implementation
	Low want/ low need District & school address motivation for PLCs	Low want/ high need District & school address motivation for PLCs

This process may also help schools to identify specific structures that they need to put in place prior to district support of PLCs in a school. Such structures include common planning time and protocols by which to examine student work and analyze assessment data. The district’s established Cascade provides common assessments though school PLCs certainly will want to create additional assessments for analysis in between quarterly administrations of Cascade. District support of PLCs could include training in and feedback on such protocols as well as ways to plan instruction as result of analysis of assessment data.

The goal of the protocols is the creation of collective knowledge that benefits

individual PLCs (Horn & Little, 2010) and raises student learning expectations (Bryk, et. al. 2010). Through the process of data analysis and instructional planning, teachers then forge professional trust, which, in turn, leads to greater sharing of expertise and knowledge about student learning (Stoll & Louis, 2010).

District and internal school feedback can help teachers to learn ways to disagree professionally while maintaining focus on student learning. The DuFour set of rubrics (DuFour, et. al, 2006) provide a ready continuum gauge of school capability to implement PLCs. This type of support and additional supports such as visits to highly effective PLC schools or review of videos of high performing PLC teams is critical to address a typical need in the midst of launching PLC’s. One teacher described it as “*We knew the definition [of PLCs] but did not know what it looked like.*” Schools can internally use the rubrics, visits and videos to picture their current state while envisioning next steps to the next rubric level. Meanwhile the district could use the rubrics to provide summative feedback at biannual intervals.

Align the district’s PLC continuum to the research

Our proposed set of continua is based on the three concepts we clustered from the extant literature on professional communities (see Figure 2). The three concepts are: *Leadership to organize and focus teacher work on developing a context of caring/relational trust and support for implementation*; *Teacher professional culture and collaborative practices*; and *Focus on student learning*. These concepts mirror the

importance of teacher professional community as a core component in academic press (Leithwood, Louis, Anderson, & Wohlstrom, 2004; Walters, Marzano, & McNulty, 2003) and personalization (Goddard, 2009; Osterman, 1995; Murphy, 2010) in transforming student learning. Teacher high expectations of students and their care for student success are comprised in both teacher professional community and academic press. Similarly, teacher focus on student learning and collective knowledge about teaching practices are part of attending to individual students' success (i.e., personalization). By measuring over time a school or district's growth teacher professional community, this survey tool targets the seedbed of necessary change to ultimately improve student learning outcomes.

Schools and districts can then use these clustered concepts and regular survey data to ascertain the depth to which they have implemented the concepts. As a school implements each continuum's component, it builds structures that foster PLCs. As the survey reflects teacher perceptions of professional community, it takes the temperature of teacher trust, commitment to student learning, and high academic expectations of student learning. Regular survey administrations will likely expose an accurate depiction of teacher commitment to professional communities. In contrast, rubrics and solo checklists suffer because teachers view them as happening to them rather than participating in their formation. Desmione (2002) showed the importance of teacher participation in their learning. Rubrics and checklists also weaken the data due to

changes in perspectives of their administrators (i.e., reliability).

This survey bases its questions on empirical research, so its findings are generally accurate. Another advantage of our survey-based continuum is that schools and districts can regularly and inexpensively gather data about progress toward high-level PLC attainment. As long as they survey teachers, schools and districts can continually gauge their implementation of PLCs. The results can reliably be compared administration to administration (e.g., year to year). A third advantage of the survey-based PLC continuum is that the survey questions have been tested for reliability and validity. In other words, the continuum is not subject to outsider's opinions.

Figure 5: Comparison of PLC Rubric, Literature, PLC Concepts

DuFour PLC rubric	Extant literature on professional communities	Clustered PLC concepts
Mission: Is learning for all the core purpose?	Leadership is key to organizing and focusing teacher teams on student learning (McLaughlin & Talbert in Stoll & Louise, 2010); Halverson in Stoll & Louis, 2010;	Leadership to organize and focus teacher work on developing a context of caring/relational trust and support for implementation
Shared vision: do we know what we are trying to create?	Leadership is key to organizing and focusing teacher teams on student learning (McLaughlin & Talbert in Stoll & Louise, 2010); Halverson in Stoll & Louis, 2010;	Leadership to organize and focus teacher work on developing a context of caring/relational trust and support for implementation
Shared values: How must we behave to advance our vision?	Committed, cohesive team of teachers (Stoll & Louis, 2010; Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010; McLaughlin & Talbert in Stoll & Louis, 2010)	Teacher professional culture and collaborative practices
Goals: what are our priorities?	Leadership is key to organizing and focusing teacher teams on student learning (McLaughlin & Talbert in Stoll & Louise, 2010); Halverson in Stoll & Louis, 2010;	Leadership to organize and focus teacher work on developing a context of caring/relational trust and support for implementation
Communication: how do we communicate what is important?	Leadership is key to organizing and focusing teacher teams on student learning (McLaughlin & Talbert in Stoll & Louise, 2010); Halverson in Stoll & Louis, 2010;	Leadership to organize and focus teacher work on developing a context of caring/relational trust and support for implementation
Clarity regarding what students must know and be able to do	Professional learning focused on student learning (Horn & Little, 2010); (Little & Horn and McLaughlin & Talbert in Stoll & Louis, 2010; Bryk & Schneider, 2002)	Focus on student learning which includes the specific practice of ensuring learning
Assess whether students have learned the essential curriculum	Committed, cohesive team of teachers (Stoll & Louis, 2010; Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010; McLaughlin & Talbert in Stoll & Louis, 2010)	Teacher professional culture and collaborative practices
Systematic interventions ensure students receive additional time and support for learning	Professional learning focused on student learning (Horn & Little, 2010); (Little & Horn and McLaughlin & Talbert in Stoll & Louis, 2010; Bryk & Schneider, 2002)	Focus on student learning which includes the specific practice of ensuring learning
Collaborative teams of teachers focus on issues that directly	Creation of collective knowledge that benefits the team of teachers (Stoll &	Teacher professional culture and collaborative

impact student learning	Louis, 2010; Horn & Little in Stoll & Louis, 2010; Coburn & Stein, 2010); ambitious instruction (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010)	practices
Creating a focus on results that impacts schools, teams, and teachers	Professional learning focused on student learning (Horn & Little, 2010); (Little & Horn and McLaughlin & Talbert in Stoll & Louis, 2010; Bryk & Schneider, 2002)	Focus on student learning which includes the specific practice of ensuring learning
A focus on results	Professional learning focused on student learning (Horn & Little, 2010); (Little & Horn and McLaughlin & Talbert in Stoll & Louis, 2010; Bryk & Schneider, 2002)	Focus on student learning which includes the specific practice of ensuring learning
Responding to conflict in a PLC	Context of caring among teachers, students, and school leaders (Stoll & Louis, 2010); relational trust: teacher-student, teacher-student, teacher-parent (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010);	Teacher professional culture and collaborative practices

Leadership to organize and focus teacher work on developing a context of caring and relational trust

School and district leadership can use the checklist below to see schools have in place the structures that foster PLCs. The list below is meant to serve as a checklist for the school leadership to review with key teacher-leaders to acknowledge the existence of these structures. By checking yes, the review team is not saying that the PLCs use the structures well; they simply recognize that the school or district has created them. The answers to several survey questions in Figure 12 can provide teacher perspectives on the depth of implementation of the structures. High scores indicate that teachers perceive the structures as well implemented; low scores indicate that they have not yet been well implemented.

Additionally, the resulting formation of a professional community will comprise the next two sections, *Teacher professional culture and collaborative practices* and *Focus on student learning*.

Figure 6 Structures that Foster PLC

Structures that Foster PLCs	Cite specific examples, documents, or artifacts in your school or district	Structure exists? Yes/No
1. Common planning time for teachers to create assessments and to analyze student learning		
2. Clear learning goals		
3. Common assessments aligned with learning goals		
4. Assessment calendar that provides data on student learning		
5. Common agenda that focuses meeting on student learning		
6. Resources to support interventions		

Figure 7: Survey Questions

Survey Question	Scale threshold
Teachers have time available to collaborate with colleagues	% agree or strongly agree >80%
The non-instructional time provided for teachers in my school is sufficient	% agree or strongly agree >80%
In an average week, how much time do you devote to the following activities during the school day...	
...Collaborative planning time?	Mean > 3 hours/week
...Required committee and/or staff meetings?	Mean > 3 hours/week
...Professional development?	Mean > 1 hour/week
...Utilizing results of assessments?	Mean > 1 hour/week
The school leadership facilitates using data to improve student learning	% agree or strongly agree >80%
Sufficient resources are available for professional development in my school	% agree or strongly agree >80%
An appropriate amount of time is provided for professional development	% agree or strongly agree >80%
Professional development offerings are data driven	% agree or strongly agree >80%

Professional learning opportunities are aligned with the schools improvement plan	% agree or strongly agree >80%
Professional development is differentiated to meet the needs of individual teachers	% agree or strongly agree >80%
Professional development deepens teachers' content knowledge	% agree or strongly agree >80%
Teachers are encouraged to reflect on their own practice	% agree or strongly agree >80%
Professional development provides ongoing opportunities for teachers to work with colleagues to refine teaching practices	% agree or strongly agree >80%
Professional development enhances teacher ability to implement instructional strategies that meet diverse student learning needs	% agree or strongly agree >80%
Professional development enhances teachers' ability to improve student learning	% agree or strongly agree >80%
State assessment data are available in time to impact instructional practice	% agree or strongly agree >80%
Local assessment data are available in time to impact instructional practice	% agree or strongly agree >80%
Provided supports (i.e., instructional coaching, professional learning communities, etc.) translate to improvements in instructional practices by teachers	% agree or strongly agree >80%
Teachers are encouraged to try new things to improve instruction	% agree or strongly agree >80%

The scale threshold has not been statistically evaluated to determine the existence of strong professional learning communities. Each district may need to determine a threshold that makes sense. Furthermore, additional research with this continuum tool will help to determine an accurate threshold. Again, while the questions are statistically reliable and valid, their use for the purpose of a continuum has not yet been explored.

Figure 8

Survey question	Scale threshold
The faculty has an effective process for making group decisions and solve problems	% agree or strongly agree >80%
The role teachers have at your school to determine the content of in-service professional development programs	% say moderate or large role > 80%
The school leadership makes a sustained effort to address teacher concerns about professional development	% agree or strongly agree >80%
The school leadership makes a sustained effort to address teacher concerns about instructional practices and support	% agree or strongly agree >80%
Teachers use assessment data to inform their instruction	% agree or strongly agree >80%
Teachers work in professional learning communities to develop and align instructional practices	% agree or strongly agree >80%
Teachers at this school believe that all students can perform at	% agree or strongly agree

high levels	>80%
Teachers at this school feel comfortable to discuss their feelings, worries, and frustrations	% agree or strongly agree >80%
Teachers at this school respect the opinions and expertise of their colleagues	% agree or strongly agree >80%
Teachers at this school feel mutually responsible for the success of all students	% agree or strongly agree >80%
Teachers talk about instruction in the teachers' lounge, faculty meetings, etc.	% agree or strongly agree >80%
Teachers in this school share and discuss student work with other teachers	% agree or strongly agree >80%
Experienced teachers invite new teachers into their rooms to observe, give feedback, etc.	% agree or strongly agree >80%
A conscious effort is made by faculty to make new teachers feel welcome here	% agree or strongly agree >80%
Teachers in this school trust each other	% agree or strongly agree >80%
This school year, how often have you...	
...Observed another teacher's classroom to offer feedback	% 10 or more times > 80%
...Observed another teacher's classroom to get ideas for your own instruction	% 10 or more times > 80%
...Worked with other teachers to develop materials or activities for particular classes	% 10 or more times > 80%
...Worked on instructional strategies with other teachers	% 10 or more times > 80%

The scale threshold has not been statistically evaluated to determine the existence of strong professional learning communities. Each district may need to determine a threshold that makes sense. Furthermore, additional research with this continuum tool will help to determine an accurate threshold. Again, while the questions are statistically reliable and valid, their use for the purpose of a continuum has not yet been explored.

Figure 9

Survey question	Scale threshold
This school year, how often have you had conversations with colleagues about...	
... What helps students learn the best	% almost daily > 80%
...Development of new curriculum	% almost daily > 80%
...The goals of this school	% almost daily > 80%
...Managing classroom behavior	% almost daily > 80%
This school year, how often have you gone over student assessment data with other teachers to make instructional decisions	% 10 or more times > 80%

Conclusion

As the first full year of the PLC pilot unfolds, our study indicates that JCPS has chosen a strong school-based transformation strategy to improve student learning across the district. PLCs offer tremendous potential for sustained capacity-building at teacher-team levels. Many school-based leaders and teachers alike, in both pilots and non-pilot schools, have embraced PLCs as enthusiastically as district leaders and believe it can significantly change the face of both student learning and school culture. Robust research supports PLCs as a substantial and necessary way to improve student learning through instructional improvement. These indicators reinforce that the district should stay the course and ensure that PLC has the time and investment of resources to take root and spread across the district.

In a context of federal, state, and local accountability, JCPS needs to deliver impressive student learning gains. More importantly, students need academic success at caring schools (Murphy, 2012). If PLCs transform the DNA of how teachers work with one another and create a laser like focus on student learning and collaborative schools where teachers are constantly learning and improving based on what works to increase student learning, then PLC could exponentially accelerate student learning across the district. Our early implementation study suggests that this promising initiative should be expanded and sustained.



Appendix Items

References

Concept Map

Scholarly Literature Mapped to DuFour Model

Qualitative Interview Data

Interview Protocol

Fall Survey items

Spring Survey Items

Pilot and Matched Schools Demographic Profiles

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Research Question	Clustered concept:	Source of evidence				
		Meetings with district officials	Data profiles on schools	Interviews with Teachers of PLC pilot and non-pilot schools	Observations of PLCs using the DuFour rubric	Survey of teachers and administrators (pilot and non-pilot schools)
1, 2	Focus on student learning Clarity on what students must know and be able to do		X	X	X	X
1, 2	Assessing whether students have learned the essential curriculum		X	X	X	X
1, 2, 4	Systematic interventions to ensure students receive additional time and support for learning			X		X
1, 2, 3, 4	Efficacy of PLCs			X	X	X

Research Question	Clustered concept :	Source of evidence				
		Meetings with district officials	Data profiles on schools	Interviews with Teachers of PLC pilot and non-pilot schools	Observations of PLCs using the DuFour rubric	Survey of Teachers and administrators in pilot and non-pilot schools
1, 2, 4	Teacher culture Collaborative teams focused on student learning results			X	X	X
1, 2, 4	Effective process to make group decisions			X	X	X
1, 2, 4	Looking at student work			X	X	X

Research Question	Clustered concept : Leadership	Source of evidence				
		Meetings with district officials	Data profiles on schools	Interviews with Teachers of PLC pilot and non-pilot schools	Observations of PLCs using the DuFour rubric	Survey of Teachers and administrators in pilot and non-pilot schools
1, 2, 4	Setting agenda to focus on student learning results			X	X	
1, 2, 4	Collaborative structures for teachers; teacher input on professional development, use of data to adjust instruction			X	X	X
2, 4	Resources to assist adoption of PLC model			X	X	

Clustered PLC concepts as derived from a comparison of professional communities literature and the DuFour PLC model

Literature on professional communities	DuFour’s PLC model	Clustered PLC concept
Professional learning focused on student learning (Horn & Little, 2010); (Little & Horn and McLaughlin & Talbert in Stoll & Louis, 2010; Bryk & Schneider, 2002)	Focus on student learning results: PLCs discuss student learning goals, instructional strategies, and results (DuFour, 2004)	Focus on student learning
Committed, cohesive team of teachers (Stoll & Louis, 2010; Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010; McLaughlin & Talbert in Stoll & Louis, 2010)	Teachers “work together to achieve their collective purpose of learning for all” (DuFour, 2004)	Teacher culture
Creation of collective knowledge that benefits the team of teachers (Stoll & Louis, 2010; Horn & Little in Stoll & Louis, 2010; Coburn & Stein, 2010); ambitious instruction (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010)	Common formative assessments aligned to standards	Teacher culture
Context of caring among teachers, students, and school leaders (Stoll & Louis, 2010); relational trust: teacher-teacher, teacher-student, teacher-parent (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010); Leadership is key to organizing and focusing the above steps (McLaughlin & Talbert in Stoll & Louise, 2010); Halverson in Stoll & Louis, 2010;	Leadership behavior needs to be congruent with values of PLCs—i.e., follow-through, data analysis, adjust instruction based on data (DuFour, 2002)	Leadership

Interview Level II analysis				Evidence		
Constructs	Theme I	Theme II	Theme III	Key quotes	Documents	Observations
<p>Leadership to organize and focus teacher work on:</p> <ul style="list-style-type: none"> - Context of caring among teachers, students & school leaders - Relational trust (teacher-student; teacher-student) 	<p>Hold people accountable – make expectations clear – praise those who fully engage – empower teachers - Always lead through the eyes of a teacher.</p> <p>Principal made the decision we were doing this.. and then the Principal must be present to keep Ts on ... or the opposite.. principal stays away to empower teacher leadership and</p>	<p>Protected time At the beginning a lot of teachers overwhelmed.</p> <p>TIME, Time Time Finds out what resources are Needed ... more resources – time, visits to other PLC and PD – this will take time – hope they give it time – this will take 5 years – without it don’t know when we would get together many can’t do after school Uses Staff meetings and</p>	<p>This works because its based on the work we do. Learning what works – leads to consistency to ensure all students get what they need</p> <p>Requires that everyone get on the same page – peer pressure</p>	<p>“I would love to know what it looks like when its great” by Principal in Pilot</p> <p>“She let two PD’s just be about PLC – tell me what’s working and what’s not, let me watch you, tell me what resources you need, show me how you use student data just so she could see it in action and talk with her about how its going.”</p> <p>“principal pulls it all together and gets us excited.”</p>	<p>Principal created templates to guide team work</p> <p>More quotes – making it authentic “We knew the definition but did not know what it looked like.” We had common planning time, we had RTI but were we systemic – no, but we weren’t process oriented, the culture was not built in the school.”</p>	

	then practices actually get applied					
Teacher professional culture & collective practices <ul style="list-style-type: none"> - Group accountability - Norms of collaboration - Ambitious instruction - Create collective knowledge that benefits teams of teachers 	<p>Have norms but it is difficult to buy in and overcome isolation and fear of sharing/being exposed. Comfort level in talking to one another</p> <p>Ts bought in because other teachers said it improved student learning</p> <p>Ts that don't want to be part of this or are low quality "have to take transfers" make this difficult</p> <p>Teams need to stay together</p>	<p>Focus on what the students need – more cohesive – we are all on the same page. It helps that we are all on the same page – “we pull for each other a bit more” - teacher relationships are different. We need to stay together.</p> <p>We all share a singular focus Instruction planning is changing – no longer planning in isolation - consistency – all teachers teaching the same standards,</p>	<p>Focus on professional learning and improving instruction Open communication, trust and taking risks together</p> <p>You can become a better teacher. “[Before PLCs], I feel as if I have one year of experience, nine times. With PLCs, I’m learning. I’m getting better. “</p> <p>Strong collaboration around real work and improvement for students Creates colleageal cohesiveness</p>	<p>PLC gives us permission to do what we need to do anyway. It forces us to collaborate a lot more. Second, it helps us do more in common, so we can improve. The more we do in common, the more we’ll be able to evaluate what we’re doing.</p> <p>Without the order, we we’d be fighting. They help us focus on what needs to be done.</p>	<p>More key quotes: I didn’t buy in easy. I was the teacher who wanted to be in my cave. The days of teachers closing their doors and doing their own thing is over. I am coming around to PLCs.</p> <p>I’m good at what I do but I’m not good at sharing.</p> <p>We educators have a hard time owning that we don’t know it all. What are you doing to get kids to score</p>	<p>More key quotes: A lot of teachers worry about having an open door policy ... its not about what you’re doing wrong but what can you do to become a better educators. That kind of dialogue helps build the culture ... build the climate. I feel like culture really dictates how successful you are... and we need to get back to that</p>

	<p>the effectiveness is hindered when teams are broken up</p> <p>Peer pressure The pressure is on those who people who are just trying to slide by.. they can't hide... they can't slide by any more. They are forced to have the professional conversations. It puts pressure on them to learn. I've already seen it occur. It started out with that person pushin back, pushin back with a lot of attitude but the other people on</p>	<p>same expectations for mastery</p> <p>If you're a person that says that I want my kids to be successful, you're going to start working with others.</p> <p>Principal: "Depth of conversation has changed monumentally."</p> <p>Sharing our strengths on behalf of kids and admit weaknesses</p> <p>Not creating extra work, just working smarter</p>	<p>and trust – helps me be comfortable talking</p> <p>I think a PLC is like a family. There are things that you don't agree on but you work them out. It helps you become a better teacher.</p> <p>Otherwise, you're sitting by yourself and struggling. With PLC you can come out and help one another.</p> <p>"I would be pretty adrift if I were on my own"</p> <p>"Being open to failure, I mean I feel that is the hard part, is</p>	<p>What did you do in your lesson to get kids there? We have let our guards down. We have to be more transparent. Trust will help.</p> <p>What did you do in your lesson to get kids there? We have let our guards down. We have to be more transparent. Trust will help.</p> <p>You have got to wok together whether you wanted it to happen it or</p>	<p>better? We have a hard time with that openness.</p> <p>"This kinda makes you transparent... can't go behind your door and do what you want.</p> <p>You are Not alone</p> <p>Intentional collaboration instead of in the past – we were friendly with each other but the conversation about who needs help wasn't going on. this is supposed to help you so you're not like</p>	
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	<p>the team kept on pushing back, pushing back and the practices in there(the classroom) are changing . That is the positive power of PLC. As coach I can do a lot of things to try to change instructional practies but I don't have that power that peers have on a person." coach .</p>		<p>having your naked scores out for everyone, cause mine have been the lowest for a couple of weeks..."</p>	<p>not. If there is not someone there, teachers revert to what they used to do.</p>	<p>on your own.</p>	
<p>Focus on student academics: (look for docs such as agendas or protocols)</p>	<p>Analyzing data - Discuss common assessment results which kids did and didn't get it – identifying which instructional</p>	<p>Clear consistent standards taught by all – known by all - instruction is more focused Students know what's expected and want to</p>	<p>Everyone owns the kids – high expectations for all "these are OUR kids. I'm going to give her as much as I can because I care about those kids and so</p>	<p>Just talking about planning, without the analysis piece, our PLC would be a waste of time. "This is the</p>	<p>More notes colum3 Response to instruction results in more individualized instruction. More academic interventions in place</p>	

	<p>strategies worked and using them for all</p> <p>Use of data “Now we can see if what we doing is actually working.”</p> <p>Makes sure that it In five years there wont be as many gaps and more proficient students and less novice students.</p>	<p>know how they are doing – start to take responsibility “Every week students want to know how they do on it” students more confident. There’s a definite goal and the kids know it – they get so proud when they accomplish it</p>	<p>I’m going to work really hard. It doesn’t matter that they are not my kids.”</p> <p>We have to work together to reach high goals for students – everyone seems very concerned for all children.</p>	<p>first year we are really data driven”</p> <p>“All the work we’re doing doesn’t matter unless it gets to the desk of the student” She shares that Dr. Hensley says –</p>	<p>intervention immediately when needed based on data... Making sure students who still need to master get the help they need</p>	
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Interview Protocol – PILOT SCHOOL Teacher
JCPS PLC Capstone Research Project
45 – 60 min.

Introduction:

My name is _____ and I am a doctoral student at Vanderbilt University. Our doctoral research project is studying the current work in JCPS regarding PLC's. Thank you for taking time to speak with me about the PLC work here in your school and in JCPS. From our observations and interviews, the district hopes to learn about your impressions of the PLC work and to identify the elements that are leading to successful PLC's across the district. Your responses will be summarized with other PLC Pilot School Teachers interviewed and your responses will be anonymous. I will be audio recording our interview and will be taking notes as we talk. Please feel free to share openly and let me know if you have any concerns while we are talking. Thank you again for taking time to talk with me.

Tell me about yourself – Name, what you teach, how long you have been in the building? In the district? Teaching?

1) How were you introduced to the work in PLC's? How would you describe what PLC is?

2) What does PLC look like in your building? What do you do in your team as a PLC?

3) What is the same in the building as before PLC? What is different? What's changed?

3 A) What do you think led to these changes? (What accounts for the way things are – are their actions? supports? processes? Structures? PD?)

3 B) What type of work does the team do together? Do you decide what you want students to know? Create common lessons or assessments? Review student work?

3 C) Does your team use data? In what way? Is this different or the same as your team has used data in the past? If different, how is it different?

4) What's your buildings vision? What are you trying to create with PLC? What are your goals?

4 A.) How do teachers respond when students are struggling?

5) Do you think it's having any impact? What kind of impact?

5A) Are teacher relationships and work changing in any way? How?

- 6) How is it working for you? What's working and what's not?
 - 6A) What do you see as strengths of the PLC?
 - 6B) Obstacles or barriers within the teams/work?
 - 6C) What supports are needed?

- 7) What is administration role or actions to create and support PLC's? Building leadership? Coach/facilitator? District office?

- 8) Do you think the PLC's will improve student learning? Why or why not? How will you know? What evidence will you review to know whether it's making a difference?

- 9) What do you imagine PLC should look like in 5 years?
 - 9A) What will teacher culture be like?
 - 9B) What student learning results will occur?
 - 9C) What barriers could keep this from happening?
 - 9D) What supports are needed to ensure that it happens?

INTERVIEW PROTOCOL questions – by CF domain

Commitment by leadership

- 1) How were you introduced to the work in PLC's? How would you describe what PLC is?

- 3) What is the same in the building as before PLC? What is different? What's changed?
 - 3 A) What do you think led to these changes? (What accounts for the way things are – are their actions? supports? processes? Structures? PD?)

- 4) What's your buildings vision? What are you trying to create with PLC? What are your goals?

- 6) How is it working for you? What's working and what's not?
 - 6A) What do you see as strengths of the PLC?
 - 6B) Obstacles or barriers within the teams/work?
 - 6C) What supports are needed?

- 7) What is administration role or actions to create and support PLC's? Building leadership? Coach/facilitator? District office?

- 9) What do you imagine PLC should look like in 5 years?
 - 9C) What barriers could keep this from happening?
 - 9D) What supports are needed to ensure that it happens?

Teacher professional culture & practices

- 2) What does PLC look like in your building? What do you do in your team as a PLC?
- 3) What is the same in the building as before PLC? What is different? What's changed?
- 4) What's your buildings vision? What are you trying to create with PLC? What are your goals?
- 5) Do you think it's having any impact? What kind of impact?
 - 5A) Are teacher relationships and work changing in any way? How?
- 6) How is it working for you? What's working and what's not?
 - 6A) What do you see as strengths of the PLC?
 - 6B) Obstacles or barriers within the teams/work?
 - 6C) What supports are needed?
- 9) What do you imagine PLC should look like in 5 years?
 - 9A) What will teacher culture be like?

Focus on improving instruction/student learning

- 3) What is the same in the building as before PLC? What is different? What's changed?
 - 3 B) What type of work does the team do together? Do you decide what you want students to know? Create common lessons or assessments? Review student work?
 - 3 C) Does your team use data? In what way? Is this different or the same as your team has used data in the past? If different, how is it different?
- 4) What's your buildings vision? What are you trying to create with PLC? What are your goals?
 - 4 A.) How do teachers respond when students are struggling?
- 8) Do you think the PLC's will improve student learning? Why or why not? How will you know? What evidence will you review to know whether it's making a difference?
- 9) What do you imagine PLC should look like in 5 years?
 - 9A) What will teacher culture be like?
- 10) What student learning results will occur?

PLC Survey Items Buckets

Leadership

Professional Culture and Collective Practice

Student Academics

Where do you work? (Dropdown menu with school names)

Q.1 Please rate how strongly you agree with the following statements about the use of time in your school

(Strongly disagree, Disagree, Agree, Strongly agree, Don't Know)

a. Teachers have time available to collaborate with colleagues

b. The non-instructional time provided for teachers in my school is sufficient

Q.2 In an Average Week, how much time do you devote to the following activities during the school day (i.e, time for which you are under contract to be at the school)

(None, Less than or equal to 1 hour, More than 1 hour but less than or equal to 3 hours, More than 3 hours but less than or equal to 5 hours, More than 5 hours but less than or equal to 10 hours, More than 10 hours)

a. Collaborative planning time

b. Required committee and or/ staff meetings

c. Professional development

d. Utilizing results of Assessment

Q.3 Please rate how strongly you agree or disagree with the following statements about teacher leadership in your school

(Strongly disagree, Disagree, Agree, Strongly agree, Don't Know)

a. The faculty has an effective process for making group decision to solve problems

Q.4 Please indicate the role teachers have at your school in each of the following area.

(No role at all, Small role, Moderate role, Large role, Don't Know)

a. Determining the content of in-service professional development programs

Q.5 Please rate how strongly you agree or disagree with the following statements about school leadership at your school.

(Strongly disagree, Disagree, Agree, Strongly agree, Don't Know)

a. The school leadership facilitates using data to improve student learning

Q.6 The school leadership makes a sustained effort to address teacher concerns about:

(Strongly disagree, Disagree, Agree, Strongly agree, Don't Know)

a. Professional development

b. Instructional practices and support

Q.7 Please rate how strongly you agree or disagree with the following statements about professional development in your school (*Strongly disagree, Disagree, Agree, Strongly agree, Don't Know*)

- a. Sufficient resources are available for professional development in my school
- b. An appropriate amount of time is provided for professional development
- c. Professional development offerings are data driven.
- d. Professional learning opportunities are aligned with the schools improvement plan.
- e. Professional development is differentiated to meet the needs of individual teachers
- f. Professional development deepens teachers' content knowledge
- h. Teachers are encouraged to reflect on their own practice
- i. Professional development provides ongoing opportunities for teachers to work with colleagues to refine teaching practices.
- j. Professional development enhances teacher ability to implement instructional strategies that meet diverse student learning needs
- k. Professional development enhances teachers' ability to improve student learning.

Q.9 Please rate how strongly you agree or disagree with the following statements about instructional practices and support for your school (*Strongly disagree, Disagree, Agree, Strongly agree, Don't Know*)

- a. State assessment data are available in time to impact instructional practice
- b. Local assessment data are available in time to impact instructional practices
- c. Teachers use assessment data to inform their instruction
- d. Teachers work in professional learning communities to develop and align instructional practices.
- e. Provided supports (i.e. instructional coaching, professional learning communities, etc.) translate to improvements in instructional practices by teachers.
- f. Teachers are encouraged to try new things to improve instruction.

Please rate how strongly you agree or disagree with the following statements about teacher beliefs at the school

- a) Teachers at this school believe that all students can perform at high levels
- b) Teachers at this school feel comfortable to discuss their feelings, worries and frustrations
- c) Teachers at this school respect the opinions and expertise of their colleagues
- d) Teachers at this school feel mutually responsibility for the success of all students
- e) Teachers talk about instruction in the teachers' lounge, faculty meetings, etc.
- f) Teachers in this school share and discuss student work with other teachers.
- g) Experienced teachers invite new teachers into their rooms to observe, give feedback, etc.
- h) A conscious effort is made by faculty to make new teachers feel welcome here
- i) Teachers in this school trust each other

This school year, how often have you had conversations with colleagues about:

- a) What helps students learn the best
- b) Development of new curriculum
- c) The goals of this school
- d) Managing classroom behavior
- e) Observed another teacher's classroom to offer feedback

This school year, how often have you:

- f) Observed another teacher's classroom to get ideas for your own instruction
- g) Gone over student assessment data with other teachers to make instructional decisions
- h) Worked with other teachers to develop materials or activities for particular classes
- i) Worked on instructional strategies with other teachers

Spring Follow-Up Survey

1. Where do you currently teach?
2. Do you teach math at any point during the school day?
3. Teachers at this school work together in professional learning communities to...
 - a. Create common assessments
 - b. Develop classroom activities
 - c. Review the data from benchmark assessments
 - d. Create intervention groups for re-teaching and enrichment periods
 - e. Write lesson plans
4. Please state the degree to which you agree or disagree with the following statements
 - a. I would like to meet more often with my grade level team.
 - b. Collaborating with other teachers is important to my job satisfaction
 - c. Teachers at this school prefer to work independently during their planning time
 - d. I would like to plan vertically more often with teachers from other grade levels
 - e. Collaborating with other teachers during a planning period is an effective use of time

Pilot and Non-Pilot Comparison Schools									
School	Level	Enrollment 2011-2012	White Enrollment 2011-12	Black Enrollment 2011-12	Other Enrollment 2011-12	Reading 2011 %PD	Math 2011 % PD	% FRL 2011-12	Achievement Area
Pilot A	E	465	68%	14%	17%	66.67	77.11	81%	2
Match A 1	E	629	58%	18%	24%	69.42	64.75	79%	2
Match A 2	E	565	57%	19%	24%	74.47	74.47	78%	2
Pilot B	E	601	73%	16%	12%	90.21	87.41	20%	6
Match B 1	E	614	61%	17%	22%	88.49	89.57	31%	5
Match B 2	E	731	64%	22%	14%	88.06	84.78	24%	6
Pilot C	E	415	20%	56%	25%	62.43	64.64	88%	5
Match C 1	E	616	23%	64%	13%	53.85	49.23	78%	5
Match C 2	E	420	12%	66%	22%	56.02	58.43	84%	5
Pilot D	E	424	66%	26%	9%	75.62	75.62	50%	6
Match D 1	E	534	77%	18%	5%	83.33	78.03	30%	5
Match D 2	E	591	72%	18%	10%	84.53	78.78	31%	5
Pilot E	E	380	33%	42%	25%	64.42	50.92	90%	2
Match E 1	E	503	32%	60%	8%	52.65	57.02	85%	1
Match E 2	E	551	46%	43%	11%	48.92	54.98	96%	2
Pilot F	E	595	50%	27%	23%	60.67	55.81	82%	2
Match F 1	E	599	35%	30%	35%	48.85	55.73	96%	2
Match F 2	E	616	53%	33%	14%	59.34	54.58	77%	2
Pilot G	E	968	21%	67%	12%	57.98	52.15	89%	2
Match G 1	E	505	13%	73%	14%	50.66	44.05	92%	5
Match G 2	E	656	34%	51%	16%	50.71	46.79	83%	5
Pilot H	E	365	33%	31%	36%	67.27	71.82	93%	3
Match H	E	443	68%	22%	9%	62.16	62.16	54%	3

PLCs in JCPS

1									
Match H 2	E	334	51%	28%	21%	63.16	63.74	85%	3
Pilot I	E	549	18%	50%	32%	54.50	47.62	83%	4
Match I 1	E	578	22%	56%	23%	47.56	47.07	83%	4
Match I 2	E	486	31%	55%	15%	53.30	54.19	87%	3
Pilot J	E	620	64%	24%	12%	74.28	73.91	44%	4
Match J 1	E	741	69%	16%	15%	72.60	65.41	29%	4
Match J 2	E	793	59%	24%	17%	72.75	73.57	54%	4
Pilot K	M	434	50%	45%	5%	35.76	29.41	86%	1
Match K 1	M	772	39%	43%	18%	35.89	32.90	91%	2
Match K 2	M	1,021	62%	31%	8%	44.07	34.44	79%	2
Pilot L	M	757	53%	32%	16%	39.25	30.89	83%	3
Match L 1	M	454	61%	28%	11%	39.53	33.76	80%	3
Match L 2	M	968	37%	42%	21%	47.59	35.21	83%	3
Pilot M	M	1,320	52%	39%	8%	74.94	68.35	51%	2
Match M 1	M	1,198	61%	32%	8%	67.81	56.70	53%	5
Match M 2	M	1,123	47%	36%	18%	68.03	66.04	50%	6