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Professional Learning Communities & Instructional Coaching

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Abstract

In order to increase student achievement, for students who are consistently not meeting the standards, and for those exceeding the assessed standards, the school utilized the Professional Learning Community (PLC) protocol to develop capacity in teachers to use student data to inform instruction. Additionally, Instructional coaching was implemented to support three teachers in designing differentiated lessons for students in content and standards identified by the PLC. This multiple prong action research was evaluated through use of pre- and post-surveys to identify self-perception of the members of the school's eight faculty, notes taken by the participant researcher, lesson plans, and an Analysis of Student Work form were used.

As an Instructional leader at CSCE, I designed the intervention to work with PLC teams to develop their capacity to differentiate lesson plans. Over the course of the action research all eight teachers used differentiated lesson plans to support their instruction in the PLC identified content area (math). The results of the intervention also shed light on how profound content knowledge can be to planning lessons and how teachers' value and gain from pro-longed, job embedded Professional Development. Another finding showed teacher's years of experience, often times, positively affects their efficacy in developing and executing differentiated lesson plans.

The Introduction

The City of Oakland and its school district have a history of being ethnically, socio-politically and economically stratified, resulting in a fractured school system of the "haves" in hill schools, and the "have nots" in the flatland schools. Further dividing the city's educational system is the poverty of the flatlands and the challenges, which are associated with teaching children of the underclass. Traditionally, teachers gain experience in flatland schools, and leave to work in the hill schools, and surrounding suburban school districts.

Due to increased parental involvement and greater fundraising ability, hill schools traditionally have better equipped, more qualified leadership, and teachers who have experience, strong educational backgrounds, knowledge and skills, who are able to create systems that better position themselves to adapt to new developments in education. School leadership and teachers

in these contexts share a common vision and goals and are able to bring about changes in school effectiveness, and improve academic achievement. While many schools in the flatlands continue to struggle with a lack of resources, inexperienced staff and school leaders with little training, several charter schools have opened in Oakland's flatlands to better serve the traditionally underserved. Many of these charter schools have positioned themselves, through commitment to vision and mission, to excel in meeting and even exceeding the standards.

Community School for Creative Education (CSCE), a Waldorf inspired school, is an autonomous, transitional kindergarten through sixth grade, public charter school in Oakland, California. Now, in its 4th year (2014), it has aimed to fulfill this mission of serving the urban children in the impoverished flatlands. Waldorf education, in the United States, has been reserved for more affluent, white, upper middle class areas. CSCE's mission is to bring a Waldorf inspired education to Oakland's flatlands. Students at CSCE have multiple opportunities throughout the day to sing, recite poetry, and verse, and write. This endeavor has had support from much of the Waldorf community worldwide. Due to this attention, CSCE has been able to bring together faculty and trainers from the international Waldorf Community.

This mission and vision galvanizes our staff to work towards providing a rigorous, developmentally appropriate, Common Core State Standards (CCSS) aligned education, and using Waldorf, inspired strategies that are arts infused. We have seen our students make growth in their problem solving and reading achievement, as measured through Project-based learning, Fountas and Pinnel Benchmark Reading Assessment, NWEA MAP (a computer based summative assessment), and formative assessments. We are working to grow our teachers' capacity using student data to guide instruction in Professional Learning Communities (PLCs).

To inform or PLC we analyzed both our summative and formative assessments data from 2013-2014. We recognized that the gap between our English language learners and our English-speaking students was an area upon which we needed to focus our attention. The need to provide scaffolding through visuals, vocabulary building, systematic phonics instructions, and use of Realia was identified as the work for this school year, in order to help students conceptualize and visualize concepts across the curriculum.

Through conversations with teachers at CSCE, I have learned that many did not have a rich learning experience in their teacher training programs, when it came to utilizing Specially Designed Academic Instruction in English (SDAIE) strategies. Teachers have expressed that they have spent more time learning about reading instruction than writing, mathematics, science, social studies instruction, and English Language Development strategies at our school. This may be due to an emphasis on reading goals, school-wide professional development, in order to meet high stakes state test scores.

For the 2014 - 2015 school year, our efforts to meet in PLCs include choosing a cycle of inquiry questions to help each PLC team to focus on deepening their understanding of how to leverage Waldorf strategies to build our SDAIE instruction in Mathematics and Writing. Through four, six-week PLC cycles, we will work to have effective shifts in instructional practices that will decrease the achievement gap. We have acknowledged that we will be making some curricular shifts based upon our findings. It is our premise that improved instruction because of the work being completed in PLCs will lead to increased student outcomes as measured during our multiple PLC Cycles of Inquiry.

Problem of Practice

Community School for Creative Education's vision is strongly supported by teachers, behavioral assistants, and office staff have all returned from last year. A new principal, promoted from within the teaching staff, is working with the faculty to develop a vision-aligned curriculum. The curriculum's effectiveness, is being ameliorated by an Urban Waldorf Training Program and mandatory Professional Learning Communities (PLCs). The PLC Initiative is meant to construct meaning, develop a cohesive, vertically aligned curriculum, and focus teachers on student outcomes to inform instruction.

The PLC during the 2013 – 2014 school year struggled due to multiple changes in its structure, changes in the facilitator, and conflicting demands being placed upon the teachers' time. Subsequently, teachers were unable to complete the necessary assignments and did not bring the required student work to assess or plan for ensuing lessons. This unfavorable effect on

teachers' abilities to make meaning of student work and propel instruction to increase student proficiency was disappointing. However, teachers continued to hunger for this inquiry.

After this unsuccessful use of PLCs during the 2013-2014 school year, the model has been restructured in the current school year by the new principal to include two, one and a half hour sessions per month, where the PLC meets to analyze and plan instruction based upon student data. Due to this dedicated time and adoption of a consistently used protocol, the teachers are continually refocusing the PLC work and gaining momentum in honing their practice. Now, with an established culture of inquiry, the problem of practice continues to evolve as teachers grow in their capacity and use an instituted protocol to focus PLCs upon assessing, sorting students' work into four categories (not meeting, close to meeting, meeting, and exceeding standards) and lesson planning.

Teachers are seeing a positive impact in students' performance due to the amount of time they have spent analyzing and talking about their students' work. However, a new problem of practice has arisen. Teachers are finding that the challenge of creating lessons for those students who are consistently not meeting the standards, and for those exceeding the standards, has developed as the new problem of practice.

The teachers' desires to create more impactful lessons that will move students toward consistently meeting and exceeding standards is encouraging. The problem within our current practice highlights the need for a more focused meeting agenda on the portion of the protocol, which entails teachers' next steps. **This action-based research project is focused upon the PLCs' analysis-driven lesson planning and use of instructional coaching to support the execution of those lessons to increase the students' ability to meet and exceed standards. The PLCs will complete the protocol, come to the meetings with assessed student work to discuss, create, and build capacity to develop lessons that move students toward consistently meeting and exceeding the assessed standards. Additionally, I will coach three teachers, observe those lessons, and initiate a follow-up session based upon the lessons.** The completion of multiple cycles of inquiry will reveal the data to teachers needed to determine the effectiveness of their efforts while identifying instructional strategies needed to be implemented to arrive at the desired outcomes

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Review of Relevant Literature

Introduction of Relevant Literature

This review encompasses literature-reporting increases in achievement data for students after consistent implementation of Professional Learning Communities (PLC) and the relationship between coaching for development of lesson design for differentiated instruction. Adult learning theory supports the use of on-going collaboration to build capacity of teachers. PLCs are composed of faculty members working to make meaningful connections, while expanding knowledge, skills, and ideas across disciplines to develop their skill for using student data to design instruction. Research routinely shows that continued use of PLCs develops and improves teaching and student learning (Dufour, Ekes 2008, Moore, & Hicks 2014). Utilizing the PLC Cycle of Inquiry aids teachers to clarify what students need to know and how teachers will teach. PLCs recognize the use of clear protocols and agendas, to focus collaborative meetings toward commonly held goals and ongoing initiatives (Jacobsen 2010, Kruse 1995, Wenger 1998). DuFour states that the protocol of the PLC has created a way for schools to utilize a student-focused responsive plan for professional development (2011). Assessing what needs to be taught based upon student data allows teachers to make modifications to differentiate instruction for students' who do, and those who do not, demonstrate mastery (Barth 2001, Dufour 2007, and Saunders & Goldenburg 2009).

Research has shown that on-going professional learning is one of the critical elements to improving schools and closing the achievement gap (Desimone 2009, Bryk, Sebring, Allensworth, Easton, and Luppescu 2010, little 2006). The use of on-going learning that is student-centered, teacher-directed, and supported by the inquiry model of the PLC with instructional coaching, aids in alleviating the unyielding academic achievement gap between the racially and socioeconomically stratified (Botha 2012, DuFour 2007, Gallimore, Emerling 2009).

The Evolution of the PLC

There has been a transformation in Kindergarten through twelfth grade faculties' ability to improve student achievement through PLCs professional development (Brig 2014, DuFour 2007, 2011, Botha 2012). However, traditional top down school models have struggled with this

teacher led shift in PD. Generally, these schools' PD decisions have been implemented by school administration, and are made district-wide. There are striking paradigmatic shifts towards more informal and collaborative PD to support continual improvement in pedagogy, practice, and instruction led by school faculties (DuFour & DuFour 2009). This shift in professional development from the one-shot presentation to on-going, cyclical inquiry supported by PLCs and instructional coaching was due to the growing evidence showing how consistent collaboration and problem solving between teachers enhances student achievement (Barth, 2001, DuFour 2007, Gallimore, Emerling, Saunders & Goldenburg, 2009).

This literature supports my argument, that teacher learning can be improved through implementing coherent PD where PLCs and coaching can provide support for the learning over time, often throughout a school year. These prolonged efforts provide educators the opportunity to fine tune teaching practices, leading to improved teacher learning and increased student achievement (Dufour 2011, Jacobsen 2010, Kruse 1995, Little 2006). Additionally, the ongoing nature of the PLC helps colleagues to support one another in accessing knowledge and to implement instructional strategies by recognizing the in-house expertise of colleagues (Darling-Hammond 2008, Sparks 2003). Furthermore, PLCs help to remove the barrier of teacher isolation and transitions teacher faculties into communities (Jacobsen 2010).

Adult Learning Theory

Hargreaves (1992) states adults learn best with regular opportunities to discuss, learn, and implement the new strategies, in the classroom, with support of administration and peers through repeated and cyclical collaborative inquiry (Goodnough 2005, Kezar 2005). The PLC provides a way for the teacher to be involved in decisions of the classroom, which respects the knowledge gained in teacher training programs, and acknowledges what Knowles (1979); Zemke and Zemke (1981) revealed the assumption regarding adult learning that a person was fully equipped to practice a profession upon completion of formal professional training. However, this assumption regarding adult learning proved to be ineffective. This gap between teacher preparation program learning and the skills required to be a successful teacher is acknowledged and can be supported with PLCs. Teachers continue to grow, especially when supported in a

reflective practice such as a PLC to build capacity to recognize student achievement through formal and informal assessment (Botha 2012, Moore, & Carter-Hicks 2014). Students' needs and the profession as a whole require a focus on how to bridge that gap (Ball and Forzani 2010). Therefore, this body of research calls for a paradigmatic shift in the way schools think about and structure schedules. In a 19-week period, Little (1982) conducted a study indicating that the amount of collaboration among teachers was the primary difference between the high- and low-performing schools represented in the study. Providing regular opportunities for faculty to be engaged in PD and discussions of problems related to the implementation of new learning is a key feature to increasing student achievement. The link between improved teacher and student learning is corroborated by Bryk and colleagues' in a long-term seven year study of several hundred Chicago public schools (Bryk et al 2010). They found that while there are many essential elements for successful school improvement, high quality professional development and supportive professional communities were among the most highly correlated with gains in academic productivity. Every school that saw improvement in measures of student achievement had a strong PLC as a factor in their reform efforts (Bryk 2010).

Supporting PLCs to Meet the Demands of Teachers' Collaborative Learning Needs

This shift in school cultures to include collaborative practices like PLCs affects the classroom practice as well as, student and staff expectations. The best strategy for improving school at any level will focus less on the organization and more on building the capacity of the people within the schools (Chappius and Chappius 2009). Dufour states, "to create a new culture of a PLC with intense focus on students' learning, collaborative, and collective effort to promote that learning there must be hunger for evidence of student learning to inform and improve professional practice to better meet the needs of the students we hope to serve (2014). DuFour and Eaker (1998) advocate that one of the most promising strategies for sustained, substantive school improvement was developing the ability of teachers and principals to function as PLCs. Mink (2014) stated the structure of the PLC helps to encourage change as a natural process because staffs' views are respected and directly involved in instructional decision-making. Regularly scheduled PLCs and coaching allow for collegial work, teachers are empowered with co-creating, researching, and problem-solving successful instructional techniques and planning.

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McQuarrie and Wood concluded that this is accomplished in phases, resulting in classroom practices (1999).

The use of DuFour and DuFour's initial protocol outlined in their seminal work helps teachers maintain the professionalism in the groups allowing for and valuing divergent points of views. "It is through experience, reflection, analysis, sharing and discussing that job-embedded learning becomes useful to the individual learner, and thus available to a school staff for improving the current practice. The more these learnings are generated and shared, the greater the chances that best practices of each individual in the school will become common practice" (Wood and McQuarrie 1999).

The protocol of the PLC

DuFour and DuFour suggest the structure or protocol of the PLC move through a series or continuing cycle of four questions to determine whether learning has occurred.

> *What do we want students to learn?*
> *How will we know they have learned it?*
> *How will we respond when learning has not occurred?*
> *How will we respond when the learning has occurred?*

Castelijns, Koster, and Vermeulen identify this cycle of inquiry as the phases that a faculty can go through expanding upon Dufour and DuFour's model further annotating the four essential questions.

1. *What do we want students to learn or do?* Creating and defining a 'collective ambition' or a commonly shared drive to do or reach something (Wong 2010, Lomos 2011). Wong (2010) and Lomos (2011) state that the need to collectively define a focus or inquiry question helps to clarify the explicit initiatives to maintain a clear, compelling idea to focus the agenda. The question can be derived from the organization's vision and follow evaluation of students (Castelijns 2009).
    a. Collecting information. In order to realize a collective ambition, it is necessary that uncertainties, unknown facts or questions related to the

ambition, be answered (Dixon 2000). Together, the community members phrase the questions and think of ways to get to the answers by deciding what information will be collected and the tools the data to be used. Vescio (2008) articulates this process as a collective inquiry. This process could include consultation of experts, research, and literature.

2. *How will we know students have learned it?* Evaluating the product, the process of teaching, and student learning explicitly aims to reflect on the outcomes of the process of instruction and learning. This utilizes the PLC to cooperatively question, "how did we learn collectively?" and is used as a basis for teachers to be reflective both as teacher-learner, for their students, and in some circumstances, for students themselves to reflect upon. How will the process and or the product reflect success?

3. *How will we respond when learning has not occurred?* Carrying out and monitoring the actions planned to realize the goal from steps one and two provides information about what has and has not been successful (Castelijns 2009, Dufour 2008). Making subtle changes or major adjustments to ones teaching to accommodate an individual or group of students is the responsive and reflexive work of the PLC. The collaborative nature of the community is set up to ask the questions about what changes need to happen to create student achievement.

4. *How will we respond when learning has occurred?* According to Ponte (2004), community members collectively work to interpret the data. They link the data with existing knowledge and discuss what the data means to them. Once the learning has occurred, identifying next steps is an important aspect of ongoing dialogue with colleagues (Mink 2014). Additionally, the PLC members reflect on the consequences for their daily instructional practices based on the outcome of the interpretation (Castelijns 2013).

    a. Deriving consequences. This phase derives from the former phase as the community members start thinking about consequences for their daily practice based on the outcomes of the interpretation.

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When teachers put their heads together over student-centered concerns, that team effort can be the most powerful school improvement tool in the school (Schmoker 1996). This means protocols for functioning as a team, goals for directing the work, and leadership for accomplishing the aims are necessary tools for success. Thus, schools should honor collaboration in all professional interactions.

PLCs Support Teachers Varying Needs to Design Instruction

In order to support varying levels of expertise, D'Ardenne, Charna, and Barnes et.al. describe a highly motivating practice of the faculty collectively creating lesson structures through an iterative process establishing common goals and instructional priorities (2013). Developing lessons allows for each of the teachers to share in responsibility to the collective goals providing the team with the opportunity to use, reflect, assess, and respond to student needs. "This practice allows faculties to support one another to use lessons flexibly depending on the needs of our students, depending on how teachers choose to adapt the lesson set to our students' needs." Following Wiggins (2005) and McTighe's (2015) notion of backward planning, designing good lessons requires that learning activities prepare students for assessments, and assess priority learning goals.

This process requires teachers to work together to identify priority in learning goals (that is, essential standards) within each content area and align them across grades to ensure that learning progresses logically and smoothly. Expectations increase as students' progress through the grades (Dufour & Dufour, 2004). Developing common assessments of priority standards that teachers will administer around the same time so they can analyze student-learning patterns across classrooms helps faculties vertically align standards. Collaboration on designing lessons that prepare students for common assessments, and incorporating strategies or approaches in ways that extend their practice allows teachers to build their capacity in a supportive way that provides on-going embedded support.

Coaching for Lesson Plan Design and Student Achievement

Changing school cultures from using anecdotal data to analyzing student work requires on-going professional learning, and a changing the isolated nature of teaching (Grossman, Wineburg, &

Woolworth, 2000; Friend, 2000; Hollingsworth, 2001; Achinstein, 2002). Loucs-Horsely states, "Professional learning in its most elegant form influences both the teacher and organization, helping to establish systems of analysis that nurture and support new and best practices (1995)." Analyzing student work from the common assessments and brainstorming the instructional adjustments that are necessary includes interventions for struggling students and extensions for achieving students. Through this analysis, teachers identify topics and skills that need additional focus, brainstorm-teaching ideas that may be more effective next time, and begin to list challenging topics and skills that may merit more extended collaborative lesson-design efforts in the future. Eventually, comparing the results of their state assessments and other achievement data, assess their school and team goals, and revise priority standards for common assessments as needed. The cycle of collaborative work then repeats.

To support this cycle coaching can include lesson planning, observation, and feedback to the improve classroom practice to support individuals toward meeting the demands of the PLC (McKenna & Walpole, 2008). Working collaboratively with the coach in an evolving context of PLC, means interacting constructively with the coach and engaging in PLCs are not exclusive (Denton 2009). Despite widespread implementation of coaching roles, resulting in part from federal initiatives, there is little consensus regarding its operational definition and little empirical research related to it. Models of PD that includes site-based coaching have defined coaching in many ways. For this action research, instructional coaching is being defined as initiative based to develop teacher capacity related to designing lessons to increase teacher's ability to differentiate instruction. While there is limited research on the specific question of blending PLCs and sustained, student centered, teacher focused, embedded professional development it is widely supported that these tools can improve the work of the PLC and ultimately student achievement. Especially, when working within the inquiry model of the PLC. Challenges can arise as teachers work to incorporate these new expectations for data use in their practice, making sense of them in relation to their current beliefs and expectations can be supported by a coach or more experienced peer (Young, 2006). Instructional coaches must also help effectively build relationships with the teachers with whom they work (Knight, 2006; Neuman & Cunningham, 2009; Neumerski, 2013; Matsumura, Garnier, & Resnick, 2010). Cordingley and

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Fullan advocate for building teacher capacity through coaching efforts. Eventually, coaching helps faculty become self-sustaining and be a school culture where the teacher views themselves and their community as "teachers as learners," helping teachers understand that improving practice by acquiring new knowledge and skills is a professional obligation and that the work of becoming a great teacher is a career-long endeavor (Chappius, Chappius, and Stiggins).

Conclusion of Literature Review

Based on an extensive literature review I conclude that the inquiry model in PLCs as prescribed DuFour (1999, 2007, 2013), Castejlins (2013), and Cordingley et al. (2003, 2005) especially, when supported by student focused, teacher centered professional development, and instructional coaching focused on those efforts can have positive impact on teaching repertoires and strategies. Through coaching and regular feedback from the PLC teachers, learn to hone their ability to match those lessons to their students' needs, their own self-esteem, confidence, and commitment to continuous learning increase.

Similarly, Hoban, Hastings, Luccarda, and Lloyd (1997) found that participation in on-going PLCs supporting lesson design, enhanced both the teachers' and students' learning (Chappius 2007, Knowles 1990). DuFour and DuFour, Galimore and Emerling found evidence that changes in teachers' classroom behaviors and positive changes in attitude regarding their professional development were directly affected by their participation in regular PLC meetings. Fostering inquiry based collaborative relationships between staff members and supporting teachers in making instructional decisions based on analysis of student work with the use of instructional coaching can be used enhance the learning process to enhance student outcomes.

Ultimately, continued use of PLC initiatives and coaching enhances adult learning. In this analysis, teachers' collective focus on content and how to address skills as established by the PLCs strengthens collaboration among teachers and major changes occurred in their classroom practices that positively impact students' learning. In their analysis, Hoban et al. summarized that …continued use of PLCs enhances adult learning. During PLCs and coaching teachers are collectively focused on content and how to address instructional strategies, strengthened through

collaboration among teachers, major changes occurred in their classroom practices that ultimately positively impacted students' learning (Lomos, Hoffman, and Bosker, 2011; DuFour and Robert 1998).

Theory of Action

The main ideas behind this research and the above theories are that teachers can be best supported when PLCs and coaching are working in harmony, supported by leadership to be ongoing, student centered, and teacher focused efforts that work to support student achievement. Using an instructional coaching model that includes observation of lessons designed to close the achievement gap addressed above can positively impact teachers learning towards analysis of student data rather than through anecdotal information. My study of the literature reveals that PLCs and coaching is most productive when they are focused by the teachers themselves effectively recognizing adult's ability to be self-directed learners.

The motivation behind this action research project was determined to support and build capacity of the faculty of CSCE towards parts three and four of the PLC cycle: how to respond when students do and do not learn. Developing effective lessons based on the analysis of their students' work in the PLC to prepare students to meet and exceed the selected standards of the inquiry question of the PLC.

In my evaluation of our school's teachers I have evidence to show teachers are building their capacity to assess student work and are now in need of turning their efforts toward developing responsive lessons to improve student achievement as the next step. It is my hypothesis that using the Analysis of Student Work, from the New Teacher Center (see appendix D) will help to maintain the focus on the protocol, therefore, developing lessons in the meeting times and highlight the student needs. Developing capacity in our practice that will bring both focused work to content and lesson development. Our PLC and coaching cycle allows teachers to come back to the table to discuss the outcomes from student assessment then revisit the lessons to build self-reflection. PLCs help build a collaborative culture outside of the "identified PD sessions." This student centered, teacher focused approach strengthens our learning community's collaborative efforts and reasserts our common goals for creating curricular focus that is consistent with our schools unique vision for braiding CCSS and Waldorf learning strategies.

Problem of Practice	Literature Review	Intervention	Expected Change
Dedicated Time for PLC in collaborative Meeting time (DuFour, Kruse)	- Maintaining time in staff meetings to the PLC and keeping PLC teams consistent throughout the year. - Builds relational trust	- Maintaining time in collaborative meeting time. Shifting ancillary duties to other teams and mtgs.	- Less time will be spent on ancillary school business providing more time for PLC and PD. - Increasing levels of trust as team continually focuses on intended work.
Teachers are inexperienced or need more support to effectively design lessons to meet the needs of all earners. (Lujan, Day)	- Using protocols to maintain focus to the cycle of the PLC focuses teachers on student achievement data rather than anecdotal student information.	- Using the protocols consistently and developing teacher capacity. - Provided structure to maintain focus on challenging aspects of the work.	- Teachers build capacity to assess data and develop related lessons to shift students towards meeting and exceeding standards. - Using agreed upon protocols to ease frustration in understanding expectation of PLC
Instructional Coaching (IC) focused on building teacher capacity to support the PLC. Darling-Hammond, Marazano, Desimone	- IC recognizes and builds the capacity of teachers while allowing them to practice the skills being and practice instructional strategies and reflect with a coach. - Builds a self-sustaining community around teacher developed Common goals.	- Provide regular staff coaching sessions to design lessons to support the student centered work of the PLC	- Coach and Coachee build the reflective skills to create responsive lessons to move students towards proficient and beyond. Coachee develops the opportunity to learn and apply learning to the classroom, reflect on what works and why
• **Lesson Design to support differentiated instruction**	- Teachers focus on content and how to address skills as established by the PLC	- Coach and Teacher will collectively review plans for evidence of differentiation.	- Develop capacity for teachers to be able to consistently use assessment to design lesson plans.

Intervention and Data Collection Plan

The Faculty of CSCE is made up of eight teachers, Kindergarten to 6th grade class teachers, and one resource specialist teacher who participate in the PLC process. The team splits into teams of two and three for cross grade level PLCs two Kindergarten teachers team, 1st and 2nd, 3rd and 4th with the resource teacher, 5th and 6th grade teams. At the time of the action research, each of the participants has been a part of the team for two or more years, except the 4th grade teacher, who joined in December of 2014. The PLCs meets bi-monthly, for 90 minutes to discuss and design

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lessons for the following weeks using the PLC protocol defined earlier. The teams admit to the challenges in the collaboration process, chiefly not having enough time dedicated to planning with collaborative partners and in previous years having random PD brought in without the consultation of teachers or respect to their in house expertise. Teachers collaborate in a collegial way and appreciate the input and respectful "push" they receive from their PLC partners and the team in general.

My intervention is focused on a team of three PLC members. This team involves the 3rd grade teacher who is in her 8th year of teaching, the 4th grade teacher who began mid-year and is in her first year of teaching, and the resource teacher who has taught for 11 years. I have worked with the team in on-going sessions in multiple capacities since the winter of 2012, first as a colleague, then as a teacher leader, and coach.

Penuel, Fishman, Yamaguichi, and Gallagher (2007), identify the need for professional learning/development to be job-embedded and on   going in order to be successful at changing practice (Chappius, Chappius and Stiggins, 2009). Teachers identify time constraints as being the chief challenge to building a more collaborative culture to support PLCs. To address this intervention I designed my intervention to occur within the confines of the team's weekly planning time, and to accentuate the PLC am coaching individual teachers outside of this time to have a substantial impact on their ability to design lessons and contribute to the PLC process.

The format of the intervention includes PLC meetings specifically reinforcing our dedication to working on steps three and four of the protocol to begin the work to design lessons for differentiation. The Protocol helps guides teams to address the lesson planning and devise a plan to deliver those lessons during the next week's lessons. The last five minutes of the PLC is dedicated to complete a short assessment of the PLC meeting (See appendix B). This will measure teacher's perceived ability to plan for upcoming lessons, using learning from this and previous meetings. During the meeting, I plan to call attention to comments and information that can be used to meet the needs of groups of students that can help teachers to tailor plan lessons to meet their students' needs. This meeting structure is planned to occur during five (5) meetings.

Additionally, the three teachers in the identified PLC will receive coaching sessions to support this cycle of inquiry and to support the planning of their lesson plans to support their learning and observe the lessons they plan to support the identified needs in their PLC cycle of inquiry.

10 minutes	75 minutes	5 minutes
Review of Protocol	PLC Meeting	Reflection of PLC practice

50 minutes	45 minutes	45 minutes
PLC meeting Planning of lessons	Observation of lessons	Follow up coaching session

PLC – 5 Meetings	Staff Meetings
Intervention Survey	- Include survey in agenda to provide preview time. - Allow teachers time to complete in initial meeting.
Student Work Analysis Tool	- In Meeting 2, teachers will bring assessed student work, complete analysis tool (sorting student work to determine next steps to move students towards proficient and beyond). - Build lessons to support and scaffold lessons meeting and exceeding proficiency.
Lesson planning with team	- Determine next steps needed for student achievement. - Plan lessons and scaffolds in PLC groups and share out about what was and was not successful for focal groups.
Final Analysis of work completed in cycle	- Final assessment of work to determine efficacy of all planned lessons. Determine next steps to support for building lesson plans to support student growth after support of PLC cycle ends.
Post Intervention Survey	- Efficacy of the PLC - What perceptions are about how the PLC and staff led PD has shifted teaching to improve student outcomes?

PLC Meeting

The PLC pre interview survey is a key component. I developed it to understand how teachers were and are planning to utilize the learning from PLCs to increase student achievement. In addition, to measure how the additional coaching time is intended to enhance PLC members

experience to become more reflective in their practice and to be aware of their capacity to influence how they develop lessons to support student learning. The survey included questions on a Likert scale and open-ended responses.

The literature on both PLC and coaching time strongly supports the goals of both activities be supportive of one another and share common short and long-term goals for the school. Therefore, the focus of our PLCs were carefully laid out in advance by the school's Instructional Leadership Team (ILT) of which I am a collaborating member. The inquiry questions used to focus our PLCs were also decided upon by the ILT in the weeks preceding the beginning of each new PLC cycle. Utilizing the ILT helps our faculty to be responsive to the whole teams' needs as we grow and develop capacity in our faculty.

Component	Activities	Purpose	Data to be Collected Impact or Process
Pre Intervention Survey	- Reflective survey	- How effective has the PLC been thus far and what are your perceptions about how it can improve student outcomes.	- Results of surveys (Impact)
Student Work Analysis Tool	- Teachers collaborating over artifacts (student work). - Outcome Data	- How are teachers helping students to show growth? How are teachers shifting instruction to improve upon student outcomes?	- Evidence of Teacher's Student Analysis (Process)
PLC – 5 Meetings	- Norm referencing around data set - Teacher reflective forms about student achievement.	- Does the period of time between meetings spent in the PLC impact teachers	- Student artifacts with scores (Impact) - Teacher reflection on data (Process & Impact)
Instructional Coaching Cycle Demonstration Observation Feedback	- Both Coach and Coachee attend PLC session. - Coach works with teachers in PLC meeting to identify lesson plan needs - Coach observes planned lessons - Feedback is discussed	- Collaborative coherence is gained through shared learning. - Assessed work is analyzed to identify next steps for student achievement.	- Lesson Plans (Impact) - Observation notes (Impact) - Coaching session is recorded and student work is analyzed to determine

			effectiveness of lesson (Process)
Post Intervention Survey	- Reflective surveys end of cycle.	- How effective has the PLC been and what are your perceptions about how it has improved your own teaching to improve student outcomes.	- Teacher reflection on data (Impact)

Research Methods

The ultimate goal of this research was to work in the PLC and coaching to develop the capacity of teachers to lesson plan based on their analysis of students' work to advance students' proficiency. This inquiry is particularly important to CSCE because we have committed using PLCs as a primary way to develop teacher collaboration, capacity and to hone instructional strategies. Given our limited time, it becomes paramount to be efficient with the highest possible outcomes. Our school is young and our teachers have a varied level of experience. Therefore, I was curious whether the intervention would reveal how the level of experience of teachers would affect both the perceived and actual outcomes.

I collected data in six forms: pre and post participant intervention surveys (see appendices a-c), meeting minutes, analysis of student work (see appendix d) forms, lesson plans, observations, and a research journal of my own notes. I collected information in a pre-intervention survey and lesson plans just prior to intervention beginning to measure the impact intervention on teachers' differentiating their lessons to meet the needs of the students.

The pre-intervention surveys were completed in April and the post-intervention surveys were conducted within two weeks of the end of the PLC cycle in the latter part of May. Similar questions were asked in both the pre and post-intervention surveys. The Analysis of Student Work was completed three times. However, I struggled to get all of the teachers to complete and return the analysis each week; a problem that would have been resolved if I had required teachers to complete the work before leaving the meeting. I provided coaching to support identified teachers for one cycle of goal setting, observation, and debrief. One of the teachers was working to advance her differentiating skills from integrating to innovating (using the California

Standards for Teaching Profession rubric), and the other two, one Intern and one first year teacher were working to advance from the emerging. The information collected from these three teachers represents the source of information that were most indicative of the impact of the intervention.

In order to triangulate, the data sources described and to have a measure of how the intervention was proceeding, I collected my own research notes weekly and used the PLC meeting minutes to show the group's progress and to include their work to demonstrate how they differentiated lessons to increase students meeting and exceeding proficiency. In my research journal, I recorded my perceptions of the teachers' work and the steps they were taking to develop differentiated lesson plans.

Expected Change	Data Sources	What will this data tell me?
- Teachers will be supported to develop their capacity to differentiate instruction: - Teachers will bring analyzed student work to the PLC meeting. - Teaches will focus their PLC conversations on lesson planning to respond to student work. - Teachers will utilize the information learned in PLC in the planning of instruction to support improved learning	- Student work analysis forms - Pre- and Post – intervention surveys. - Meeting minutes from PLC - Goal setting and lesson planning meetings - Observations - Researcher Journal	- Process: Each of these data points showed how teachers were using their students' data to plan differentiate lesson. - Impact: Showed how teachers perceived the PLC helped to develop their capacity to differentiate their practice. - Impact: Comparing data from pre- and post- intervention to show changes in teachers' perception about ability to differentiate.
- Improved ability to use student work to inform instruction - Making changes to lesson plans to support improved student proficiency.	- Coaching session to plan differentiated lessons - Observation of lessons - Debriefing session - Researcher Reflective Journal - PLC meeting work analysis - Meeting Minutes	- Process: Weekly analysis of student data to see how well teachers are able to use student data points to respond to students' individual needs. Using the PLC time to collaborate and learn from colleagues.

My first step in analyzing the data was to start with the quantitative results from the pre- and post- intervention survey. I took the Likert scale responses from the surveys and game them a

numerical scale (Strongly Agree = 4, Agree = 3, Disagree = 2, strongly Disagree = 1). I looked for change in the numbers from before and after the intervention for individuals and the average of the group as a whole. I looked for impact changes from beginning to end as well. Particularly questions tied to assess the impact the intervention had on the ability of individual teachers to successfully lesson plan for the students who were not meeting and were exceeding the standards, as well as their ability to use the PLC as a structure, which provided them with the supports needed to use student work analysis to plan differentiated lessons. Finally, I looked to see if teachers valued the process and the time spent in PLC as an effective way to affect their practice. I triangulated this data with the information in my journal and their lesson plans (impact) to find evidence that correlated from their self-perceptions.

The qualitative data took additional steps to analyze. I started by creating basic categories of codes based on the collaborative practices detailed in my expected results. I then broke those categories down further into codes that are more specific. Using the list of over 20 codes, I reviewed and coded meeting minutes, open-ended answers on the pre- and post- intervention answers, and my research journal.

Once coded, I started with a quantitative measure of the information. I counted the frequency and quantity of different codes found throughout the data set. I compared pre-and post-intervention response, in meeting notes to look for changes in awareness and ability to attempt and utilize work from the PLC and coaching sessions to lesson plan. In order to triangulate the data, I went deeper into the codes that seemed significant or frequent for quality and distribution of those comments to see if they emanated from multiple members of the group or one source. If they were originating equally from all team members, I used those findings to clarify the information to provide insight into the teachers' ability to plan differentiated lessons and indicating the use of the PLC as a place to make professional growth.

Finally, I looked across my data set, comparing results from all the tools to gauge each area of expected change and to find other significant trends that had emerged from the analysis. For each of these, I looked to see if the action of the group or individual teachers had changed to gauge new awareness or ability to plan for the identified group. Indicators of change were

identified in frequency teachers' were planning for differentiated instruction or if they were observed executing differentiation.

Analysis and Findings

This action research examined the impact of using a focused PLC protocol to use the analysis of student work to drive differentiated lesson planning and the use of instructional coaching to support the execution of those differentiated lessons. I analyzed the data sources described in search for change in teacher practice. The PLC meeting used a structured protocol to include time to develop differentiated lessons plans based on their analysis. The PLC's protocol specified earlier required teachers to come to the meetings with assessed student work, to discuss, and develop lessons that move students toward consistently meeting and exceeding the assessed standards. Additionally, I coached three teachers to help them differentiate their lesson plans; I observed those lessons and followed up with a coaching session to reflect with the teacher on that lesson. Following trends in the data, I also looked at two related issues: how the depth of content knowledge affected teachers' ability to differentiate, and the years of experience of the teacher. From this analysis, I came away with four main findings: 1) The use of the PLC protocol (process) which was meant to focus the group during the meeting had a positive impact on the work of the PLC to be organized on student work, 2) The use of the student work analysis had significant impact in strengthening teachers' understanding of next steps (process), 3) Teachers with five or more years of experience were most helpful to other teachers planning experience and teachers with 2 or fewer years felt they were gaining most by being in a group with experienced teachers regardless of grade level (impact), 4) Having an in-house expert provide content sessions as a part of the PLC time was considered by teachers to provide the most support for developing understanding and learning how to differentiate (process/impact).

PLC protocol to focus on student work analysis to differentiate lessons

Dufour reminds that one of the trademarks of the PLC is its specific cycle focusing on developing lessons after analyzing student work that leads to increased student outcomes (1998). Botha and Brig eloquently state, teachers meeting consistently over many weeks in collaborative groups to develop their understanding for how to differentiate their lessons to accommodate

many levels in the classroom (2006 & 2012). Little (2006), envisions the ideal collaborative teacher learning environment, "At the very least, one must imagine schools in which teachers are in frequent conversation with each other about their work, have easy access to each other's classrooms, and take it for granted they should comment on each other's work to develop common standards for student work." When I began my preliminary work with this topic last fall the teams worked well together, but were making some basic assumptions without using student work to provide evidence of their beliefs. Our PLC was focused on teachers' anecdotal information about how students were performing versus using student data sets to inform instruction. To correct this I lead a brief session on the purpose and value of the PLC. After that meeting, the work of the teams progressed using their time to assess and norm reference their work to develop common standards.

In spring my action research began the teams were more skilled at assessing work and using rubrics to determine how a student was performing in the assessed content areas being discussed in the PLC. One Kindergarten teacher said, "it was easier to assess student work, now that I have done it over and over with my team." Capacity increased for understanding how to interpret and use student-facing rubrics (eight coded comments). It was much easier time to use this knowledge and shift the conversation to using the student data sets to develop lesson plans to meet the needs of groups of students (see above). There was some push back, the sixth grade teacher (with two and half years' experience) stated "this is a real time challenge to complete this [graded student work] on our own prior to the meeting time," (6 coded comments). However, more experienced teachers (4 coded comments) were agreeing, "this was the right way to proceed to move instruction," said a teacher of eight years.

My research notes had six of eight teachers who made comments outside of the PLC time telling me they were already using this data to develop lesson plans. However, I had evidence of differentiated lesson plans from only two of the eight teachers' weekly plans, prior to the intervention. Lesson plans during the intervention period indicated that all eight of teachers were lesson planning for the PLC content "number talks" (the content the PLC was focusing on). This differentiated instruction was having multiple effects on students, the most notable being that

when students shared their thinking and the teacher wrote the strategy down in front of the class "students began to use another student's strategies in their written math work" said a fifth year teacher as was seen in the exit tickets. The assessed data sets teachers were using to analyze during the PLC. Two teachers noted this was the first time they had graded the students' work for more than having the correct answers. One teacher said, "I think that we have been more productive in this [math] PLC Cycle because of our commitment to bring graded student work; it has helped us to anchor our discussions and use our time more efficiently." However, three of the four PLC teams found that they spent most of the allotted time helping the new teachers (3 years or less) of the group to understand their data and to plan lessons accordingly. This leads me to conclude that our teachers' need more time to collaborate and the school needs to spend more time developing content understanding for our teachers (particularly new teachers).

Building Teacher Capacity with an in House Expert

This action research was held during the end of one cycle, focused on writing, and the beginning of a new cycle focused on "number talks" in math. "Number Talks" was a new instructional strategy being brought to us by one of our experienced teachers who used this method at a former school. Therefore, in the 20 minutes prior to each of the PLC meetings this experienced teacher delivered a professional development session (PD) about the instructional strategy.

> The sessions included:
>
> 1. What it is and why it is used,
> 2. How to deliver the instruction,
> 3. What students learn and what teachers learn, and finally,
> 4. How to know which lessons to deliver.

According to the findings, the PD session prior to the PLC was an extremely effective model for our teachers. We had high fidelity to the strategy all eight teachers used the instructional practice in their classrooms 2 to 3 times a week. Ultimately, this structure supported the overarching goal of supporting teachers to teach them how to use the information they we were gathering from student work. Teachers reported the learning session about the instructional strategy to be the most influential and helpful to learn how to plan for students of multiple levels

(7 coded comments). This structure was not a part of the intervention. However, over the 5 weeks of the research, there was an increase in teachers' reported capacity to use the data gathered to develop lessons and it was directly attributed to the learning that took place in the PD before PLC meetings. One teacher stated, "Having the extended length of time with someone who knows what they are doing helps us to go deeper in that area." Thus I felt more of an impact with the ability to level my math assignments, than I did with the writing." In general, this comment resounded with all of the teachers (10 coded comments). The areas we had the PD sessions made the most significant difference in their ability to impact the lessons they taught.

The conversations that I noted during the math cycle were about understanding how students were thinking, performing based on their work. In contrast, the writing PLC conversations were often related to logistics and how to format the lessons. Leading me to conclude having an expert provide and demonstrate instruction directly positively affected how the content will be planned for delivered to students. The impact of this information resulted in our leadership team making a shift to include this model due quality of work focused on teachers' ability to use the PLC to plan lessons for the future.

The Coaching cycles were completed with three teachers. Two of the teachers who were coached chose differentiation of instruction as their personal goal for the year and one was a first year teacher who needed extra support. I struggled to get the data analysis (0 of 3) forms back from our least experienced and her lesson plans did not include the information about lesson differentiation, however, when I observed in her class, I found she was using differentiated instructional strategies, providing students with independent math practice at their own level. We had discussed these strategies during our coaching session and she was able to implement the strategies. However, she had not yet developed the capacity to clearly articulate this in her lesson plans. Furthermore, during our follow up session after the observation she was surprised that what she was doing was "hitting the mark." An ancillary question arose for me during this action research: Would explicit instruction, instructional rounds, and opportunities for teachers to view each other's teaching is a valuable part of teacher support?

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The teachers who had chosen differentiation as their professional goal brought student work to our session. Both of them worked on writing. A Kindergarten teacher was working to help students to write a word on their own and for some to write sentences. The coaching session worked to help design lessons where both her and her assistant were able to teach two lessons simultaneously in small groups and then conference with children individually. The second teacher worked at backwards design of project based writing product. She designed multiple mini-lessons to help the children to write business plan. She modeled the use of two graphic organizers (to meet students ability levels) and then in small group writing conferences guided students to make an appropriate choice about which organizer met their needs. This type of deliberate planning to meet children's needs ultimately helps children from all of the proficiency bands to make the progress needed to meet and exceed proficiency.

Improved Lessons through Teacher Led Professional Development

While not the initial focus of my intervention, the question arose, how did Professional Development and content knowledge impact teachers' effectiveness in the PLC? In the pre-intervention survey, it was clear there was a need to develop teachers understanding of content and how to implement lessons. This PD relieved the anxiety teachers were having around planning for the logistics of the lessons putting the emphasis back onto using the student work as the driving factor for developing lesson plans.

In addition to expecting to see an improvement in the individual teachers I coached, I wanted to determine if the PLC meetings were having as direct an impact on lesson planning for multiple student groups. Castejilins refers to the need to make subtle changes or major adjustments in teaching to accommodate and individual or a group being reflexive work (2010). It was clear from the comments of the teachers who have taught for 3 years or less that they struggled to identify when they were making the subtle changes in instruction to meet students' needs. One first year teacher said, "I had no idea how I would accomplish individualizing instruction, but now at the end of the year you have pointed out to me how I have done it and I feel confident I can plan for multiple groups in several content areas now." I observed these new teachers making those subtle shifts and noted it in my research journal. Dufour and Castejilins also

cautions that it is often the small nuanced shift in instruction that makes the difference for a child, not the radical separate curriculum that helps to propel students towards and beyond proficiency (2000 & 2010).

I observed in three of teachers who had three years or less and I often times observed them give whole group instruction then hold a small group for further or modified instruction. In response to the statement, "I can plan differentiated instruction to meet my student's needs" the average pre-intervention response was disagree (average score 2.5) and post-intervention was agree (average score of 3.6). There were similar gains in the response statement about "We generally support one another to lesson plan for all student groups (average score 2.1 to 3.4). The number of differentiated lessons in lesson plans increased as well from five lessons pre-intervention to 38 in the final week of the study.

These same patterns did not hold as strongly for other measures of PLC. As discussed above, there was more awareness for using student data to plan for differentiated lesson planning; however, the emphasis of a PLC is moving teachers toward planning for *all* students. The critical questions, "what will we do when the student *has* and *has not* learned the information?" While there was, evidence that all teachers had some included more differentiating in their lessons it was generally noted in the specific content being discussed and not spilling over into other content areas or without the help of the PLC.

Ultimately, the overarching goal of the PLC is to positively affect teachers' ability to produce lesson plans that will positively influence student learning through a shared collaboration to design Waldorf inspired, Common Core aligned instruction. Schmoker states that teachers working in collaboration create strong instruction that can go beyond textbook learning (2006). This intervention clearly has had positive effects on teachers' ability to use student data to drive instruction. It has built the capacity of less experienced teachers to be able to develop lesson plans when supported my more experienced peers. I have not seen teachers with less than five years be able to carry their learning to differentiate to other subjects. Pairing teachers with varying levels of experience who were able to collaborate was very successful in.

A fifth year teacher said, "I use student work to make all of my lessons and figure out who needs what type of instruction." This bears out the findings, that teachers with five or more years of experience were most likely to make curricular decisions using student assessment and are most able to differentiate instruction. Schmoker says, it is the work of collaborative professional community to "put their heads together" and model both planning and instruction to support newer teachers to develop and reflect on their own practice to make professional growth (2006).

Implications and Conclusions

This action research was designed to improve the functioning of existing PLCs and to catapult those communities into serving students more profoundly by using student data to design lessons, which meets the needs of *all* students: the ones who have not learned the material, those who have, and those who are exceeding expectations. I saw the success impacting some elements of the PLC, particularly those teachers who I coached individually and their ability to better execute their differentiated plans. There was increased awareness around how to use student data. One teacher said, "I have gained so much from the consistent use of the Analysis of Student Work form. Now, I find myself sorting most of my students' work. I am seeing trends that I had not seen before. I am noticing how my directions need to be clearer, especially for students who are learning English."

I found that the regular use of the Analysis of Student Work form provided an objective measure and structure to guide the discussions. This practice was strongest when paired with short PD that was sustained over time. This structure helped teachers to gain new understanding about how to teach and better understand the content. Changing their conversations from lesson planning logistics to deeper looks into understanding students' depth of knowledge.

The problem of practice, to support teachers to use student data that would inform their instruction and their ability to differentiate lessons, was positively impacted. The teachers acknowledged growth in their ability to identify the needs of their students and to plan accordingly. New teachers were learning how to embed differentiation into their instructional strategy repertoire naturally. The instructional coaching, made a significant impact in all three

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teachers, each making growth as measured by the California Standards for the Teaching Profession.

Limitations of the Study and Ideas for Future Research

Early on, I recognized that I had a deep understanding of the PLC due to my nine years of having worked in two successful PLCs. Most of our staff members had not internalized the true intent and purpose for the PLCs protocol. I defined the problem as a need to help teachers use the PLC structure to develop student data driven lesson plans, however, I should have begun my efforts in reintroducing the purpose of the PLC. I realized the lack of shared understanding in this arena might have contributed to the slow build from anecdotal sharing of information to the rigorous in depth look at student data. As a result there was a lot of time in the team meeting notes spent discussing logistics and meeting the needs of struggling students. Providing a more complete understanding of what exceptional PLCs look like and using some of our time to understand the work and value of the PLC would be beneficial

The individual instructional coaching (IC) was only offered on a limited basis, this type of attention focused in on the same content topics of the PLC and instructional strategies for teacher growth could have tremendous potential for helping propel all teachers to their next level. We have excellent rubrics and tools from the California Standards on Teaching Profession to help guide teachers in the appropriate directions. IC offers teachers the opportunity to think reflexively with a thought partner who is skilled at providing coaching from multiple stances: facilitative, instructional, and collaborative to name a few (Walpole, McKenna, Uribe-Zarain, & Lamitina, 2010).

Another place the research was limited, but offers suggestions for future research is in allowing for observation from both instructional leaders and peers to aid teachers in recognizing and reflecting on how to meet students' needs. It would be intriguing to track the team who was able to have all three components PLC collaboration, instructional coaching and peer to peer observation to see their progress, especially that of new teachers.

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Future leaders considering the use of PLCs should take the time to consider the teams and make time to co-plan with teachers, consider using protocols to focus the communities on student data analysis from the start, and recognize that newer teachers may be slower to understand how to implement their learning. The literature review on PLCs and adult learning indicate that staying the course and continuing to be reflexive about the PLC practice is a beneficial practice for students and teachers alike.

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Appendices

Appendix A: Pre-Intervention Interview Interim Survey

<u>Pre intervention Survey</u>

Thinking about this year's staff meetings, coaching sessions, and Professional Learning Community (PLC) please answer these questions about the elements and structural conditions present at our school. Specifically discerning how teachers experience the PLC and utilize the data analysis protocol and coaching sessions prior to our PLC.

1. What is the purpose of the PLC?
2. What is working in the PLC? What do you discuss in your Professional Learning Community meetings?*
3. What doesn't work and why do think that is? What could you do to make this experience more effective?
4. Do the coaching sessions and support the learning that takes place in the PLC?
5. Members of your team share ideas about what they teach in their classrooms.
   Strongly Agree   Agree Disagree   Strongly Disagree
   Please explain your answer.

6. There are recurring formal situations in which teachers work together (team teaching, integrated lessons etc.)
   Strongly Agree   Agree Disagree   Strongly Disagree
7. I use assessment data to design instruction for my class.
   Strongly Agree   Agree Disagree   Strongly Disagree
8. What is the purpose of instructional coaching?

9. What is working in the instructional coaching sessions? What could you do to make this experience more effective? What could your coach do to make this session more effective?

10. The coaching session helps me to design instruction for my class to meet varied needs of students.
    Strongly Agree   Agree Disagree   Strongly Disagree

Appendix B: Interim Survey

1. What are some goals that your team has developed in the PLC?
   Strongly Agree   Agree Disagree   Strongly Disagree
   Please explain your answer.

2. Are you using the data from the PLC assessment tool to plan instruction in the classroom?

       Strongly Agree   Agree   Disagree   Strongly Disagree

Please explain your answer.

3. In your PLC do you work together to develop shared understandings of students learning, curriculum and instruction, through the use of student data and produce lessons that improve your instruction to meet children at their level?

Appendix C: Post‑‑Intervention Survey

1. There are recurring formal situations in which teachers work together (team teaching, integrated lessons etc.)

       Strongly Agree   Agree   Disagree   Strongly Disagree
Please explain your answer.

2. What are your ideas for improving the student work analysis to effectiveness in the future?*
3. I use assessment data to design instruction for my class.

       Strongly Agree   Agree   Disagree   Strongly Disagree
4. I have used data from assessments in our PLC to help identify and increase student achievement.

        Strongly Agree   Agree   Disagree   Strongly Disagree
Have you discussed the results of those assessments? If so, in what way?

5. Has instructional coaching been a productive use of time?

       Strongly Agree   Agree   Disagree   Strongly Disagree
6. Has your use of utilizing student data to inform instruction helped to build knowledge of students' present levels and helped you to identify next steps to design lessons?

       Strongly Agree   Agree   Disagree   Strongly Disagree
7. Have your feelings changed about collaboration with your peers this school year versus other years about collaboration among your colleagues? If there is a change what do, you attribute it to?
8. What is important for the school to do to help teachers be more effective?
*Questions come from DuFour & Eaker, 1998, p. 127-128

Appendix D:

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