Investigating Professional Development Models that Assist Teachers in Developing High Quality Teaching Skills: An Action Research Study

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INVESTIGATING PROFESSIONAL DEVELOPMENT MODELS THAT ASSIST TEACHERS IN DEVELOPING HIGH QUALITY TEACHING SKILLS: AN ACTION RESEARCH STUDY

A Dissertation Defense

Presented to the

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Of the Requirements for the Degree

Educational Doctorate

By

Lindsey W. Caccavale

March 2017
INVESTIGATING PROFESSIONAL DEVELOPMENT MODELS THAT ASSIST TEACHERS IN DEVELOPING HIGH QUALITY TEACHING SKILLS: AN ACTION RESEARCH STUDY

By

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Dedication

This dissertation is dedicated to an amazing group of teaching professionals who consistently strive to have the honesty to discriminate between excellence and mediocrity, the courage to do things differently to improve, and the discipline to reflect on what factors lead to success and what can be learned from failure.
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Abstract

Teacher effectiveness and collective efficacy are the leading factors in predicting student achievement (Donohoo, 2016; Eells, 2011; Hattie, 2012; Marzano, 2003; Stronge, Grant, & Xu, 2015; Wright, Horn, and Sanders 1997). As students in the United States continue to be out-performed by other nations, schools are charged with investigating ways to strengthen teacher effectiveness and increase the sense of collective efficacy amongst a school staff. This action research study investigated the effects on teacher reflection, teacher pedagogy, and collective efficacy after implementing three different types of peer observation models. Action research was purposefully chosen as the methodology for this study because of the vested interest in the outcomes by all those involved. Teachers were organized by grade level and randomly assigned to one of three intervention groups: lesson study, teaching and learning tours, and instructional rounds. Over a 12-week period of time, teachers engaged in their assigned type of peer observation a total of four times. Qualitative and quantitative data was collected consisting of pre- and post- Collective Efficacy Scales (CE-SCALE), semi-structured focus group interviews, and pre- and post- teacher observations using the Balanced Literacy Form. Findings supported that when teachers engaged in the different peer observation models, they were able to engage in deep reflection about their teaching and improve their pedagogy. There was no change in pre- and post- collective efficacy scores. This study hopes to inspire other groups of practitioners to use the action
research process to identify problems that impact their personal learning environments, collect data, and use that data to determine a course for improvement.
Investigating Professional Development Models that Assist Teachers in Developing High Quality Teaching Skills: An Action Research Study
CHAPTER 1

In 2006, the National Center for Education Statistics reported scores on the Program for International Student Assessment (PISA) indicating students in the United States were out-performed by most of the developed countries included in the study, ranking 21st out of 30 in science and 25th out of 30 in mathematics (NCES, 2016). Additionally, the top-ranking nations, some previously low ranking, have shown tremendous growth in their high school graduation rates, graduating 90% of students, while American graduates declined from 77% in 1969 to 69% in 2000 (Darling-Hammond, 2010). In 2015, the U.S. Department of Education reported American graduation rates at 82%, the highest percentage since states adopted a new uniform way of calculating graduation rates five years ago (U.S. Department of Education, 2015). This marks improvement within our nation, but globally U.S. students are still behind.

In 2012, PISA reported the U.S. average mathematics, science, and reading literacy scores were not measurably different from average scores in previous PISA assessment years (NCES, 2016). U.S. students were, again, out-performed by 18 other nations in all three subjects, including: Australia, Canada, China, Taipei, Estonia, Finland, Germany, Hong Kong-China, Ireland, Japan, Liechtenstein, Macao-China, Netherlands, New Zealand, Poland, Republic of Korea, Shanghai-China, Singapore, and Switzerland (NCES, 2016). The latest results from PISA's 2015 round of testing reported

To date, these statistics stress the continued pressure on instructional leaders to improve the status quo of our educational system. So, what can we learn from these results? OECD (2016) reported:

On average across OECD countries, only professional collaboration among teachers in the school is positively associated with student performance in science after accounting for the socio economic profile of students and schools. When school principals reported that teachers co-operate by exchanging ideas or materials… the average student scores 36 points higher. (p. 42)

The question then becomes, how can leaders create collaborative structures and ensure that teachers are implementing new learning in the classroom with students?

Statement of the Problem

Educational researchers have investigated the success of other countries and successful schools within the United States to determine factors contributing to student gains (or lack thereof) in achievement (Chenoweth & Theokas, 2011; Darling-Hammond, 2010; Hattie, 2012; Stronge, 2010; Stronge, Ward, & Grant, 2011). A commonality existing within this body of research indicates that successful schools and school systems create a culture around collaboration in which adult learning is paramount, on-going, and job-embedded (Chenoweth & Theokas, 2011; Darling-Hammond, 2010).
Senge et al. (2000) write:

It is becoming clear that schools can be re-created, made vital, and sustainably renewed not by fiat or command, and not by regulation, but by taking a *learning orientation*. This means involving everyone in the system in expressing their aspirations, building their awareness, and developing their capabilities together. In a school that learns, people who traditionally may have been suspicious of one another—recognize their common stake in the future of the school system and the things they can learn from one another. (p. 5)

Research demonstrates that in the teaching and learning process, the teacher matters most. In a seminal study, Wright, Horn, and Sanders (1997) analyzed achievement scores of 60,000 students across core content areas in Grades 3 through 5. Results documented that the single most important factor affecting student learning is the teacher (Wright et al., 1997). The implications from this and similar studies for educational improvements are clear: if you want to improve education, improve teacher effectiveness (Hattie, 2012; Marzano, 2003; Stronge, Grant, & Xu, 2015; Wright et al., 1997).

In 2012, Hattie reframed this argument regarding the impact of teachers on student success with research demonstrating that a great deal of variance exists both between teachers and, further, that even a single teacher can vary in effectiveness from day to day or lesson to lesson. Therefore, what *really matters* is a teacher’s mindset in which they see it as their role to evaluate their impact on learning. Effective teachers
change what is happening when learning is not occurring. Hattie goes on to say, “the remarkable feature of the evidence is that the greatest effects on student learning occur when teachers become learners of their own teaching, and when students become their own teachers” (p. 14).

The three professional development models selected for this study encourage teachers to become evaluators of their teaching and embody specific qualities aimed at increasing individual teacher effectiveness, as well as increasing the collective efficacy of the group. Collective efficacy is the shared perceptions of teachers in a school that the efforts of the faculty as a whole can have a positive effect on students (Hoy & Miskel, 2013). In 2016, Hattie reported collective teacher efficacy as the number one school factor influencing student achievement (Donohoo, 2016). In order for efficacy to have a large-scale effect on student learning, a sense of efficacy must percolate up from the individual level to the organizational level (City, Elmore, Fiarmen, & Teitel, 2009). Hence, assessing the impact of the professional development on our collective efficacy will be an area of focus for this action research.

**Purpose of the Study**

In order to achieve a learning orientation within a school, structures should exist that encourage teachers to engage in adult learning, become reflective practitioners, and collaborate to find ways to improve the teaching and learning process. This study investigated the effects of implementing three different collaborative professional develop models on teachers’ reflective practice, teachers’ pedagogy, and teachers’ sense
of collective efficacy. By using an action research design, groups of teachers engaged in either lesson study, teaching or learning tours, or instructional rounds to answer the following research questions:

1. Is there a change in teachers’ perceptions regarding their ability to reflect on their teaching when they engage in one of the three selected collaborative teacher professional develop models (lesson study, teaching and learning tours, or instructional rounds)?

2. Is there a change in teacher pedagogy when teachers engage in one of the three selected collaborative teacher professional develop models (lesson study, teaching and learning tours, or instructional rounds)?

3. Is there a change in teachers’ sense of collective efficacy when teachers engage in one of the three selected collaborative teacher professional develop models (lesson study, teaching and learning tours, or instructional rounds)?

**Significance of the Study**

If we know among school-related factors that the teacher matters most, it seems sensible to devote our attention and resources to teacher professional development. Additionally, if collective efficacy is just as, if not more, powerful as a predictor of student achievement, professional development efforts should not only aim to help individual teachers develop their pedagogy, but strive to strengthen teachers beliefs as a collective group.
In recent years, school districts have increased their investment in professional development by dedicating a great deal of time and money to teacher development efforts. Based on the 2015 Mirage Report, TNTP Teaching Fellows presented evidence to support that districts spend an average of nearly $18,000 per teacher each year on professional development efforts. Additionally, teachers report spending at least ten percent of their school year in professional development activities (TNTP, 2015). Yet, even with a large investment of time and fiscal funds into teacher development, research shows very little impact on teacher improvement from year to year—indicating that our efforts to help teachers become better are not effective. To date, researchers have been unable to link incidents of teacher growth to a specific professional development tool or experience (TNTP, 2015). Furthermore, other research suggests that instructional leadership activities aimed at improving teacher quality are conditional on the type and quality of those time investments (Grisson Loeb, & Master, 2013).

As educational research continues to inform us on effective teacher practices, it is critical to find ways to help teachers continue to develop and successfully implement their new learning with students in the classroom. The findings from The Mirage (TNTP, 2016) indicate that to date, professional development efforts have not been effective in changing teacher behavior and teacher instructional practice.
Conclusion

Today’s U.S. graduates must compete in a global market. In a rapidly changing world, educators must consistently apply current research and new learning in their classrooms. Therefore, instructional leaders are charged to continue the search for more effective ways to assist teachers in developing high quality teaching skills. The findings in this study provide practitioners with greater insight into what is required to help teachers improve their pedagogy and implement new learning in their classroom setting. Specifically, this study explored three professional development models and the resulting impact on the teachers’ abilities to reflect and collaborate to improve instructional pedagogy. Furthermore, while teachers engaged in their own personal learning, this study also measured the development of the group’s collective efficacy.

Definitions of Terms

Active engagement: A component of the five-part mini-lesson in which the students have the opportunity to try what has been explicitly demonstrated by the teacher.

Active learning: Professional development that emphasizes active teaching, assessment, observation, and reflection (Darling-Hammond & Richardson, 2009). Teachers engage in active learning when given opportunities to become engaged in an analysis of the teaching and learning process (Garet, Porter, Desimone, Birman, & Yoon, 2001).

Anchor chart: Teachers create anchor charts as an instructional strategy and they become a way to make thinking visible. Teachers record strategies, processes, cues, guidelines and other content during the learning process.
Coherence: Coherence is the extent that professional development incorporates experiences that are consistent with teachers’ goals and are aligned to state standards and assessments (Garet et al., 2001).

Collaboration: A willingness of teachers to share their ideas and assist other teachers with difficulties (Stronge, 2007).

Collective efficacy: The perceptions of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students (Goddard, Hoy, & Hoy, 2000).

Connection: A component of the five-part mini-lesson in which the teacher summarizes what students have previously learned about and how it will connect with the day’s mini lesson.

Instructional pedagogy: A system of intentional actions aimed at inducing a permanent change in the learning of skills, knowledge, and values (DiPaola & Hoy, 2014).

Instructional rounds: Instructional rounds are a non-evaluative approach intended to allow teachers in a collaborative team the structure to examine the effectiveness of lessons and compare their own instructional practices with those they observed in the classroom visits (DuFour & Marzano, 2011).

Learning orientation: Involving everyone in the system in expressing their aspirations, building their awareness, and developing their capabilities together (Senge et al., 2000).

Lesson study: Teachers collectively develop high quality lessons, observe a colleague teach, and then use student learning indicators to improve the lesson further (Darling-Hammond, 2010).
Link: A component of the five-part mini-lesson in which the teacher brings closure to the mini-lesson by referring students back to the teaching point.

Reflective practice: Careful review of and thoughtfulness about one’s own teaching process. Teachers use feedback to monitor their teaching in the interest of improving their ability to have a positive impact on student learning (Stronge, 2007).

Mentor text: A piece of literature that teachers and students can return to and reread for many different purposes. These texts are studied for author craft.

Professional development: All efforts to build the capacity of teachers to help students learn (DiPaola & Hoy, 2014).

Teaching and learning tours: A process in which a small group of teachers focus on a current challenging instructional skill, specific to the context of the school, and develop a shared understanding of what the skill effectively looks like in practice (Skrla, McKenzie, & Scherich, 2009).

Teacher demonstration: A component of the five-part mini-lesson in which the teacher explicitly models for the students the learning objective.

Teacher efficacy: A cognitive process in which people construct beliefs about their capacity to perform at a given level of attainment (Bandura, 1977).

Teaching point: A component of the five-part mini-lesson and is something the teachers wants students to practice or something new she wants to teach. The teaching point is explicitly stated for students.
**Touchstone text:** A piece of literature written by a similar age peer that teachers and students can return to and reread for many different purposes. These texts are mostly studied to help students identify the structure of a specific genre of writing.

**Transference of Learning:** A transference of learning occurs when teachers acquire new knowledge and then apply that learning in their teaching environment.
CHAPTER 2
REVIEW OF RELATED LITERATURE

The Teacher’s Role in the Teaching and Learning Process

“Nothing, absolutely nothing has happened in education until it has happened to a student.”

(Carroll, 1994, p. 87)

This chapter will provide the reader with research on teacher effectiveness, as well as research findings on how well current professional development models have helped teachers improve. The majority of these studies use student achievement as the measure of success. This chapter will also provide a conceptual model for effective professional development based upon the core features of coherence, active learning, a focus on content knowledge, sufficient duration, and collective participation. This conceptual model will be used as a lens for identifying and discussing the essential elements needed for a teacher’s new learning to result in a change in pedagogical practice. Furthermore, I will discuss how these core features are inherently present in lesson study, teaching and learning tours, and instructional rounds.

Recently in 2016, Hattie reported collective efficacy as the number one factor influencing student achievement; therefore, teacher collective efficacy will be an additional construct measured in this study (Donohoo, 2016). In this chapter, I will define and build a context that emphasizes the importance of collective efficacy among a group of teachers in a school seeking improvement. To interpret results from this
study, Bandura’s social cognitive theory and derived concepts of self-efficacy and collective efficacy will be used as a lens and theoretical model. Thus, this chapter will conclude with a discussion of social cognitive theory, self-efficacy, and collective efficacy.

**Impact of the Teacher**

Over the last three decades, evidence has been collected to support the claim that effective teachers have positive effects on student achievement. Much of the evidence existing in the literature highlights a wide and disturbing gap between effective and ineffective teachers and the resulting variation in their students’ achievement scores (Allington & Johnston, 2000; Haycock & Huang 2001; Nye, Konstantopoulos, & Hedges, 2004; Sanders & Rivers, 1996; Slater, Davies, & Burgess, 2012). This section will summarize a sampling of studies exploring the relationship between teacher effectiveness and student achievement.

In the teaching and learning process, without a doubt, the teacher matters. Sanders and Rivers (1996) conducted a study over a three year time period comparing a similarly equal group of second grade students. One group had an effective teacher for three consecutive years and the other group had an ineffective teacher for three consecutive years. They found differences in student achievement of 52 to 54 percentile points with residual and lasting impacts for students. In another study, Nye and colleagues (2004) reported evidence that if primary grade teacher effects are normally distributed, the difference in achievement gains between having the 25th percentile
teacher (not so effective) and the 75th percentile teacher (very effective) is about one third of a standard deviation in reading and a little smaller than half a standard deviation in mathematics.

Marzano (2003) summarized numerous studies demonstrating that two teachers working with students sharing the same demographic background can achieve different results on the same assessment. For example, in one class, 27% of the class passed, and in the other class, 72% (Author, 2003). Allington and Johnston (2000) conducted a study including observations and interviews with 30 fourth grade exemplary teachers in 24 schools representing a variety of diverse communities in five states. They conducted a post hoc analysis of achievement test gains using third and fourth grade data to determine that student achievement gains did, in fact, exceed expected levels of growth.

In another study conducted in Boston by Haycock and Huang (2001), results showed that the best teachers in a school have six times as much impact as the bottom third of teachers. Tenth graders in this same study who were taught by ineffective teachers made no gains in reading, and declined in math performance (Haycock & Huang, 2001). Research in Tennessee and Texas provided evidence to support that the effects of teachers are cumulative and hold up regardless of the race, class or prior achievement of the students (Haycock, 1998). Slater et al. (2012) found a wide variance in teacher effectiveness as measured by student achievement “showing strong potential for improving educational standards by improving average teacher quality” (p. 630). These studies support the notion that if you want to increase student achievement,
improve the teacher. Additionally, it is clear that the more effective the teacher, the better results for students.

Over the last three decades research has been conducted to determine the impact of individual teachers on student achievement. Table 1 includes a summary of relevant studies and captures the outcomes for student learning based on teacher effectiveness.

Table 1

Summary of Findings of Teacher Effects on Student Achievement from Selected Studies (Xu, X. 2011 pp. 25-27).

<table>
<thead>
<tr>
<th>Study</th>
<th>Key Findings</th>
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| Sanders & Rivers (1996)      | • Teacher effect on student achievement is cumulative. With an even start at the second grade, differences in student achievement of 52 to 54 percentile points were observed as a result of two extreme teacher sequences after only three years (low-low-low sequence versus high-high-high)  
• Teacher effects on student achievement have been found to be both cumulative and residual. Subsequent assignment of effective teachers cannot offset the effects of prior ineffective ones.  
• The residual effects of both effective and ineffective teacher are measurable two years later, regardless of the effectiveness of subsequent teachers. |
| Hanushek, Kain, & Rivkin (1998) | • Lower bound estimates suggest that variations in teacher quality account for at least 7.5% if the total variation in measured achievement gains, and there are reasons to believe that the true percentage is considerably larger. |
| Nye, Konstantopoulos, & Hedges (2004) | • If primary grade teacher effects are normally distributed, the difference in achievement gains between having a 25th percentile teacher (a not so effective teacher) and a 75th percentile teacher (an effective teacher) is over one third of a standard deviation in reading and almost half a standard deviation in mathematics.  
• The difference in achievement gains between having a 50th percentile teacher (an average teacher) and a 90th percentile teacher (a very effective teacher) is about one third a standard deviation in reading and somewhat smaller than half a standard deviation in mathematics. |
<p>| Rockoff (2004)                | • Drawing form a data set of approximately 10,000 students, the researcher found that a one-standard-deviation increase in teacher quality raises student test scores by approximately 0.1 standard deviations in reading and math on nationally standardized distributions of achievement. |</p>
<table>
<thead>
<tr>
<th>Authors</th>
<th>Findings</th>
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| Rivkin, Hanushek, & Kain (2005)              | • Differences between teachers explained about 15% of the measure variance in student test scores.  
• In both reading and mathematics, a one standard deviation increase in teacher quality for a grade raises student achievement by about one-tenth of a standard deviation. |
| Aaronson, Barrow, & Sander (2007)            | • A standard deviation increase in teacher effectiveness over a full year raised student math test scores by 0.15 standard deviations.  
• Controlling for sampling error, a one standard deviation, one semester improvement in math teacher quality raises student math scores by 0.15 standard deviations. Thus, over two semesters a one standard deviation improvement in math teacher quality translates into an increase in math achievement equal to 22% of the average annual gain.  
• Estimates of teacher effects are relatively stable over time, reasonably impervious to a variety of conditioning variables, and do not appear to be drive by classroom sorting (i.e. student/teacher assignment) or selective use of test scores. |
| Stronge, Ward, & Hindman (2008)              | • Based on prediction models developed through the use of regression analysis with third-grade teachers, most students’ actual achievement scores were within a close range of their predicted scores. However, teacher effectiveness scores ranged from more than a standard deviation about predicted performance to more than a standard deviation below, indicating a wide dispersion of teacher effectiveness.  
• Teachers who were highly effective in producing higher-than-expected student achievement gains (top quartile) in one end-of-course content test (reading, math, science, social studies) tended to produce top quartile residual gain scores in all four content areas. Teachers who were ineffective (bottom quartile) in one content area tended to be ineffective in all four content areas. |
| Leigh (2010)                                 | • Moving from a teacher at the 25th percentile to a teacher at the 75th percentile would raise test scores by one-seventh of a standard deviation. Since a 0.5 standard deviation increase in test scores is equivalent to a full year’s learning, this implies that a 75th percentile teacher can achieve in three-quarters of a year what a 25th percentile teacher can achieve in a full year.  
• Moving from a teacher at the 10th percentile to a teacher in the 90th percentile would have even more dramatic effects raising test scores be one quarter of a standard deviation. This implies that a teacher at the 90th percentile can achieve in a half a year what a teacher at the 10th percentile can achieve in a full year. |
| Hattie (2009)                                | • A meta-analysis of over 50,000 studies to investigate what is currently working in schools to improve learning.  
• He concluded the quality of teachers and their pedagogy make the most difference in student achievement. |
| Stronge, Ward, & Grant (2011)                | • Teaching practices of effective (top quartile) teachers and less effective (bottom quartile) teachers differ in various ways.  
• Top quartile teachers had fewer classroom disruptions, better classroom management, and better relationships with students compared to their less effective peers. |
The evidence yielded from this compilation of studies indicates that the quality of the teacher makes a true and lasting impact on student achievement. This impact can either be a positive or negative one based on the teacher’s effectiveness. Our students deserve effective teachers. And effective teachers are needed in order to close the achievement gaps that exist within the United States, as well as increase U.S. student achievement in a global context. How do instructional leaders create a culture that cultivates teacher effectiveness and encourages teachers to challenge old practices and grow professionally?

**Hattie’s (2012) 10 mind frames.** In Hattie’s (2012) book entitled *Visible Learning for Teachers*, he asserts that in order for continuous progress to occur in a school and among a teaching staff, teachers and leaders must possess these 10 mind frames:

1. I cooperate with other teachers.
2. I use deluge not monologue.
3. I set the challenge and do not retreat to “doing my best”.
4. I talk about learning, not teaching.
5. I inform all about the language of learning.
6. I see learning as hard work.
7. Assessment is feedback to me about me.
8. I am a change agent.
9. I am an evaluator.
10. I develop positive relationships. (Fisher, Frey, & Hattie, 2016; Hattie, 2012)
In an interview with Donohoo (2016), Hattie reported collective efficacy as the number one school factor influencing student achievement based on a meta-analysis by Eells (2011). Collective teacher efficacy refers to “the perceptions of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students” (Goddard et al., 2000, p. 480. Hattie’s ten mind frames align with the attitudes of a staff with high collective efficacy (Fisher et al., 2016; Hattie, 2016). If collective efficacy among a group of teachers influences student achievement, then naturally instructional leaders would structure learning opportunities to enhance collective efficacy and foster Hattie’s 10 mind frames.

**Teacher Professional Development**

_For those already in the field, high-quality professional development activities are necessary tools for improving teacher effectiveness. These activities must be collegial, challenging, and socially oriented, because learning itself entails these characteristics. (Stronge, 2007, p. 103)_

**How Professional Development is Defined**

At its core, professional development is a planned learning opportunity for educators (InPraxis, 2006). Professional development can be in the form of a conference, workshop, in-service, or in another type of format—like coaching or study groups. Professional development can be short-term, such as an isolated workshop, or it can be sustained and on-going. Professional development can be job-embedded in the context of the workplace or it can be held at a university, a national or state conference, or at the school district level. Sometimes professional development is teacher led; applying the
notion that teachers can grow from the experience of others in their school. Sometimes experts in the field are brought in to design and deliver professional development. As you can see, beyond a planned learning experience for teachers, there is a great deal of variability in what professional development can be and unfortunately for those planning professional development, the current research base lacks adequate guidance in how best to do so (Guskey, 2009; Guskey & Yoon, 2009; TNTP, 2015; Yoon, Duncan, Lee, Scarloss, & Shapley, 2007).

**Characteristics of Effective Professional Development**

Over the years there has been much discussion in regard to the core characteristics of effective professional development (Garet et al., 2001; Guskey, 2003; InPraxis, 2006). Thomas Guskey (2003), professor and researcher at the University of Kentucky, reported that after analyzing 13 lists of characteristics of effective professional development from major publications including the Association from Supervision and Curriculum, Education Development Center, Educational Research Service, National Staff Development Council, and the U.S. Department of Education, he found great variance in each organization’s identified characteristics. From his analysis, Guskey concluded three things:

- There is little agreement among professional development researchers or practitioners about the criteria for “effectiveness.”
- Many of the identified characteristics exist in “yes, but…” statements. For example, “Yes, enhancing teachers’ pedagogical knowledge is important, but
existing research is limited mainly to investigations of mathematics and science instruction” (Guskey, 2003, p. 750).

- The characteristics of professional development are highly complex and it may be impossible to create a single list of characteristics.

While we cannot find a common list of characteristics for effective professional development, some evidence does exist to support core professional development features: coherence, active learning, a focus on content knowledge collective participation, and sufficient duration of activity (Garet et al., 2001; Yoon et al., 2007).

Garet et al. (2001) used a national probability sample of 1,027 math and science teachers to provide the first large-scale empirical comparison of effects of different characteristics of professional development on teachers’ learning. Results of this study indicated the following:

- Activity type has an important influence on duration. Reform activities tend to span longer periods and involve a greater number of contact hours than traditional professional development approaches. There was a modest direct effect of activity type on enhanced knowledge and skills, indicating that reform activities have slightly more positive outcomes.

- Time span and contact hours have a substantial positive influence and promote more opportunities for active learning and coherence.

- Professional development is likely to be of higher quality if it is both sustained overtime and involves a number of hours.
Professional development connected with teacher goals, interests, and experiences and other reform efforts, with greater emphasis on content are more likely to produce enhanced knowledge and skills.

Activities that are content focused, but do not increase teacher knowledge were negatively associated with changed in teacher behavior.

Coherence of professional development activities have a positive influence on change in teacher practice.

Below I will provide a review of the literature base to ascertain a deeper understanding of these five core features and the potential impact on teacher development.

**Coherence.** Coherence is the extent that professional development incorporates experiences that are consistent with teachers’ goals and is aligned to state standards and assessments (Garet et al., 2001). Professional development is more effective when it is a coherent part of a school’s overall efforts, rather than an isolated teacher workshop (Darling-Hammond, 2010). Teachers are unlikely to apply what they have learned if it is not aligned with school and district goals and initiatives (2010). In the study conducted by Garet et al. (2001), teachers reported that their knowledge and skills grew and their practice changed when they received professional development that was coherent, focused on content knowledge, and involved in active learning.

**Active learning.** Teachers engage in active learning when given opportunities to become engaged in an analysis of the teaching and learning process (Garet et al., 2001).
Teachers judge professional development to be most valuable when it incorporates hands-on work (Darling-Hammond, 2010). “The most useful professional development emphasizes active teaching, assessment, observation, and reflection, rather than abstract discussions” (Darling-Hammond & McLaughlin, 2009, p. 47). In the study conducted by Garet et al. (2001), teachers reported that hands-on work enhanced teacher content knowledge and how to teach it, as well as produced a greater sense of teacher efficacy.

**Focus on content knowledge.** In the study conducted by Garet et al. (2001), teachers reported a change in practice when professional development focused on the knowledge of subject matter content and along with an understanding of how children learn that specific content. Professional develop is effective when it focuses on increasing teacher’s content knowledge or instructional practices in order for the teacher to better understand both what they teach and how students acquire specific content knowledge and skill (Darling-Hammond, 2010; Garet et al., 2001; Guskey & Yoon, 2009; Yoon et al., 2007).

**Sufficient duration.** Longer activities are more likely to provide an opportunity for deeper discussion of content, student learning, and instructional strategies, as well as provide a greater amount of time for the teacher to try out new practices and receive feedback (Garet et al., 2001). Effective professional development requires considerable time, and that time must be carefully structured, purposefully directed, and focus on content or pedagogy, or both (Garet et al., 2001; Guskey & Yoon, 2009).
**Collective participation.** Effective professional development emphasizes groups of teachers from the same school, department, or grade level working together through collective participation to learn and problem-solve (Darling-Hammond & Richardson, 2009; Garet et al., 2001). Research on professional development puts emphasis on collaborative and collegial learning environments that assist the change process for teachers (Darling-Hammond & McLaughlin, 1995; Darling-Hammond & Richardson, 2009; Gabriel, Day, & Allington, 2011; Knapp, 2003). Figure 1 illustrates the core features of effective professional development.

![Figure 1. Core Features of Effective Professional Development](image)
**Professional development approach.** As opposed to more traditional professional development models (e.g., workshop, conference), reform approaches often take place during the regular school day, potentially in the classroom and allow teachers to be more responsive to their individual needs and goals (Darling-Hammond, 1997; Garet et al., 2001). Research has found that teachers are more likely to try classroom practices that have been modeled for them in an authentic setting (Darling-Hammond, 2010). Alternative types of professional development include forms of peer observation, a critical friends group, and analysis of student work and data (Darling-Hammond & Richardson, 2009). Schmoker (2004) writes:

> There is a broad, even remarkable, concurrence among members of the research community on the effects of carefully structured learning teams on the improvement of instruction. Add to this that such structures are probably the most practical, affordable and professionally dignifying route to better instruction in our schools. (p. 430)

All professional development aims to improve the teacher to in turn have a positive impact on student learning. At this point I have defined professional development and identified core features that serve as success criteria. I have yet to present research showing professional development and its link to student achievement. The following section will look at available research to determine if professional development is reaching its ultimate goal. Is professional development increasing teacher effectiveness and ultimately making a difference for students?
Does Professional Development Work? A Look at the Research

It’s a logical connection, that by investing in teacher content knowledge and pedagogical practice, we would in turn see an increase in student achievement.

Researchers have found it difficult to make that link (Guskey & Yoon, 2009). Yoon et al. (2007) conducted an extensive search to collect and review the existing evidence on how teacher professional development affects student achievement. They collected more than 1,300 studies, however, only nine of these studies met the What Works Clearing House evidence standards and directly assessed the effect of an in-service teacher professional development on student achievement in mathematics, science, or language arts. All nine schools were elementary schools with half of the studies focused on primary grades only. A summary of these nine studies is captured in Table 2.

Table 2
Summary of Findings of Professional Development Effects on Student Achievement (Yoon et al., 2007).

<table>
<thead>
<tr>
<th>Study</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duffy et al. (1986)</td>
<td>• A randomized controlled trial in which 22 fifth grade teachers and their entire classes were randomly assigned to equal-sized treatment and control groups. Teachers in the treatment group received professional development on effective classroom management.</td>
</tr>
<tr>
<td></td>
<td>• Student level outcomes were assessed using pre-test and post-test administrations of the Gates-MacGinitie Reading Test.</td>
</tr>
<tr>
<td></td>
<td>• No statistically significant difference was found between the treatment and control group.</td>
</tr>
<tr>
<td>Carpenter, Fennema, Peterson, Chiang &amp; Loef (1989)</td>
<td>• A randomized controlled trial in which 40 first grade teachers were randomly assigned to participate in a month-long workshop on children’s development of problem-solving skills in addition and subtraction. Twelve students were selected from each class to provide data on student outcomes using the Iowa Test of Basic Skills (ITBS) assessment.</td>
</tr>
<tr>
<td></td>
<td>• No significant difference was found between the treatment and control groups in regard to student outcome measures.</td>
</tr>
<tr>
<td>Authors</td>
<td>Design/Study Details</td>
</tr>
<tr>
<td>---------------------------------</td>
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</tr>
<tr>
<td>Marek &amp; Methven (1991)</td>
<td>A quasi-experimental design in which 16 elementary teachers applied for and participated in a National Science Foundation sponsored workshop. Eleven comparison group teachers were selected based on same teacher characteristics (experience, grade level). Ten students from each of the 27 teachers’ classrooms were randomly selected and interviewed to assess conversation reasoning using three Piagetian conversation task at the beginning and end of the school year. Positive and statistically significant effects were found favoring the treatment group.</td>
</tr>
<tr>
<td>McGill-Franzen, Allington, Yokoi, &amp; Brooks (1999)</td>
<td>A randomized controlled trial in which 18 kindergarten teachers, three from six schools, were randomly assignment into one of three groups: training and books (treatment group), no training and books, and no training and no books. Researchers used measures from standardized tests given to 317 students (164 treatment and 153 control) at the beginning and end of the school year. Positive and statistically significant differences were found in student knowledge of concepts about print, letter identification, and hearing sounds in words. Two effects were found to be substantively important but not statistically significant (writing vocabulary and Ohio Word Test).</td>
</tr>
<tr>
<td>Cole (1992)</td>
<td>A randomized controlled trial in which twelve fourth-grade teachers and their intact classes in an intermediate school in Mississippi were randomly assigned to treatment and control groups. The six treatment teachers participated in a comprehensive staff development training program using Mississippi Teacher Assessment Instrument modules for training materials. Student’s math, reading, and language scores of the Stanford Achievement Test were used and the average effects in math and reading were found to be positive and statistically significant for the treatment group. The average effect in language was positive but not large enough to be considered substantively significant.</td>
</tr>
<tr>
<td>Saxe, Gearhart, &amp; Nasir (2001)</td>
<td>Quasi-experimental design in which 23 teachers in the Los Angeles area responded to an invitation in a yearlong study. Teachers in the treatment group received professional development focused on enhancing teachers’ understanding of fractions, student cognition, and student motivation. The student outcome measures were two researcher-developed tests of fraction concepts and fraction computations, administered at the beginning and the end of the school ear. By analysis of data on the classroom level, no statistically significant differences were found between the treatment and control group on the computation scale, but the effect was negative for the control group and large enough to be considered substantially important. The study found strong and statistically significant differences between the groups on the fraction concepts, favoring the treatment group.</td>
</tr>
<tr>
<td>McCutchen et al. (2002)</td>
<td>A quasi-experimental design in which 44 kindergarten and first grade teachers responded to an invitation to participate in the study. Twenty-three teachers were assigned to the treatment group and twenty were assigned to the comparison group. The treatment group received professional development to deepen their knowledge of phonology and its link to orthography. Using a sample of 779 students, an effect size was calculated using the Gates-MacGinitie word reading subset to find statistically significant results favoring the treatment group.</td>
</tr>
<tr>
<td>Tienken (2003)</td>
<td>This small post-test-only randomized trial involved five fourth-grade teachers and their 98 students in a New Jersey school. Two teachers were trained to teach students to use scoring rubrics and reflective questions as self-assessment devices. Teachers completed reflective logs. Scores from students' performance on state standardized writing assessment were compared and the results were not statistically significant; however, the effect was large enough to be considered substantially important.</td>
</tr>
</tbody>
</table>
To summarize the findings in Table 2, only one effect of the 20 identified from the nine studies was negative, and only one effect was zero (Yoon et al., 2007). Studies that had more than 14 hours of professional development showed a positive and significant effect on student achievement (Yoon et al., 2007). The three studies that involved the least amount of time dedicated to professional development (5-14 hours) showed no statistically significant effects on student learning (Yoon et al., 2007). All nine studies reviewed used a workshop and/or summer institute model underscoring the need for additional research on reform models for teacher professional growth.

Most recently TNTP Teaching Fellows (2015) released the results of a comprehensive study focused on what is currently working in professional development, and like Yoon, found a very thin evidence base from which to draw conclusions (TNTP, 2015; Yoon, et al., 2009). TNTP (2015) entitled the report, The Mirage, because their work directly addressed the naivety in the shared perception that we know how to help teachers improve and that teacher improvements can be achieved if we spread those practices more widely.

In this two-year study, TNTP (2015) cast a wide net to include professional development led by the school district, school-based professional development, or professional learning initiated by an individual teacher. Twenty thousand teachers and 566 school leaders in three large school districts and one charter management organization were surveyed; 127 interviews were conducted and small focus groups with teachers were held. Researchers used a backwards design and district-level teacher
evaluation systems to identify teachers whose performance had improved substantially and then looked for similarities and differences among these teachers as well as compared them to the experiences and mindsets of less successful teachers. The following results were found:

- School districts are investing heavily in teacher professional development with an average of nearly $18,000 per teacher per year.
- Teacher evaluation ratings indicate little to no teacher growth despite improvement efforts.
- No evidence exists pointing to a particular type of professional development model as being more or less likely to improve teacher practice; this includes the job-embedded types of learning.
- High expectations are lacking for teacher growth and teacher quality.

TNTP (2015) reported:

Great teaching is very real, as are teachers who improve over time, sometimes dramatically so. Undoubtedly, there are development experiences that support that improvement. But we found no clear patterns in these success stories and no evidence that they were the result of deliberate, systematic efforts. Teacher development appears to be a highly individualized process, one that has been dramatically oversimplified. (p. 3)

The available research paints a bleak picture of the effectiveness of existing traditional professional development models. For those committed to teacher
improvement and a profession that recognizes improvement as an on-going endeavor, what’s the next move?

**What’s Next? Planning for Effective Professional Development**

Based on the 2015 Mirage Report, TNTP Teaching Fellows recommends a three-step plan for a school system to more effectively assist teachers at improving their practice. First, schools must redefine what it means to help teachers improve by defining development in clear and measurable terms, providing teachers with a clear and deep understanding of their performance and progress, and encourage teacher improvement through meaningful rewards and consequences. Secondly, schools must reevaluate existing professional development supports and programs as well as explore and evaluate new approaches to development. Lastly, schools and school systems must reinvent how they recruit and support effective teachers by reconstructing the teacher’s job and redesigning schools to cultivate the great teacher.

Darling-Hammond and McLaughlin (1995) state that professional development “must focus on deepening teachers’ understanding of the processes of teaching and learning and of the students they teach” (p. 598). Effective professional development involves teachers both as learners and as teachers and allows them to struggle with the uncertainties that accompany each role (Barth, 2001; Darling-Hammond & McLaughlin, 1995) Furthermore, professional development should be planned with the end in mind-improvements in student learning outcomes (Guskey, 2003; Guskey & Yoon, 2009).
Dean, Stone, Hubbell, & Pitler, (2012) believe that to ensure student academic success, high quality instruction must be the norm within a school and stress the importance of developing a common language and common set of strategies for instruction. Furthermore, a thoughtful structured collaboration between school-based teachers, who are in tune with contextual factors, and have a broader and deeper perspective on the current problems, seems to be essential factors in optimizing the effects of professional learning.

Moving forward with the recommendation to explore and evaluate new approaches to development (TNTP, 2015), and keeping in mind the core features of effective professional development, the next section presents the available literature base for three alternative professional development models aimed at assisting teachers improve their practice. Building upon the idea that schools can be no better than the educators who work within them (Guskey, 2009), these three professional development models were purposefully selected due to their incorporation of coherence, active learning, focus on content knowledge, and collective participation. Additionally, these models support Hattie’s (2012) 10 mind frames and the potential development of individual and collective efficacy.
Exploring Three Specific Professional Development Models

What teachers know and understand about content and students shapes how judiciously they select from texts and other materials and how effectively they present material in class. Their skill in assessing their students’ progress also depends upon how deeply they understand learning, and how well they can interpret students’ discussions and written work. No other intervention can make the difference than a knowledgeable, skillful teacher can make in the learning process (National Commission on Teaching and America’s Future, 1996, p. 8)

Lesson Study

Asian nations appear at the top of the list among the World’s leaders in PISA score rankings and graduation rates (Darling-Hammond, 2010). In these nations, schools have provided significant time for teachers to collaborate to design lessons, participate in action research, and observe high quality teaching. Lesson study has become a common practice in which teachers collectively develop high quality lessons, observe a colleague teach, and then use student learning indicators to improve the lesson further (Darling-Hammond, 2010; DuFour & Marzano, 2011). In Japan, research lessons or lesson studies, known as kenkyuu jugyou, are vital to the professional growth of teachers (Darling-Hammond, 2010). These lessons have been termed “polished stones” because they have been crafted and refined so thoughtfully (Darling-Hammond, 2010).

Lesson study enables small groups of teachers to plan, observe, analyze, and refine actual classroom lessons (Armstrong, 2011). Inherent in lesson study are the
elements of coherence, active learning, focus on content knowledge and collective participation among teachers. Lesson study is a form of long-term professional development in which teams of teachers collaboratively plan, research, and study their instruction as a way to determine how students learn best (Center for the Collaborative Classroom, 2016). It is a process that deepens the interaction of a school’s professional learning community by developing the habits of self-reflection and critical thinking through very personal collaboration with their colleagues and structured observation of their students (2016).

**Teaching and Learning Tours**

The second intervention intended to assist teachers in developing high quality teaching skills is teaching and learning tours. Teaching and learning tours are an exercise in reflective practice and not a form of teacher evaluation (Skrla et al., 2009). Skrla et al. (2009) describe teaching and learning tours as a process in which a small group of teachers focus on a current challenging instructional skill, specific to the context of the school, and develop a shared understanding of what the skill effectively looks like in practice. When engaging in teaching and learning tours, teachers use the Teaching and Learning Protocol (explained in Chapter 3) and approach their colleague’s classroom as a laboratory to engage in reflective practice about their own teaching.

As a professional development model, the teaching and learning tours process meet the standards for coherence, active learning, focus on content knowledge and collective participation. By allowing a group of teachers to collectively identify the area
of focus, engage in learning in the classroom setting, and collaboratively debrief, teaching and learning tours promotes transference of learning for individual teachers (Darling-Hammond & McLaughlin, 1995; Darling-Hammond & Richardson, 2009).

**Instructional Rounds**

Instructional Rounds are designed to build a common understanding of what high quality instruction looks like and bridges the knowledge gap between teacher knowledge and their instructional practices (City et al., 2009). This professional development model takes an action research approach and embodies a specific set of ideas for how teachers work collaboratively to improve their pedagogy (Author, 2009). Specifically, instructional rounds is an explicit process that engages teachers in observing, analyzing, and discussing instruction so that each individual teacher involved in the process can then reflect on how to improve the teaching and learning process in their own classroom (2009). In turn, instructional rounds build the use of a common language and best instructional practices among a teacher group (2009). A core understanding of instructional rounds is that “everyone involved is working on their practice, everyone is obligated to be knowledgeable about the common task of instructional improvement, and everyone’s practice should be subject to scrutiny, critique, and improvement” (City et al., 2009, pp. 4-5).

Instructional rounds embody the elements of coherence, active learning, and focus on content knowledge, and engage teachers in collective participation. When teachers engage in instructional rounds they actively engage in practicing the
knowledge and skills required to become better practitioners within the classroom environment (City et al., 2009). Teachers “learn to do the work by doing the work, reflecting on the work, and critiquing the work” (City et al., 2009, p. 157). The process of instructional rounds can continue over the duration of time needed to solve a problem or build collective understanding and practice. Instructional rounds also develop and enhance collective efficacy by developing common norms, understandings, and practices that produce school-wide success (2009).

In each of these interventions collective participation and dialogue need to occur in a safe space in which teachers can share their questions and understandings without fear of judgment (City et al., 2009). Collective norms must be established among the group. These norms must be clear and produce high levels of trust and collective efficacy among participants (2009).

**Social Cognitive Theory**

Bandura (1989) proposed social cognitive theory to explain behavioral change. By assisting teachers in developing their pedagogy, more often than not, teachers will be charged to change their current behavior or practice. Therefore, social cognitive theory serves as an appropriate lens for interpreting the results of this study.

Through the lens of social cognitive theory, people learn best by direct experience and observing others (Bandura, 1989). Social cognitive theory is determined by an interaction among personal, environmental and behavioral factors (1989). As shown in Figure 2, these three factors intersect in a dynamic and reciprocal manner and
allow a behavioral change to occur (1989). It is important to note that these different sources of influence are not of equal strength. Some sources may be stronger than others. Also, while these sources are reciprocal they do not all occur simultaneously. It takes time for a causal factor to exert its influence and activate reciprocal influences (1989).

From social cognitive theory, Bandura’s derived the concepts of self-efficacy and collective efficacy which both focus on the notion of human agency: a person's feeling of having the capacity to influence their situation. Specifically, collective efficacy is the shared perception of teachers in a school that the efforts of the faculty as a whole can have a positive effect on students (Hoy & Miskel, 2013). The strength of a school lies greatly in the teachers’ sense of collective efficacy that together they can solve the
problems they face and improve their school through a unified effort. Collective efficacy will increase by increasing the self-efficacy of individual teachers (City et al., 2009).

According to Bandura (1994), ”self-efficacy is defined as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives” (p. 2). Bandura (1994) asserts that self-efficacy beliefs determine how people feel, think, motivate themselves and behave. Those with a strong sense of self-efficacy approach challenges rather than avoid them, set rigorous goals and stick with them, recover quickly after a failure, and embody a sense that they can control challenging situations. Those with low levels of self-efficacy shy away from challenging tasks, lack personal aspirations and goal commitment, retreat quickly when faced with a perceived challenge, and recover slowly when failure occurs (Bandura, 1994; Cherry, 2006).

**Building One’s Self-Efficacy**

Self-efficacy is developed in four ways: mastery experience, vicarious experience, social persuasion, and through psychological awareness (Bandura, 1994). The following sections will define each of these four sources of self-efficacy and explain how lesson study, teaching and learning tours, and instructional rounds support the development of one’s self-efficacy.

**Mastery experience.** When a person’s efforts yield success, one’s personal efficacy increases (Bandura, 1994). Engaging in mastery experience is the most effective way to increase a person’s self-efficacy (1994). When teachers engage in lesson study,
instructional rounds, and teaching and learning tours, they essentially engage in a mastery experience. By creating a lesson together, delivering that lesson to students, receiving feedback from peers, and then in some cases, delivering that lesson again, teachers are perfecting their craft. If failure does occur, these professional development models are designed to engage teachers in reflection and perseverance to try again—ultimately resulting in a successful experience for all those involved.

**Vicarious experience.** A second way to develop a person’s self-efficacy is through vicarious experience with social models (Bandura, 1994). Witnessing other people successfully completing a task is another important source of self-efficacy. When a person witnesses a similar person succeed, they in turn have an increase in their beliefs that they can be successful too (1994). When teachers engage in lesson study, teaching and learning tours, and instructional rounds, they are able to witness someone’s success firsthand. In the event that they witness failure, the interventions are designed to empower teachers to persevere and recover from setbacks (1994).

**Social persuasion.** A third way to develop one’s self-efficacy is to use social persuasion to convince an individual that they have the skill-set and mindset to be successful (Bandura, 1994). When teachers engage in lesson study, teaching and learning tours, and instructional rounds they are engaging in a social process. This social process mainly exists in the debrief that occurs after each observation. Getting verbal encouragement from others helps individuals overcome self-doubt and focus on giving their best effort to the task at hand (1994).
Physiological awareness. Our own responses and emotional reactions to situations also play an important role in self-efficacy. Moods, emotional states, physical reactions, and stress levels can all impact how a person feels about their personal abilities in a particular situation. The fourth way to increase one’s self-efficacy is to alter a person’s emotional and physical reaction to stress from negativity and self-doubt, to an energizing facilitator of performance (Bandura, 1994). Teachers are learning together when they engage in lesson study, teaching and learning tours, and instructional rounds. By putting teachers in control of their own learning, they can approach the task with energy rather than the stress of one more additional task.
CHAPTER 3

METHODS

This study investigated the effects of implementing three different collaborative professional develop models (lesson study, teaching and learning tours, and instructional rounds) on teacher reflection, teacher pedagogy, and collective efficacy. It used an action research approach with a mixed-methods design to determine if any of these professional development models assisted teachers in developing high quality teaching skills and as a result develop a greater sense of collective efficacy. This chapter explains the research design for this study, the overall sample size and description of the participants, the data collection process, and the methods used for data analysis. This chapter also provides a rationale for selecting action research as the methodology for this study and provides the reader with the background knowledge necessary to understand Writer’s Workshop and its relevance to this study.

The study addresses the following research questions:

1. Is there a change in teachers’ perceptions regarding their ability to reflect on their teaching when they engage in one of the three selected collaborative teacher professional develop models (lesson study, teaching and learning tours, or instructional rounds)?
2. Is there a change in teacher pedagogy when teachers engage in one of the three selected collaborative teacher professional develop models (lesson study, teaching and learning tours, or instructional rounds)?

3. Is there a change in teachers’ sense of collective efficacy when teachers engage in one of the three selected collaborative teacher professional develop models (lesson study, teaching and learning tours, or instructional rounds)?

**Research Design**

This study used an experimental design consisting of three intervention groups. The groups were strategically picked due to grade level schedules and available teacher coverage. However, each group was randomly assigned to an intervention over a 12-week period of time. Group 1, kindergarten and first grade teachers, was assigned the lesson study intervention. Group 2, second and third grade teachers, was assigned to teaching and learning tours. And, Group 3, fourth and fifth grade teachers, was assigned to instructional rounds.

Teacher reflection, instructional pedagogy, and collective efficacy were purposefully targeted in this study. Knowing that collective efficacy is the number one school factor influencing student achievement (Donohoo, 2016; Eells, 2011), this study aimed to investigate adult learning models that embody the principles of Hattie’s (2012) ten mind frames, emphasize teacher reflection, and aim to improve a teachers’ instructional practice through collective participation and collaboration. Therefore, collective efficacy was worthy of a metric in this study.
Research Strategy

This study used an action research approach with a mixed-methods design to determine if lesson study, teaching and learning tours, or instructional rounds assist teachers in developing high quality teaching skills. This study took place in our school, a practitioner-based environment, in which I as principal and our teaching staff worked collaboratively to engage in and systematically gather information to investigate if peer observations, as a mode of adult learning, serve us better than our existing professional development activities. Our research was community-based as we investigated as a team in our practicing environment (Craig, 2009).

Craig (2009) identifies three basic main purposes for selecting the action research approach:

1. Action research is selected as a method for conducting research by those who want to solve problems, address issues, and improve situations because the process promotes professional growth, improvement, and change. The process enables teachers and practitioners to become ‘experts in the field’ because findings are based on true inquiry and therefore inform practice.

2. The method is ideal for addressing specific targeted goals and objectives that are within the realm of possibility for the practitioner to achieve. By actually conducting an action research study, teachers are able to experience success firsthand.
3. Action research promotes collaboration and encourages ‘community’ among all parties involved in a specific learning situation, leading to results that have the potential to improve conditions and situations for all members in the learning community. (pp. 6-7)

There are different variations of action research, but as a methodology, most action research designs share the following theoretical underpinnings and each one is inherent in this study:

- Action research is typically conducted for teachers, by teachers.
- The research focuses on practice in order to improve practice.
- Action research may result in an action plan.
- Action research requires the participation of the community of learners in the community environment.
- It is systematic and structured.
- It focuses on problems, issues, or concerns in the community environment (Craig, 2009).

In this study, teachers engaged in action research together to investigate if different modes of peer observation helped them as individuals to reflect on their teaching and develop/improve their pedagogy. Cornerstone to this process was the development of an action plan based on the research findings. This action plan will be developed, implemented, and monitored together.
Along with the different variations of action research in Craig (2009), Sohng (1995) states:

Action research is premised on the principle that the parties in an environment carry out the investigation themselves; it therefore excludes techniques that require a separation of the researcher from the people being researched - as when experimental subjects are kept ignorant to the purpose of the study. (Craig, 2009, p. 5)

This principle is key to qualifying this study as an action research study. While I took a leadership role in developing the design of the study, gathering participation, gathering data, and analyzing the data to share, there was no separation between researcher and participants. Our shared understanding of the purpose of this study was vital to the research process and will remain important as we use the results to create an action plan.

**Precursors to Action Research**

Chapter one presented a problem facing educators today. In order for our students to compete globally, we have to strengthen the teaching and learning process in our schools. One specific way to do that is to invest in teacher development and effectively assist teachers in developing high-quality teaching skills. Unfortunately, current professional development models for teachers have not yielded the desired results (Stronge, 2007; TNTP, 2015; Yoon, et al., 2009).
A promising idea exists, that successful schools and school systems can create a culture around collaboration in which adult learning is paramount, on-going, and job-embedded (Chenoweth et al., 2011; Darling-Hammond, 2010, Senge et al., 2000). The action research approach allowed us as practitioners to collaborate as adult learners to problem-solve and search for solutions in a practical way (Craig, 2009). In this study, we collaborated and actively searched for a way to optimize our professional learning as a school and as individuals. There was value in using the action research approach with adult learning as our focus. Whether or not our investigation yielded positive results for individual teachers and their pedagogy, the action research process alone pledged to strengthen our professional learning community.

Prior to this action research study, our teaching faculty had been focused on the development of a clear vision and mission for our work. Four years ago, we adopted these shared beliefs identified by Karen Chenoweth and Christina Theokas in their work entitled, Getting it done: Leading academic success in unexpected schools (2011),

• The honesty to discriminate between excellence and mediocrity.
• The courage to do things differently to improve.
• The discipline to reflect on what factors lead to success and what can be learned from failure.

We have used these beliefs as criteria to judge new ideas and determine our path, as well as criteria to reflect on our work. As a faculty we hold true to the core understanding that teaching is a passion and that our job as teacher is to constantly
work to improve our practice. We also have established professional learning communities (PLCs) that meet weekly and focus on student learning, unpacking curriculum, and building common formative assessments. These pre-existing beliefs and structures were key in taking on an action research study.

Additionally, the current context in our school division caused a collective need among our faculty. This was the first year teachers were expected to launch Writer’s Workshop in their classrooms. The format and philosophy of Writer’s Workshop was new for the vast majority of teachers. Teachers were faced with a steep learning curve that required them to understand the art and science of teaching young writers, as deeply and as quickly as possible. Therefore, our shared beliefs as a culture and existing PLCs met with the urgency of becoming better teachers of writing and presented a climate ripe for action research.

**Population and Sample**

This study took place in an elementary school and used the entire K-5 teaching population, consisting of 19 teachers. Using the action research approach, the 19 teachers joined as researchers in this study. I took the role of lead researcher and facilitator of the study. As stated previously, for feasibility, the 19 teachers were grouped by grade level and randomly assigned to one of the three intervention groups. Group 1, kindergarten and first grade teachers, was assigned to the lesson study intervention. Group 2, second and third grade teachers, was assigned to teaching and
learning tours. Group 3, fourth and fifth grade teachers, was assigned to instructional rounds.

Our school is a stable school and has experienced very little teacher turn over. Specifically, in my four years as principal, I have only hired three classroom teachers. Two of those teachers came with experience from other school systems. Therefore, this participant group has worked with one another over time and has established relationships with one another. According to a survey taken in June of 2016 entitled, Qualities of the Environment that Teachers Experience, 96% of this faculty reported that they enjoy being with and around each other almost always or more often than not. Additionally on the same survey, 96% of staff reported similarly when asked, People speak honestly and respectfully to one another. We are not afraid to disagree and can do so without jeopardizing our relationships.

Along with the fact that these teachers have established positive relationships with one another, the vast majority of the teaching staff consists of experienced and veteran teachers. For the purposes of this study, novice teachers are considered to have less than three years of experience. Experienced teachers have between four to ten years of teaching experience, and veteran teachers have eleven or more years of experience. In this sample, there is one novice teacher, nine experienced teachers, and nine veteran teachers. Additionally, two teachers in this sample have received extensive professional development in Writer’s Workshop with literacy consultant Meredith Alvaro.
The sample size of this study is considered to be small and therefore generalizability is a natural concern. However, action research is less about generalizability and instead focuses on the conditions and situations for a particular learning community. Yet, when we take into consideration the teacher’s impact on student achievement - this issue becomes a pressing one for every school (Hattie, 2012; Marzano, 2003; Stronge et al., 2015, & Wright et al., 1997). Therefore, this chapter will outline specific methodology so that another school, if they choose to do so, can replicate this study, investigate for themselves, and form their own unique action plan based their findings.

**Action Research Intervention Strategies**

Four teachers in kindergarten and three teachers in first grade were assigned to lesson study. A total of six teachers, three in second grade, and three in third were assigned to teaching and learning tours. Finally, three teachers in fourth grade and three teachers in fifth were assigned to instructional rounds. After the groups were assigned, each group received training to learn specific information about their intervention. This training occurred during their established weekly PLC time. The timing of the training was purposeful. It was important for teachers to understand that action research is the work of a high functioning PLC (DuFour, DuFour, Eaker, Many, & Mattos, 2016).

Each training consisted of a background reading assignment about their intervention and a 45-minute Q & A follow-up session. During training sessions, the
groups also reviewed the research design, discussed what data would be collected, discussed how the data would be analyzed and agreed on the data collection timeline for the 12-week intervention period. We also discussed how this research would result in an action plan that we will create together. The action plan would guide how we approach our professional learning for the upcoming school year.

At the conclusion of this training session, teachers individually completed the short form of the Collective Efficacy Scale (Goddard & Hoy, 2003) for pre-intervention data. The initial timeline of the study is shown in Table 3. Due to inclement weather and schedules, this timeline was adjusted. However, all components of the research design and data collection process stayed intact. The changes in schedule will be discussed thoroughly in Chapter 4.
<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1 &amp; 2</td>
<td>Nov. 14- Nov. 22</td>
<td>• Administrator will conduct pre-intervention observation using the Writer’s Workshop Mini-Lesson Section of the Balanced Literacy Form.</td>
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<td></td>
<td></td>
<td>• The three groups receive a reading assignment on their specific intervention.</td>
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<tr>
<td>Week 3</td>
<td>Nov. 28- Dec. 2</td>
<td>• The three groups will participate in a 45-minute Q &amp; A in their grade level PLC.</td>
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<td></td>
<td></td>
<td>• Each participant will complete the collective efficacy scale short form.</td>
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<tr>
<td>Week 4</td>
<td>Dec. 5- Dec. 9</td>
<td>• Lesson study group will collaboratively plan a lesson in PLC.</td>
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<tr>
<td>Week 5</td>
<td>Dec. 12- Dec. 16</td>
<td>• Assigned groups will engage in peer observations through lesson study, teaching and learning tours, or instructional rounds.</td>
</tr>
<tr>
<td>Week 6</td>
<td>Jan. 3- Jan. 6</td>
<td>• Lesson study group will collaboratively plan a lesson in PLC.</td>
</tr>
<tr>
<td>Week 7</td>
<td>Jan. 9- Jan. 13</td>
<td>• Assigned groups will engage in peer observations through lesson study, teaching and learning tours, or instructional rounds.</td>
</tr>
<tr>
<td>Week 8</td>
<td>Jan. 16- Jan. 20</td>
<td>• Lesson study group will collaboratively plan a lesson in PLC.</td>
</tr>
<tr>
<td>Week 9</td>
<td>Jan. 23- Jan. 27</td>
<td>• Assigned groups will engage in peer observations through lesson study, teaching and learning tours, or instructional rounds.</td>
</tr>
<tr>
<td>Week 10</td>
<td>Jan. 30 – Feb. 3</td>
<td>• Lesson study group will collaboratively plan a lesson in PLC.</td>
</tr>
<tr>
<td>Week 11</td>
<td>Feb. 6- Feb. 10</td>
<td>• Assigned groups will engage in peer observations through lesson study, teaching and learning tours, or instructional rounds.</td>
</tr>
<tr>
<td>Week 12</td>
<td>Feb. 13- Feb 17</td>
<td>• Final focus group using semi-structured interview protocol.</td>
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<tr>
<td></td>
<td></td>
<td>• Each participant will complete the collective efficacy scale short form.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Administrator will conduct pre-intervention observation using the Writer’s Workshop Mini-Lesson Section of the Balanced Literacy Form.</td>
</tr>
<tr>
<td>March/April</td>
<td></td>
<td>• Results will be shared with the teaching faculty.</td>
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<tr>
<td></td>
<td></td>
<td>• An action plan will be developed based on our findings.</td>
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</table>

The following three sections describe in detail the three interventions chosen for this study. Due to the fact that each of the interventions described below take place in the natural learning environment, we did establish general norms for peer observations. Students were alerted by their teacher on peer observation days. Students were told that
the teachers visiting their classroom are trying to learn from one another, just as students do (Marzano, 2011). In each intervention, the observing teachers did not interact with the student learners and positioned themselves in the room where their presence did not interrupt instruction (2011). Furthermore, when the observation was over, the teachers made sure to thank the teacher and students (2011).

**Lesson study.** In this intervention, Group 1, consisting of kindergarten and first grade teachers, collectively prepared the best possible lesson that demonstrated strategies to achieve a specific goal (Armstrong, 2011). The goal of this study was to deliver an effective five-component mini-lesson in Writer’s Workshop. Collaborative planning occurred during their established weekly PLC time. Therefore, kindergarten worked as a group and first grade worked as another group. The kindergarten and first grade PLCs engaged in the collaborative planning process four times. Every time a teacher from each group elected to teach the lesson to students while the other teachers in the group observed. During the observation, teachers paid close attention to student reactions and teacher behaviors, with greater attention given to student reactions (Armstrong, 2011). After observing the lesson, the team of teachers met for a debrief in which the students’ reactions and teacher behaviors were analyzed (Armstrong, 2011). Specifically, teachers discussed what part of the lesson worked for students and why. Teachers then determined if the same lesson would be given by another teacher and observed and discussed again (Darling-Hammond, 2010).
**Teaching and learning tours.** The second intervention intended to assist teachers in developing high quality teaching skills was teaching and learning tours. Second and third grade teachers participated in this intervention. In teaching and learning tours, teachers focus on a current challenging instructional skill, specific to the context of the school, and develop a shared understanding of what the skill effectively looks like in practice (Skrla et al., 2009). As with lesson study, this intervention group focused on the instructional delivery of the five-component Writer’s Workshop mini-lesson. In teaching and learning tours, the group of teachers used the Teaching and Learning Protocol and approached their colleague’s classroom as a laboratory to engage in reflective practice about their own teaching. The Teaching and Learning Protocol can be found in Appendix A.

**Instructional rounds.** Instructional rounds are a non-evaluative approach intended to allow teachers in a collaborative team the structure to examine the effectiveness of lessons and to reflectively compare their own instructional practices with those they observed in the classroom visits (DuFour & Marzano, 2011). Unlike the supervision process between administrator and teacher, instructional rounds are not intended to provide the observed teacher with feedback, however it is allowable if requested by the teacher being observed. Alternatively, instructional rounds serve as a learning and reflection process for a team of teachers (DuFour & Marzano, 2011).

Group 3, fourth and fifth grade teachers, participated in instructional rounds. Like the two other interventions, instructional rounds were conducted by a small group
of teachers and focused on the five-component Writer’s Workshop mini-lesson. During the 10-15 minute observation, teachers took notes regarding the observed teacher’s use of specific instructional strategies. Observing teachers recorded their observations using a pluses and delta system (DuFour & Marzano, 2011). On an individual level, teachers paid close attention to strategies of interest to them. Additionally, the group collectively examined how the teacher incorporated the components of the mini-lesson in her instruction (2011).

After each instructional round, members of the observing team of teachers met and reflected on the observation. The facilitator reminded the group of the ground rules for the upcoming reflective dialogue. Ground rules included reminders that the purpose of this activity was not to evaluate the observed teacher, not to offer the observed teacher suggestions unless specifically requested, and to maintain the confidentiality of the group (City et al., 2009; Marzano, 2011). With the structure of the lesson and lesson delivery in mind, observing teachers took turns stating their observations beginning with a positive and speculating why the positive outcome occurred. The observers then identified questions or I wonder statements about the teacher’s use of strategies (Marzano, 2011). The observed teacher had the ability to opt in or out of this process. The process concluded by asking each observer to reflect on his or her individual practice based on this experience (DuFour & Marzano, 2011). A description of the instructional rounds process and tool can be found in Appendix B.
**Writer’s Workshop**

This school year it was the school division’s expectation that every K-5 teacher launched Writer’s Workshop and over the course of the year, completed four to six Writer’s Workshop units with students. This requires teachers to engage students in Writer’s Workshop on a daily basis. The format and philosophy of Writer’s Workshop was new for the vast majority of teachers. Last year, two teachers participating in this study took part in extensive division-level training with literacy consultant, Meredith Alvaro, and launched Writer’s Workshop in their own classrooms. These teachers were named our instructional trainers and delivered approximately eight hours of professional development during monthly staff meetings to all teachers last year. This past summer, eight teachers elected to attend an optional four-day summer institute on Writer’s Workshop with Meredith Alvaro. For implementation this year, all teachers were given the school division’s Literacy Model, which provided teachers with a framework and philosophy for Writer’s Workshop. Additionally, teachers were also given a curriculum guide and corresponding rubrics for each unit of study.

Writer’s Workshop is designed to emphasize the act of writing when students have multiple opportunities to spend time developing their own topics, managing their own writing development, and creating authentic written pieces based on topics of importance (YCSD, 2016). These opportunities allow students to spend the majority of their time practicing the skills learned through application rather than just learning about them (2016). Writer’s Workshop consists of three parts: a 10-15 minute mini-
lesson, a 15-30 minute independent writing with conferring block, and then a 5 minute daily author share/lesson closure (2016). In this study, we focused on the teacher pedagogy as it relates to the architecture of the five-component Writer’s Workshop mini-lesson. The components of the mini-lesson are detailed below. Although conferring and author share/lesson closure were not the focus of this study, it is important to have an understanding of what Writer’s Workshop looks like as a whole. Therefore, they are briefly described below as well.

The mini-lesson. In the mini-lesson students learn strategies for generating ideas, planning, drafting, revising, and editing. Mini-lessons are short, learning experiences, which focus on an intended objective that is taught through a piece of writing (YCSD, 2016). The focus of the mini-lesson should be identified based on the developmental needs of the students and the Virginia Standards of Learning. The structure of the mini lesson follows a structure consisting of connection, teaching point, demonstration, active engagement, and link (Calkins, 2006; YCSD, 2016). The structure begins with a connection. During the connection, the teacher summarizes what students have previously learned and how it will connect to the day’s mini-lesson. After teaching the connection, the teacher launches into the mini-lesson’s teaching point. The teaching point is based on what the teacher has noted in students’ writing and can be something she wants them to practice or something new she wants to teach them. Then, the demonstration takes place in which the teacher explicitly models for the students the learning objective. During this phase of the lesson, teachers typically build or use an
anchor chart to serve as a tool for students during independent writing. Students then have the opportunity to try and participate in some form of *active engagement*, like turn and talk, stop and sketch, stop and jot, etc. Finally the teacher brings closure to the mini-lesson with a *link*. For example, “so today, and any day, when you’re writing and you need to [insert mini-lesson’s teaching point] remember [insert taught strategy]” (Calkins, 2006; YCSD, 2016).

**Conferring.** During the independent writing portion of the Writer’s Workshop, teachers confer with students individually or in small groups. Teachers use formative assessment data to select targeted learning objectives/goals for students and structure the conference around these objectives/goals. For example, a teacher may use a writing sample from the previous unit of study to identify each student’s area of need and personal writing goals for that unit of study (YCSD, 2016).

**Daily author share/ lesson closure.** Each day the teacher should close writer’s workshop with the opportunity for students to share their work with others. During the sharing time, students can volunteer or the teacher can select for writers to share their work as it relates to the day’s teaching point. The daily author share promotes the notion that writers write for a reader. And ultimately, this time should be used to excite students about their writing, allow them to see the work others are doing, and build a sense of community within the Writer’s Workshop (YCSD, 2016).
Instrumentation and Data Collection

As discussed, this action research study focuses on the effects of implementing three different collaborative professional develop models: lesson study, teaching and learning tours, and instructional rounds on teacher reflection, teacher pedagogy, and sense of collective efficacy. Triangulation of data is critical in an action research study (Craig, 2009). The data types used in this study consist of interview focus groups, pre- and post- classroom observations, and pre- and post- collective efficacy scales. These data types can be triangulated to reinforce the validity and trustworthiness of the study. This data is also readily available to us in our practical environment.

**Interviews.** At the conclusion of the study, each group participated in a semi-structured focus group meeting in which the administrators served as the facilitators of the session. These focus group debriefs occurred during established PLC time. The semi-structured design of the focus group questions provided consistency of questions asked, but allowed for flexibility in follow-up questioning if necessary. Each focus group interview was audio recorded and transcribed for analysis. The focus group protocol found in Appendix C contained questions designed to reveal participants’ perceptions regarding the impact of the intervention on their ability to reflect on their teaching, improve their pedagogy, and influence the collective efficacy of the group. Prior to the study, the questions were reviewed by a group of elementary principals. Feedback in regards to clarity and validity of the questions was collected and revisions were made to the instrument.
An action research methodology intends to control for participant bias in that we all have a stake in the outcomes of this research and that requires honest reflection in order to plan for future professional development experiences. The request for honesty was explicitly made before beginning each focus group. Because an action plan will be formed based on our collective results, honesty is required.

A limitation of this data type was my multiples roles of lead researcher, facilitator, and administrator may have cause bias in participants’ responses. In addition, not all people are equally articulate and perspective (Creswell, 2014). As mentioned, the interview protocol was field-tested prior to launching the study with the intent to determine if it would be found effective at engaging teachers in dialogue about their perceptions as adult learners and about changes in their own pedagogy as a result of peer observations. Additionally, there was a total of five focus groups allowing everyone the opportunity to voice their reflections and opinions. A larger focus group may have not yielded as rich of a discussion.

**Observations.** Each teacher was observed once pre-intervention and once post-intervention by the administrative team. Observations were of the Writer’s Workshop mini-lesson, typically averaging 10-15 minutes in length. A revised version of Balanced Literacy Form (YCSD, 2016) was used as the instrument for collecting observation data specific to a teacher’s instructional delivery of the five-component mini-lesson. The Balanced Literacy Form was developed by the school division and piloted by elementary school principals during the 2015-2016 school year as a means for ensuring
implementation of new literacy practices, as well as collecting observation data to inform professional development practices both for individual and larger staff needs.

**The Balanced Literacy Form.** The Balanced Literacy Form is an existing observation tool that we adapted for this study. As part of this study, the school division’s K-5 Coordinator for Language Arts met with our administrative team. We adapted the form to include specific language that aligned with each component of the mini-lesson. A copy of this tool is located in Appendix D. We made the observation form quantitative by assigning points to teacher behaviors as they relate to the delivery of the five-component Writer’s Workshop mini-lesson. Specifically, 2 points for an evident behavior, 1 point for a somewhat evident behavior, and 0 points for a not evident behavior. At the conclusion of this study mean scores from pre- and post-observations were compared to determine if there was a change in teacher pedagogy as a result of engaging in peer observations.

There were certain limitations to using observations as a data type in this study. First, what the observer may see during an observation may not be a daily occurrence. In addition, researchers may not have adequate observing skills or the same observing skills (Craig, 2009). As mentioned, in order to achieve validity and reliability, prior to beginning the study, the administrative team underwent a training and calibration activity facilitated by the K-5 Coordinator for Language Arts. The training consisted of a review of the Balanced Literacy Form and discussion of the definitions across the
continuum. After each observation, administrators engaged in a post-discussion to ensure inner-rator reliability.

**Collective Efficacy Scale.** For the purposes of this study, we used Bandura’s (1977) definition of teacher efficacy: A cognitive process in which people construct beliefs about their capacity to perform at a given level of attainment. In order to gain better insight into the types of activities in our school that create difficulty for teachers and inhibit our collective efficacy, all participants completed the short form of the Collective Efficacy Scale (CE-SCALE) located in Appendix E. Each participant completed this form twice, once before the intervention began and then again at the conclusion of their focus group interview to allow for a pre-post comparison.

The CE-SCALE short form was developed from the 21-item collective efficacy scale. The 21-item collective efficacy scale was initially created by modifying the Gibson and Dembo teacher efficacy scale created in 1984. Additional items were developed and an expert panel reviewed the 21-item form. The 21-item scale then underwent a field and pilot test to determine it as a valid and reliable measure of collective efficacy. Additionally, a moderate and positive correlation was found between personal teacher efficacy and collective efficacy. The 12-item short scale version of the CE-SCALE also has strong validity and reliability (Goddard, 2002). Due to this and time purposes, the short form was chosen for this study. The short form is a 12-item scale with half of the items reversed scored, meaning “1” is scored as “6” and “2” is scored as “5” and so on.
Field Journal

As lead researcher, I did keep a field journal during the research process. Craig (2009), states that a field journal is the researcher’s personal journal in which entries are recorded that capture notes, reflections, and other related information. My entries primarily consisted of reflections and changes that occurred during the study. Given the fact that this study took place in our practical environment and the goal was to create an action plan, we allowed ourselves flexibly when something unpredicted occurred. For example, we had snow and that caused a shift in schedules. Another example, we needed to tweak a protocol because the teachers found it too evaluative, and develop additional norms to help keep us reflective. These were important changes that arose during the study and were captured in my personal field journal.

Data Analysis

The three data types collected in this study represent a mixed design requiring an analysis of both qualitative and quantitative information. A mixed-methods design was selected because it would provide numeric data coupled with insights from researchers and participants. In creating an action plan, having quantitative and qualitative evidence will strengthen our decision-making process when determining our future steps for our professional learning. The qualitative and quantitative data collected from focus group interviews, pre- and post-observations, and pre- and post-collective efficacy scales will be analyzed to make judgments about the effectiveness of the interventions in assisting teachers in developing high quality teaching skills. The
merging of data sources together will allow the results to confirm or disconfirm each other (Creswell, 2014). Table 3 aligns the evaluation questions with the data sources and the means of data analysis for this study. Using the mixed-methods approach, validity will be established both quantitatively (e.g., construct) and qualitatively (e.g., triangulation) (Creswell, 2014).

Table 4

Alignment of Action Research Questions, Data Sources, and Data Analysis

<table>
<thead>
<tr>
<th>Action Research Questions</th>
<th>Data Sources</th>
<th>Data Analysis</th>
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<tbody>
<tr>
<td>1. Is there a change in teachers’ perceptions regarding their ability to reflect on their teaching when they engage in one of the three selected collaborative teacher professional develop models (lesson study, teaching and learning tours, and instructional rounds)?</td>
<td>• Focus group interviews with each intervention group guided by a semi-structured protocol</td>
<td>• Qualitative analysis of focus group discussion using coding to find and analyze insights, patterns, trends, and themes</td>
</tr>
<tr>
<td>2. Is there a change in teacher pedagogy when teachers engage in one of the three selected collaborative teacher professional develop models (lesson study, teaching and learning tours, and instructional rounds)?</td>
<td>• Focus group interviews with each intervention group guided by a semi-structured protocol to assess participant perceived change in pedagogy • Two Administrator Observation using the Balanced Literacy Form; One observation will be pre-intervention, and another will be post-intervention</td>
<td>• Qualitative analysis of focus group discussion using the coding process • Quantitative analysis of the pre- and post- mean scores of indicators: “Evident” “Somewhat Evident” and “Not Evident”</td>
</tr>
<tr>
<td>3. Is there a change in teachers’ sense of collective efficacy when teachers engage in one of the three selected collaborative teacher professional develop models (lesson study, teaching and learning tours, and instructional rounds)?</td>
<td>• Collective Efficacy Scale</td>
<td>• Pre and post tests • Descriptive statistics</td>
</tr>
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</table>
Due to the sample size used in this study, descriptive statistics will be gathered, analyzed, and reported. The descriptive statistics used in this study will be calculated means and standard deviations for the instruction questions, engagement questions, and management questions on pre and post efficacy scales. Additionally, means will be calculated and reported for pre- and post-intervention observations.

**Thematic analysis.** Coding is the process of organizing data by capturing a group of text and writing a word representing a category in the margins (Creswell, 2014). NVIVO, a software program for qualitative data analysis, was used to organize focus group interviews and aided the analysis process. Using NVIVO, I was able to code focus group dialogue for insights, trends, and themes specific to any change in teachers’ perceptions regarding their ability to reflect on their teaching post-intervention. Additionally, the same coding process was used to capture and interpret information from focus group interviews regarding a perceived change in pedagogy, collective efficacy, the value of action research, and the different formats of professional development.

**Limitations, Delimitations & Assumptions**

There are certain limitations, delimitations, and assumptions inherent to this study. Limitations are things that as researchers, we are aware of, but cannot control. Limitations of this study include the population sample size, and the timeframe allowed for this study. Delimitations are things our research design included to purposefully restrict the scope. In this case, the study has been restricted to our own elementary
school and work environment. The shared community-base and desire to look for solutions together were core to this study. Finally, assumptions are things that we believe as researchers but cannot test. In this study, we are assuming that if these professional development models improve teacher pedagogy, we will in turn see positive effects on student achievement. This question is outside the scope of this study but would be a possible area for future research.
CHAPTER 4

FINDINGS

As a result of the nature of action research, this chapter will begin with an in depth discussion of the twists and turns presented to us as we implemented this study in our working environment. Specifically, I will discuss the impact of scheduling and the necessary tweaks along the way pertaining to the different interventions. This chapter will also share findings related to individual teacher pedagogy and teacher reflection as a result of engaging in these different types of peer observations for the first time. This chapter will conclude with a discussion in regard to our collective efficacy and teacher perceptions about the value action research brings to a culture of teaching and learning.

The Concept of Loose and Tight

As a professional learning community, our teaching staff operates with a shared understanding of *loose* and *tight* elements in a system. Loose means teachers have the authority to make instructional decisions as it pertains to their classroom. Tight means there are non-negotiable policies that everyone is expected to follow (DuFour et al., 2016). For example, tight elements include collaboration, a viable curriculum, common formative assessments, a tiered system of supports, and data-based decision making. We are loose on the *how* which empowers teachers to try different instructional approaches based on what they feel is most effective in helping students achieve (2016).
In the implementation phase of this action research study, we found ourselves needing to apply the concept of loose and tight elements. As discussed in Chapter 3, action research promotes collaboration and aims to yield results that have the potential to improve our work conditions (Craig, 2009). Therefore, we were tight on the non-negotiable elements of the action research process, but were loose on the elements that could be tweaked to optimize our potential outcomes. Specifically, we were tight on the purpose of the study, the research design, the research questions, data collection processes, and data analysis, but we were loose on the proposed timeline for the study and the development or refinement of tools along the way.

Throughout the study, we generated and refined tools to support our work. Tools and artifacts will be shared throughout this chapter and illustrate how we used our formative experiences in each intervention to make adjustments as needed. These artifacts and adjustments will be discussed by specific intervention below. But first, I will discuss how schedules were created to operationalize this action research study. Then I will discuss how the overall timeline of the study shifted during the action research process.

The Development of Schedules for Peer Observation

Each intervention group engaged in four rounds of the peer observation process. As administrator and lead researcher in this study, I designed schedules for teaching and learning tours and instructional rounds. Initially, creating the least disruptive schedule for teaching and learning tours and instructional rounds was a daunting task.
These interventions involved the partnering of two different grade levels. The existing master schedule provided common instructional blocks of time by grade level. For example, the literacy block for third grade was 9:00 a.m. to 11:30 a.m. each day. However, because of scheduling constraints of resource personnel (i.e., reading specialists, special education teachers, para-educators), all grade levels could not have their literacy block at the same time. The pairing of different grade levels and lack of common schedules added a layer of complexity to the scheduling process for learning tours and instructional rounds.

Existing para-educator coverage became the greatest determinant of when peer observations would best be scheduled during a given school day. For at least an hour each day, every classroom teacher had a para-educator in his or her literacy block to support instruction. Because peer observations required teachers to be out of their classrooms, coverage was key. Therefore, all peer observations occurred during the window of time when para-educators were the in the classroom to support literacy. The only change in the existing para-educator coverage and to existing instructional schedules was on teaching and learning tour days when para-educators had to leave kindergarten classrooms 30 minutes early to cover second grade teachers for peer observations. Additionally, on these days, second grade had to adjust their literacy block by 30 minutes. Using the existing para-educator coverage as criteria for when peer observations would best occur aided the decision process. Once the schedule was put in place for the first round of teaching and learning tours and instructional rounds,
we kept that same timeframe for the remainder of the study. A sample schedules for these two interventions can be found in Appendix F. Teacher names have been removed to protect anonymity.

**Scheduling lesson study.** Scheduling lesson study was unique in that the collaborative planning and lesson selection drove when lesson study would occur. The collaboratively planned lesson fit into an existing scope and sequence, so the teacher demonstrating the lesson selected the day and communicated that date to the group. During our first collaborative planning session with both kindergarten and first grade, the group decided together that lesson study should occur when para-educators were already in their classrooms to make coverage plans unnecessary.

**Adjustments to the Timeline**

The timeline for this study was shared with teachers during Week 3 of the study. Prior to Week 3, teachers had read an article related to their peer observation intervention. During this week, teachers engaged in a Q & A session at their weekly PLC meeting. At that time, there were no concerns regarding the timeline of the study among any intervention group. However, there were some concerns pertaining to the scheduling of peer observations. Specifically, how peer observations would work for teacher coverage and how the debriefing would occur. This was the first time we had done professional development with students in classrooms and there was anxiety involved around the unknown. Also, third grade teachers expressed relief when they learned that teaching and learning tours would not affect their weekly PLC meeting.
time. Like other grade levels, they use that time to align curriculum, instruction, and assessment and did not want to jeopardize that work.

Additionally, it was made clear in each Q & A session that in this peer observation process the teacher demonstration would be on a volunteer basis. Volunteerism was a risky decision for this study, but I felt the stress of mandated demonstration ultimately presented a greater risk to our culture. Everyone would participate in the peer observation process and engage in debrief sessions, but those demonstrating a lesson would volunteer for the group. This will be discussed more in-depth specific to assigned interventions later in this chapter.

As peer observations continued, we first found ourselves needing to be flexible in Week 7 which was intended to be the second round of peer observations for each intervention. While teaching and learning tours and instructional rounds took place in Week 7, lesson study for both kindergarten and first grade groups was pushed back to Week 8. As previously mentioned, we found that because lesson study was based around the collaboration of a selected lesson and how that lesson fit into a scope and sequence, we had to allow ourselves flexibility in what day lesson study needed to occur. This was not an issue for those participating in teaching and learning tours and instructional rounds since these lessons were not collaboratively designed.

The next adjustment occurred in Week 9 of the study. Originally, this week was designated for round three of all peer observations. The previous change in Week 7 for lesson study presented a domino effect for these groups. They were now conducting
lesson study in Week 8 and collaboratively planning for their third round of peer observations in Week 9. Instructional rounds and teaching and learning tours were on track to engage in peer observations as planned. However, Week 9 consisted of a 4-day school week with three early dismissals. On early dismissal days, schedules are impacted by different resource and lunch times. Furthermore, para-educator coverage is different on early dismissal days. These schedule changes made it too difficult to engage in peer observations in Week 9. As a result, the timeline for the remaining four weeks of the study was adjusted. The adjusted timeline can be found in Appendix G. Adjustments included back-to-back weeks of peer observations for teaching and learning tours and instructional rounds. Kindergarten and first grade lesson study groups were given a half-day of planning and scheduled their two remaining lessons within the remaining four-week window of the study.

**Lesson Study Adjustments**

Kindergarten and first grade teams participated in lesson study. During Week 4, both groups used their PLC meeting time to select a lesson from the existing Writer’s Workshop curriculum provided by the school division. They then plugged the lesson into the Preparing the Lesson tool located in Appendix H. Planning using this tool had both positives and negatives. For positives, the tool helped the team put emphasis on the student and their potential misconceptions and actions/reactions as the lesson was delivered. The drawback was that that this tool was time consuming. The planning
sessions in round one felt rushed in both groups and first grade had to meet again that afternoon to finalize their plan.

The planning process evolved each round of lesson study. In the second round of peer observation, the teams decided to print off the common lesson plan and make notes and changes right on the plan. This was more time efficient and while it did not include a section specific to anticipating student reactions, the teachers kept the student at the forefront of their planning. However, it still felt rushed to complete the lesson and engage in in-depth discussion about how best the lesson should be delivered. Therefore, for the two remaining rounds of lesson study, I proposed that both teams take a half-day to plan their two additional lessons. Both teams liked this idea and made arrangements with substitutes.

During these half-day planning sessions, the kindergarten and first grade team decided to take advantage of the time and not only collaborate on two lessons, but tackle a week of instruction for Writer’s Workshop. Kindergarten was at the beginning of a new unit of study. It was a unit focused mainly on the conventions of writing, aimed to help young writers understand that they are writing for a reader. The team decided to couple this unit with an author study of children’s literature author, Mo Willems. They planned a 10-day unit, rich with Mo Willems literature, oral language, and student writing. While we had made teacher demonstration optional, the kindergarten team decided that each member would demonstrate a lesson. So, the two teachers who had yet to teach a peer observation lesson, picked a lesson from their
collaborative planning session and invited the group to their classroom for Writer’s Workshop on that day.

First grade teachers found themselves in a similar position. They were embarking on a new unit of study as well, the informational unit. The first grade team decided to plan an immersion week for the informational unit of study. During immersion week, students read samples of student writing to get an ear for what that genre sounds like. Students also examine student writing samples and build a recipe for what a piece of writing in a specific genre contains. Immersion is an inductive process for students, and a new approach that our teachers are trying to help writer’s understand the structure of text.

One first grade teacher in the group was slightly ahead of the other two in her pacing. This teacher was also the instructional trainer and was therefore in her second year of implementing Writer’s Workshop. For rounds three and four of lesson study, she demonstrated two lessons out of this collaboratively planned week. In total, over the course of this intervention, this first grade teacher demonstrated three times and another first grade teacher demonstrated once. One teacher on the team did not feel comfortable demonstrating. In the focus group at the end of the study, she expressed anxiety about being observed by expert teachers.

At the end of lesson study, both kindergarten and first grade had collaborated and revised multiple lessons. In some cases, these lessons were refined based on what was provided in the school division’s curriculum. In other cases, both teams
collaborated to create new lessons to enhance their curriculum. Regardless, they added these lessons to their curriculum for next year.

**Teaching and Learning Tours Adjustments**

Second and third grade teachers participated in teaching and learning tours. Originally we started with three teacher demonstrations in round one, but for time purposes, adjusted the schedule to two teacher demonstrations for the remaining three rounds. Every teacher took at least one turn at demonstrating a lesson. The pairing of second and third grade teachers for peer observations proved to be productive. During the peer observations, teachers found themselves in the same unit of study and were able to borrow strategies and lessons from one another to enhance their curriculum. Specific teacher insights and thoughts about the peer observation process will be discussed later in this chapter and in Chapter 5. The Teaching and Learning Protocol located in Appendix A was not adapted over the course of this study. This tool was used by each teacher to catch notes during each observation and assist them in the debrief conversation. Each teacher in this intervention group volunteered once to demonstrate a lesson and three teachers in the group volunteered and demonstrated twice.

**Instructional Rounds Adjustments**

Fourth and fifth grade teachers participated in instructional rounds. Due to existing para-educator coverage and time parameters, two teacher demonstrations were scheduled for each of the four rounds of peer observation. On the first day of
instructional rounds, one teacher scheduled for demonstration had to be unexpectedly out with a sick child. Another teacher in this group, not scheduled to demonstrate, was also out that day. We continued instructional rounds as planned with only one peer observation scheduled.

The lesson observed that day went over the time parameters and we ended up meeting right after school for the debrief. The observed lesson was lacking some of the explicit components that were the focus of this peer observation. After the debrief, the teacher who demonstrated for the group, shared privately with me that one peer specifically got “too evaluative.” As a result, I modified the data collection tool found in Appendix B. Specifically, I changed the form from a delta system of pluses and minuses and speculation of why, to one that prompted teachers to record their observation and then relate that observation to how that would help them in their own classroom. The revised form can be found in Appendix I. With the help of this teacher, I also developed more specific peer observation norms found in Appendix J. We implemented these norms with all peer observations in rounds two, three, and four.

In this intervention group, we had one teacher not volunteer to demonstrate a lesson. Furthermore, one teacher in this group volunteered to demonstrate each round. While she had to be unexpectedly absent the first round, she did demonstrate for the second, third, and fourth. This teacher was new to our building and new to this grade level, but had been a literacy coach in a previous school division and was comfortable
with this mode of learning. She brought a level of expertise both as teacher and facilitator to the group.

**Adding Common Tools**

In Week 4, I realized we needed to ensure that we were all working towards the same goal. Administrator observations had already begun and it was evident that some more groundwork was needed before we went into one another’s classrooms looking for best practice. At PLC meetings meeting during Week 4, we shared three teacher tools that emphasized best practices in the delivery of a Writer’s Workshop mini-lesson. These tools can be found in Appendix K. Tool A was a version of the observation tool that the administrative team had used for pre-intervention observations. I took off the points that made it evaluative and made it strictly a continuum for their use. Literacy consultant, Meredith Alvaro, gave tool B to us. Tool C was developed by one of our teachers participating in teaching and learning tours. Each of these tools aligned with one another and contained the explicit language associated with each component of the mini-lesson.

**Revisiting the Research Questions**

Before sharing the findings of this study, I want to remind the reader of the three research questions that our action research intended to inform:

1. Is there a change in teachers’ perceptions regarding their ability to reflect on their teaching when they engage in one of the three selected collaborative teacher
professional develop models (lesson study, teaching and learning tours, and instructional rounds)?

2. Is there a change in teacher pedagogy when teachers engage in one of the three selected collaborative teacher professional develop models (lesson study, teaching and learning tours, and instructional rounds)?

3. Is there a change in teachers’ sense of collective efficacy when teachers engage in one of the three selected collaborative teacher professional develop models (lesson study, teaching and learning tours, and instructional rounds)?

During this study, as lead researcher, I systematically gathered data to help us as a teaching staff draw data-based conclusions that would ultimately guide our staff in the creation of an action plan for future professional development. Table 5 shows the alignment of research questions, data sources and means for data analysis.
### Table 5

**Alignment of Action Research Questions, Data Sources, and Data Analysis**

<table>
<thead>
<tr>
<th>Action Research Questions</th>
<th>Data Sources</th>
<th>Data Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is there a change in teachers’ perceptions regarding their ability to reflect on their teaching when they engage in one of the three selected collaborative teacher professional develop models (lesson study, teaching and learning tours, and instructional rounds)?</td>
<td>• Focus group interviews with each intervention group guided by a semi-structured protocol</td>
<td>• Qualitative analysis of focus group discussion using coding to find and analyze insights, patterns, trends, and themes</td>
</tr>
<tr>
<td>2. Is there a change in teacher pedagogy when teachers engage in one of the three selected collaborative teacher professional develop models (lesson study, teaching and learning tours, and instructional rounds)?</td>
<td>• Focus group interviews with each intervention group guided by a semi-structured protocol to assess participant perceived change in pedagogy • Two Administrator Observation using the YCSD Balanced Literacy Form; One observation will be pre-intervention, and another will be post-intervention</td>
<td>• Qualitative analysis of focus group discussion using the coding process • Quantitative analysis of the pre-and post-mean scores of indicators: “Evident” “Somewhat Evident” and “Not Evident”</td>
</tr>
<tr>
<td>3. Is there a change in teachers’ sense of collective efficacy when teachers engage in one of the three selected collaborative teacher professional develop models (lesson study, teaching and learning tours, and instructional rounds)?</td>
<td>• Collective Efficacy Scale</td>
<td>• Pre and post tests • Descriptive statistics</td>
</tr>
</tbody>
</table>

The following sections in Chapter 4 will present the findings from end-of-intervention focus group interviews, pre- and post- observations, and pre- and post-
collective efficacy scales. This chapter will conclude with teacher perceptions in regard to engaging in action research and impacts on the school culture.

**Focus Group Findings**

At the end of the study, focus groups were held during grade level established weekly PLC meeting times. As lead researcher, I took the role of facilitator, and withheld my own comments. The semi-structured design of the focus group questions provided consistency of questions asked, but allowed for flexibility in follow-up questioning if necessary. Each focus group interview was audio recorded and transcribed for analysis. The focus group protocol can be found in Appendix C. The protocol contained questions designed to reveal participants’ perceptions regarding the impact of the intervention on their ability to reflect on their teaching, improve their pedagogy, and reflect of the action research process. Additionally, questions were asked to encourage the teachers to reflect honestly on drawbacks of this process and discuss peer observations in respect to more traditional professional development formats that they have experienced as a teacher.

Furthermore, NVIVO, a software program for qualitative data analysis, was used to help organize and aid in the data analyzing process. Insights and themes from focus group interviews specific to perceived changes in reflective practice and their individual pedagogy were captured using the coding process. Each teacher participated in a focus group interview. A total of five focus groups was conducted; third and fifth grade have a collaborative PLC time and therefore, had their focus group together.
The following themes emerged across focus group discussions: reflective practice, active learning, transference of learning, and coherence. Most teacher statements could be organized under these four themes. During the focus group interview teachers were also asked to reflect honestly on the drawbacks of the peer observation process. Additionally, teachers were explicitly asked to compare this mode of learning to more traditional forms of professional development (i.e., those that do not involve active learning) and discuss which they found more helpful in developing their own pedagogy. Statements in reference to these questions were organized under the two categories of drawbacks and meaningful professional development. Other statements made in focus group interviews related to the action research process and its impact on our school culture. All other teacher comments made during focus groups were categorized under considerations for our action plan, and will be shared later in Chapter 5. Thus, the four themes that emerged from focus group interviews will be discussed first, followed by discussion about perceived drawbacks and teacher thoughts about meaningful professional development. Chapter 4 will conclude with teacher perceptions on the value this action research process has brought to our school.

**Reflective practice.** Questions one and three of the interview protocol were intentionally designed to gather teacher insight in regard to how the peer observation process helped them reflect on their own teaching practice. Reflective practice is a careful review of and thoughtfulness about one’s own teaching process in which teachers use feedback to monitor their teaching in the interest of improving their ability
to have a positive impact on student learning (Stronge, 2007). Teachers across intervention groups discussed the power of learning from others by both observing and debriefing in the peer observation process.

*I found myself reflecting a lot during the lesson… like in watching and observing and really thinking about how she does it differently than I and what I want to tweak. A lot of those reflections occurred during this process. But I found myself reflecting ongoing since then. You know, as I’m planning my lessons or on what my teaching point is… it has really helped a lot.*

When inquiring about personal reflection, multiple teachers commented on the debrief process. Quoting one teacher, “the debrief was just as powerful as the observation.” The debrief process was inherent to each intervention. While each intervention had a different debriefing protocol, all focus groups shared similar positive insights about the relationship between the debrief and one’s personal reflection.

*The reflection at the end of each lesson was great because, you know, we had other teachers’ viewpoints of how the lesson went and you (as demonstrator) don’t even realize it. And doing it right after the lesson, while it was still fresh on our minds, was helpful too.*

Another perspective:

*I saw what I thought I saw, but when we debriefed and you all shared what you saw… I took notes on everything you said. I’ve tried to incorporate the good things in future lessons.*
Additionally, teachers shared how the peer observation process overall engaged them in deeper reflection, beyond Writer’s Workshop pedagogy. One teacher discussed how the process has impacted her mentality about the reading and writing connection in her literacy block:

*It made me think a lot about the connection between the writing that we are teaching, informational, and non-fiction reading that we are doing, and how those lessons are overlapping so much... How my writing lesson is now carried over into the reading... the strategies students are using to read are similar to strategies they use to write and it’s making more sense.*

Other insights from teachers respective to reflection included gaining confidence about their own practice throughout this process. Multiple teachers shared that this process allowed them to confirm things they were doing. Additionally, this process allowed teachers to see teacher autonomy in action. The curriculum that the school division has provided for Writer’s Workshop is scripted, and was causing angst to teachers who felt tied to a specific lesson plan. Teachers felt this process renewed their confidence to respond to their learners and be flexible when needed. Furthermore, teachers shared that observing one another has caused them to reflect upon and be more cognizant of using a common language throughout our building.

**Active learning.** Teachers engage in active learning when given opportunities to become engaged in an analysis of the teaching and learning process (Garet et al., 2001). Active learning includes professional development that emphasizes active teaching,
assessment, observation, and reflection (Darling-Hammond & Richardson, 2009).

Question one of the focus group interview protocol was designed as an open-ended question about how peer observations engaged teachers in the teaching and learning process. Therefore, teacher statements pertaining to this question were naturally grouped under the category of active learning. However, insights captured within this category could be further organized into the following groups. These groups highlight specific aspects of the active learning process. Additionally, teachers had different insights about the active learning process based on their assigned intervention.

**Student-focused learning.** Teachers engaged in lesson study reported a new focus on student learning that occurred during the planning, observation, and debrief phases of the lesson study process.

*We really looked at what the ‘teacher will’ and the ‘student will’ do. It really reminded us to pay attention to those two components. I think sometimes I focus more on what I’m doing. Really thinking though the student action part was a change.*

Another teacher who engaged in lesson study stated:

*We got some great teacher points from what the teacher was doing, but when the focus was on the student, I feel like it really drove home the learning that was taking place.*

Teachers in the lesson study intervention groups stated that seeing the lesson in action and being equally teacher/student-focused provided them with a richer perspective of the teaching and learning process. Additionally, teachers who participated in lesson study found the active learning component a necessary part of the
lesson study process. They felt successful after planning the collaborative lesson, but during observation realized things that never occurred to them based on student reactions. This caused them to reflect and revise the lesson as needed. Teachers participating in the other two intervention groups did not discuss an emphasis on student-focused learning.

**Personalized learning.** Teachers across all intervention groups reported that a benefit of engaging in the peer observation process was the opportunity to focus on an area of personal interest or personal growth. During this study, teachers all shared the same goal, that by engaging in peer observations we would determine if this mode of learning helped us develop our pedagogy specific to the delivery of the Writer’s Workshop mini-lesson. While this was a shared goal, teachers reported that during peer observations they also learned classroom management strategies, ideas for the organization of Writer’s Workshop materials, and collected different instructional ideas to take back and try in their classroom. A teacher reported:

*I like this method much better than traditional professional development because it was more personalized, it was more direct application. It wasn’t, ‘This is what you should be doing,’ then I’d go back and do the same old thing I’ve been doing. I saw the direct impact. I loved what I was seeing and then I went back to my room and I incorporated that as soon as I possibly could.*
Another teacher reported:

I loved how it made you go back and think, ‘Oh, I can do that,’ or ‘I can improve in that area.’ I know I’ve done that a couple of times with watching others.

And a third teacher reported:

I learned some new things and it kinda brought me back to needing to get organized with what I was doing and I got some good ideas from the people that I saw.

**Articulation opportunity.** Unlike lesson study, teachers that participated in teaching and learning tours and instructional rounds all reported the benefits of observing instruction in another grade level. Second and third grade teachers participated in teaching and learning tours. Fourth and fifth grade teachers engaged in instructional rounds. These teachers all commented on how the peer observation process provided an opportunity for grade levels to see how the standards and student expectations articulate from one grade level to the next. This experience then empowered them to reflect on their Writer’s Workshop units of study, specifically, what’s the grade level expectation and what scaffolding is necessary to help students be successful. A second and third grade teacher reported similar reflections in two different focus groups:

I liked that you can see where they (students) are heading. It was nice to see the third grade lessons and that we were all kind of doing the same thing so it was useful at the time, so we could go back and use it in our room. (Second Grade Teacher)
I think it was nice to see where second grade was so we know next year, ‘Oh, they’ve had this before.’ And I like how they broke it down even further. Sometimes I’ve done that now. Starting to break some of these writing lessons down a little bit. (Third Grade Teacher)

Also, teachers participating in teaching and learning tours and instructional rounds reflected on the relationships built across grade levels. One teacher reported:

I feel more comfortable going to ask, now that I’ve seen fourth grade teachers doing the same, similar things to what we’re doing. So now I don’t just have two people that I can ask, I have five.

**Peer Accountability.** A known challenge with existing forms of professional development is that there is no guarantee that teachers return to their classroom and apply what they have learned. During the focus group interviews, several teachers spoke of accountability in a positive light. Those teachers commented on how the active learning component of the peer observation process promoted teacher accountability through peer accountability. One teacher acknowledged the “busy-ness” of the day-to-day operations and that the element of active learning helped keep what’s important at the forefront. Teachers shared that by having a shared goal, meeting together, and inviting peers in to watch live teaching, teachers held themselves accountable for the work. Teachers reported:

*By meeting together, it makes you do it.*
Another teacher said:

*Well we are always busy, but this is a really important thing.*

**Transference of learning.** Transference of learning occurs when teachers acquire new knowledge and then apply that learning in their teaching environment. Question two on the focus group interview protocol asked teachers as a result of engaging in peer observations, if there was an impact on their own teaching in their respective classrooms. As you can see from the previous two sections, the questions designed to gather teacher perceptions about reflective practice and active learning, also teased out statements from teachers in regard to transference of learning. In every focus group session, teachers reported bringing back ideas to try in their classrooms. Additionally, changes in teacher practice will be revisited with quantitative data in the next major section of this chapter.

**Coherence.** Coherence is the extent that professional development incorporates experiences that are consistent with teacher’s goals and is aligned to state standards and assessments (Garet et al., 2001). As stated in previous chapters, it was the school division’s expectation for this school year, that every K-5 teacher launched Writer’s Workshop and over the course of the year, complete 4 to 6 Writer’s Workshop units with students. This required teachers to engage students in Writer’s Workshop on a daily basis. The format and philosophy of Writer’s Workshop was new for the vast majority of teachers. Multiple teachers in different focus groups described the timing of our action research as “perfect.”
In the broad sense, there was coherence in that our school’s learning goals were aligned with the goals of the school division. I planned for that going into this action research study. However, in the focus group interviews different intervention groups added greater insight relative to coherence and their own understanding of the teaching and learning process.

Teachers in third, fourth and fifth grades reported how their learning in Writer’s Workshop peer observations aligned with their work in unpacking and designing the reading Standards of Learning into fiction and non-fiction units of study. These grades engaged in a 3-hour session of professional development in January with literacy consultant, Lori Wall. Teachers commented in focus group sessions how the professional development experience with Lori Wall, coupled with Writer’s Workshop peer observations was most productive and has had a direct impact on their classroom instruction.

*And it worked out, this last Lori Wall professional development, I know we walked back and said that was so productive. It connected with what we had been doing. It tied right in so that the timing was really perfect.*

The kindergarten team also had some unique insights in regard to coherence based on their current professional learning needs. As explained previously, for the third and fourth round of lesson study, the kindergarten team was given a half-day planning and built their own curricular unit of study. Here are a couple quotes about
their journey with lesson study as they made it more personalized to their own learning needs:

Like what we were trying to do the first time, then the second time, I think we all kind of knew we needed to make this more meaningful and less about checking a box. Then by the third time, we were doing something that we really believed in.

Another teacher in the same group stated:

When we constructed our own lessons, it was better for the children.

**Drawbacks.** During focus groups, teachers were specifically asked about drawbacks of the peer observation process. Per teacher report, drawbacks included, time out of your own classroom, duration/timing of the action research, and stress involved with lesson demonstration. Three teachers stated that it was difficult to be out of their classrooms for an hour at a time. In retrospect, two of those teachers stated that if peer observations could have been more spaced out, being out of the classroom would not have been as much of an issue. Three teachers commented that on peer observation days, they had to shift their routine. Two teachers reported the feeling of stress involved in demonstrating a lesson.

Additionally, two teachers stated they wished they could have observed for longer periods of time; they wanted to see what happened as a result of the teaching after the mini-lesson concluded. Another teacher shared that after her demonstration she felt critiqued by a peer. Furthermore, two teachers reported that they would have preferred to do peer observations with another content area; one in which they felt
more comfortable teaching. It is worthwhile to note, that it was important to have a question about drawbacks on the focus group protocol. Many of these drawbacks would have gone unmentioned. Consequently, we now have them documented and as an action research team, we will take all results into consideration in the development of our action plan.

**Meaningful professional development.** During the focus group sessions, teachers were asked to discuss peer observations in respect to more traditional professional development formats that they have experienced as a teacher. Specifically, did they find this mode of learning more or less effective than other professional development formats? Every intervention group reported that they perceived peer observations to be an effective mode of professional learning.

_This method was more personalized; it was more direct application. I saw the direct impact. I loved what I was seeing and then went back to my room and I incorporated that as soon as I possibly could._

Another teacher stated:

_This method was more personalized; it was more direct application. I saw the direct impact. I loved what I was seeing and then went back to my room and I incorporated that as soon as I possibly could._

Another teacher stated:

_I think a benefit of (peer observations) is just the conversations you have with your colleagues._

Another teacher stated:

_Here you see the real thing. Sometimes you just hear someone talk about it, but here you see it in action. I think that’s better._
Teachers also stated the need to learn more before doing.

_I think a reflection on the whole process is that it is an authentic learning experience for teachers, but I still think there needs to be a little bit of that traditional professional development where you build the background—the background of the process and the expectations and even seeing a clip of an expert teacher—to get an idea of what it looks like and the rationale behind it._

However, teachers reported that division-wide, less personalized professional development is less meaningful and therefore, less likely to translate back into their classrooms.

_I don’t have a lot of memories of things that have stuck with me (from division-level professional development.)_

_Division wide, I’m not so sure. I can’t say every PD is something I’ve walk away from and used._

In Chapter 5, meaningful modes of professional development will be revisited in considerations for the development of an action plan.

**Changes in Teacher Practices**

As discussed in Chapter 3, teachers were expected to fully implement Writer’s Workshop this school year on a daily basis. The format and philosophy of Writer’s Workshop was new for the vast majority of teachers. Last year, two teachers participating in this study took part in extensive division-level training with literacy consultant, Meredith Alvaro, and launched Writer’s Workshop in their own classrooms.
These teachers were named our instructional trainers and delivered approximately eight hours of professional development during monthly staff meetings to all teachers last year. This past summer, eight teachers elected to attend an optional 4-day summer institute on Writer’s Workshop with Meredith Alvaro. For implementation this year, all teachers were given the school division’s Literacy Model, which provided teachers with a framework and philosophy for Writer’s Workshop. Additionally, teachers were also given a curriculum guide and corresponding rubric for each unit of study.

**Administrator Observations**

Each teacher was observed once pre-intervention and once post-intervention by the administrative team using the Balanced Literacy Form found in Appendix D. Observations were unannounced and was of the entire Writer’s Workshop mini-lesson, typically averaging 10-15 minutes in length. As discussed in Chapter 3, prior to conducting these observations, the division K-5 Coordinator for Language Arts met with our administrative team and facilitated a calibration training exercise to ensure inter-rater reliability.

The Balanced Literacy Form was quantitative in nature and enabled the observer to assign points to teacher behaviors as they related to the five- components of the mini-lesson, plus three additional best practices. Specifically, 2 points was given if the “look for” was evident, 1 point was given for somewhat evident, and 0 points was given for not evident. The intent of conducting teacher observations was to provide mean scores
from pre- and post-observations to compare and determine if there was a change in teacher pedagogy as a result of engaging in peer observations.

**Observation Results**

The observation results from pre- and post-intervention will be shown four different ways: collective overall growth, collective growth by specific “look fors”, growth by intervention type, and growth by teacher experience level.

**Collective overall growth.** First, pre- and post-observations from individual teacher scores were averaged and compared to see if there was individual growth as a result of engaging in peer observations. All pre- and post-teacher scores were averaged together and compared to determine collective growth. The higher the score (“0” not evident; “1” somewhat evident; “2” evident), the more developed the teaching pedagogy. The overall mean of pre-intervention scores was 1.08. The overall mean of post-intervention scores was 1.65, an increase of 0.57. Additionally, the range of scores increased from 0.7–1.7 pre-intervention to 1.2–2.0 post-intervention. Table 6 below shows the overall change in mean scores and ranges, as well as the overall change between the nine “look fors.”

Table 6

**Mean Comparisons for All Intervention Groups**

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<tr>
<th>Experience</th>
<th>Pre/Post</th>
<th>Look Fors</th>
<th>Pre/Post</th>
<th>Look Fors</th>
<th>Pre/Post</th>
<th>Look Fors</th>
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<tr>
<td>All Teachers</td>
<td>Pre</td>
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<td></td>
</tr>
</tbody>
</table>
Collective growth by specific component. The Balanced Literacy Form was comprised of nine “look fors” that aligned with the five-components of the Writer’s Workshop mini-lesson and three other best practices that we identified as target areas for professional growth. While there was an increase in each of the nine “look fors,” six “look fors” increased greater than .5 of a point. The greatest gain was in the fifth “look for” which increased by an entire point. This “look for” targeted the active engagement component of the Writer’s Workshop mini-lesson in which students apply what the teacher demonstrated.

Other “look fors” that increased greater than .5 of a point included number six on the Balanced Literacy Form, which targeted the link component of the five-part Writer’s Workshop mini-lesson. Teachers also increased the use of touchstone and mentor text during the mini-lesson. Both of these “look fors” increased by .7 of a point. Three other “look fors” experienced a .6 gain, two of which were the connection and teaching point components of the five-part Writer’s workshop mini-lesson. The third “look for” to gain .6 of a point was the use of anchor charts as a strategy to capture the teaching point and leave a visible sign of learning for students.

There were three “look fors” that experienced less than .5 of a point of growth. The first of these three “look fors” was the second “look for” on the Balanced Literacy Form. This “look for” had an increased change of .3 of a point. This “look for” targeted the alignment of the instructional goal of the mini-lesson to the grade level curriculum standards. Pre-intervention this “look for” was 1.7 and post-intervention it was a
perfect 2.0. The second of these three “look fors” was the fourth “look for” on the Balanced Literacy Form. This “look for” targeted the teacher demonstration component of the Writer’s Workshop mini-lesson. Pre-intervention is was 1.0 and post-intervention it increased to 1.4. This is an area for future focus.

Finally, the third of these three “look fors” was ninth “look for” on the Balanced Literacy Form. The ninth “look for” was specific to the length of the mini-lesson. A Writer’s Workshop mini-lesson should last 10-15 minutes, however, based on the day’s teaching point and student expectations, that timing can vary. Timing is something to continue to address. We know that how much time we give our students to write is directly related to our overall outcomes. We also know that explicit teaching is important to help writer’s structure, elaborate, and craft their writing. Therefore allowing flexibility with the timing of the mini-lesson, knowing that a balance needs to exist between teaching and the student application, should be an ongoing reflective conversation.

**Growth by intervention type.** Teachers were grouped by grade level and randomly assigned to an intervention group. Kindergarten and first grade teachers participated in lesson study, second and third grade teachers participated in teaching and learning tours, and fourth and fifth grade teachers participated in instructional rounds. Each intervention group engaged in their mode of peer observation four times over a 12-week duration. Tables 7, 8, and 9 show the pre- and post- mean scores and change in pedagogy relative to each intervention group.
Each intervention group experienced an overall increase in change of teacher pedagogy from pre- to post- observations. Lesson study and teaching and learning tours both experienced a .5 of a point gain. Instructional rounds experienced a .7 of a point gain. Each group maintained or increased in each of the nine “look fors.” In the
areas that maintained, pre-observation scores were either in the “evident” or “somewhat” evident range. A score that remained “somewhat evident” post intervention should be given greater attention in future professional development.

Below, Table 10 shows the differences between post-observation mean scores and compares change scores based on intervention type. Over the course of this intervention, each group developed their pedagogy at a similar rate.

Table 10

*Post-Observation Mean & Change Comparisons for All Intervention Types*

<table>
<thead>
<tr>
<th>Intervention Group</th>
<th>Post Mean</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson Study</td>
<td>1.6</td>
<td>0.5</td>
</tr>
<tr>
<td>Instructional Rounds</td>
<td>1.7</td>
<td>0.7</td>
</tr>
<tr>
<td>Teaching and Learning Tours</td>
<td>1.6</td>
<td>0.5</td>
</tr>
<tr>
<td>All Intervention Groups</td>
<td><strong>1.6</strong></td>
<td><strong>0.6</strong></td>
</tr>
</tbody>
</table>

**Growth by teacher experience level.** In Chapter 3, for the purposes of this study, I defined novice teachers as those having less than three years of teaching experience, experienced teachers as those having between four to ten years of teaching experience, and veteran teachers as having eleven or more years of teaching experience. In this sample, there was one novice teacher, nine experienced teachers, and nine veteran teachers. Table 11 shows the differences between post-observation mean scores and rates of change based on teacher level of experience. According to this data set, over the course of this intervention, experienced and veteran teachers increased their pedagogy at similar rates, but the novice teacher experienced the greatest increase in change of
teacher pedagogy. Not only did the novice teacher experience the greatest change in pedagogy, this teacher also had the highest post-observation mean score.

Table 11

*Post-Observation Mean & Change Comparisons for Teacher Experience Level*

<table>
<thead>
<tr>
<th>Experience Level</th>
<th>Post Mean</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veteran</td>
<td>1.7</td>
<td>0.5</td>
</tr>
<tr>
<td>Experienced</td>
<td>1.6</td>
<td>0.6</td>
</tr>
<tr>
<td>Novice</td>
<td>1.8</td>
<td>0.9</td>
</tr>
<tr>
<td>All Experience Levels</td>
<td>1.6</td>
<td>0.6</td>
</tr>
</tbody>
</table>

In interpreting these results, I would like to revisit Hattie’s (2012) argument regarding the variance of effectiveness that exists between teachers and that a single teacher can vary in effectiveness from day to day or lesson to lesson. This study did not control for that variability. Observations were unannounced and I know for a fact that not every observation was on the teacher’s best day. For example, one post-observation was first thing Monday morning when the teacher had been out the Wednesday through Friday before. It was not the best lesson I have seen this teacher teach; in fact, her pre-observation score was higher than her post-observation score. Yet, I know she gained from the peer observation experience. Therefore, I feel confident in these results as a collective staff that our pedagogy did improve as a result the peer observation process. However, I am withholding evaluative judgment for individual teachers based solely on a pre- and post- observation.
Collective Efficacy

Changes in Collective Efficacy

Teachers participating in this study completed the Collective Efficacy Scale (CE-SCALE) short-form twice, once before the intervention began and then again at the conclusion of their focus group interview to allow for a pre-post comparison. The CE-SCALE is a 12-item scale with half of the items reverse scored, meaning “1” is scored as “6” and “2” is scored as “5” and so on. Two teachers were absent the day the pre-efficacy scales were given. In an attempt to not skew the data, the two teachers who did not complete the CE-SCALE prior to the intervention, were asked not to complete the CE-SCALE post intervention. In total, 17 teachers took the CE-SCALE.

In determining differences in pre- and post- mean results, the six questions with reverse scores were reversed and the sum of the 12 items was determined. Individual teacher scores were averaged to find the collective efficacy of the school. The higher the score, the higher the collective efficacy, with the highest score being six. Mean results of pre- and post- CE-SCALE were basically identical, with 5.01990 as a pre-mean score and 5.01961 as a post-mean score. The standard deviation of scores tightened up slightly from pre- (0.959) to post- (0.926), but overall there was no change in the group’s collective efficacy as a result of this study. It should be noted that the pre-mean score was already high, creating a ceiling effect that made it more difficult to show growth over this 12-week study. Below, Table 12 illustrates the distribution of responses across
the answer ranges (lowest efficacy “1” to highest efficacy “6”). The distribution for each question can be found in Appendix L.

Table 12

*Overall Distribution of Responses on CE-SCALE*

<table>
<thead>
<tr>
<th>Response Count</th>
<th>Lowest Efficacy</th>
<th>Low Efficacy</th>
<th>Med Low Efficacy</th>
<th>Med High Efficacy</th>
<th>High Efficacy</th>
<th>Highest Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>12</td>
<td>8</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>45</td>
<td>69</td>
<td>77</td>
<td>76</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.02</td>
<td>5.02</td>
<td>5.02</td>
<td>5.02</td>
<td>5.02</td>
<td></td>
</tr>
<tr>
<td>St Dev</td>
<td>0.96</td>
<td>0.93</td>
<td>0.93</td>
<td>0.93</td>
<td>0.93</td>
<td></td>
</tr>
</tbody>
</table>

The results from pre- and post- efficacy scales did not come as a surprise. We wanted to measure the effects on this process on our collective efficacy given the latest research, that collective efficacy is the number one school factor influencing student achievement (Donohoo, 2016; Eells, 2011). While the 12-week duration of this study did not have an impact on our overall collective efficacy, we now have established a baseline. We have also identified the factors that are most inhibiting to our collective
efficacy, which per these results, all involve student home life. Furthermore, as a teaching staff we have become knowledgeable about the impacts of collective efficacy and can now make strategic and deliberate efforts to improve it.

**Action Research & School Culture**

One focus group question was specifically designed to gather teacher insights about the action research process and the value, if any, it brought to our school’s learning community. As stated in Chapter 3, four years ago our staff adopted the shared beliefs identified by Karen Chenoweth and Christina Theokas in their work entitled, *Getting it done: Leading academic success in unexpected schools* (2011),

- The honesty to discriminate between excellence and mediocrity.
- The courage to do things differently to improve.
- The discipline to reflect on what factors lead to success and what can be learned from failure.

When asked to reflect on the action research process, many teachers aligned their responses with our shared belief statements:

*I mean in order to grow sometimes you have to try something different.*

*I think it brings us together as a community. We want our kids to have that risk free environment so we should feel the same way. We should feel comfortable to take risks to work together for the greater purpose.*
Well, I think we all want to be better at what we do… if there’s research that shows if you do this then this will be your gain, I think we are all for it.

Even if it’s a mistake, we’ve still learned something.

And these things that we do together, help me, at least, feel less isolated… it’s a more cohesive feeling when we do research together.

I learned so much. I’m never going to stop. I’m always trying to get better. And there’s always so much room. And I feel like teaching changes and I feel like this kind of action and learning from each other- it keeps us fresh. I feel like a new teacher. (Veteran Teacher)

Over all, participants felt that the action research process fit into our existing school culture and that the process brought value to our learning community. Chapter 5 will explore this topic further, as well as present implications for more action research.
CHAPTER 5

SUMMARY, DISCUSSIONS, AND IMPLICATIONS

“The remarkable feature of the evidence is that the greatest effects on student learning occur when teachers become learners of their own teaching.” (Hattie, 2012, p. 14)

In this final chapter, I will present a brief summary of this study and identify and discuss overarching conclusions. I will explain and examine study findings and state my own opinions in regard to those findings. This chapter will conclude with implications for future practice within our own working environment, as well an argument for more action research within the field of education.

Summary of the Study

This action research study investigated the effects on teacher reflection, teacher pedagogy, and collective efficacy after implementing three different types of peer observation models. Action research was purposefully chosen as the methodology for this study because of the vested interest in the outcomes by all those involved. While I took a leadership role in developing the design of this study, gathering participation, gathering the data, and analyzing that data, there was no separation between researcher and participants during this study. Everyone was equally invested in the outcomes.

In this study, teachers were organized by grade level and randomly assigned to one of three intervention groups: lesson study, teaching and learning tours, and instructional rounds. Over a 12-week period of time, teachers engaged in their assigned
type of peer observation a total of four times. Qualitative and quantitative data was collected to address the following research questions:

1. Is there a change in teachers’ perceptions regarding their ability to reflect on their teaching when they engage in one of the three selected collaborative teacher professional develop models (lesson study, teaching and learning tours, and instructional rounds)?

2. Is there a change in teacher pedagogy when teachers engage in one of the three selected collaborative teacher professional develop models (lesson study, teaching and learning tours, and instructional rounds)?

3. Is there a change in teachers’ sense of collective efficacy when teachers engage in one of the three selected collaborative teacher professional develop models (lesson study, teaching and learning tours, and instructional rounds)?

**Conclusions**

Based on the findings in Chapter 4, and in reference to the research questions presented in this study, five overarching conclusions can be made as a result of this study. First, by engaging in these different peer observation models, teachers were able to engage in deep reflection about their teaching. During focus group interviews conducted at the end of the study, teachers who participated in the three different interventions made comments to support that the peer observation process engaged them in deeper reflection, which in turn helped them learn from others, gain confidence, adjust their pedagogy, and apply new learning in their classroom.
A second conclusion drawn from the findings presented in Chapter 4 and aligned with our second research question, is that the data from this study showed that the peer observation process is an effective way to help teachers, novice, experienced, and veteran, improve their pedagogy. Over a 12-week period, regardless of whether teachers participated in lesson study, teaching and learning tours, or instructional rounds, they further developed their instructional skill at delivering the five-component Writer’s Workshop mini-lesson.

A third conclusion, and one that builds upon the first two conclusions made, is that the peer observation process is built upon teacher reflection, and therefore, when provided the opportunity to reflect on the teaching and learning process, teachers are empowered to change their practice. In the peer observation process, teachers see the practice in action, discuss the practice with a group of peers, and then have confidence to go and try it in their classroom with students.

A fourth conclusion drawn from this study is in regards to collective efficacy and the third research question: By engaging in the different peer observation models, was there a change in our collective efficacy? This was something I wanted to intentionally measure given that collective efficacy is the number one school factor influencing student achievement (Donohoo, 2016; Eells, 2011). However, findings found no change in pre- and post-efficacy using the CE-SCALE. Therefore, I am concluding individual and collective efficacy take more than a 12-week period of time to change and needs to be specifically targeted. For example, this study specifically targeted teacher reflection
and teacher pedagogy. The assigned peer observation interventions intended to have an impact on teacher pedagogy and teacher reflective practice with the different protocols belonging to each study. On the other hand, collective efficacy was an added construct, one of interest, but not specifically targeted. Based on these findings, it appears that in order for collective efficacy to increase, specific variables pertaining to collective efficacy need to be targeted over a sufficient duration of time. Furthermore, when collective efficacy pre-exists at a high level, it is equally, if not more important to identify what is hindering growth and specifically target those areas.

The final conclusion yielded from this study is that pre-existing factors significantly impact the ability to conduct action research and explore peer observations within a school. I would caution anyone who sees the results from this study and assumes it can be replicated in another school without first assessing that school’s culture and climate for some necessary pre-existing elements. This along with the other conclusions will be discussed in greater detail below.

**Discussion**

In this section, I will explain and examine study findings. Specifically, I will emphasize the importance school culture plays when taking on the action research process. I will discuss how throughout this study, I formed a new understanding for how to best plan and structure for professional development within our school. I will discuss how peer observations are an effective means for helping all teachers improve. I will also share lessons learned throughout this overall process and conclude with
implications for future practice within our own working environment, as well an argument for more action research within the field of education.

The Significance of School Culture

As I was drawing conclusions about this action research study, I found myself reflecting on what made this study successful. It’s not an easy fiat to get 19 teachers invested and committed to trying something different when so much is already on their plate. As I reflected on the implementation of this study, I found that there were key elements existing in our school culture that provided the necessary groundwork to make this action research study possible. I discussed some of these elements in Chapter 3, but below I will succinctly outline each element and offer an explanation for its importance.

A core set of beliefs. Throughout this dissertation I have referred to the core belief statements that we share as a teaching staff in our school:

• The honesty to discriminate between excellence and mediocrity.
• The courage to do things differently to improve.
• The discipline to reflect on what factors lead to success and what can be learned from failure (Chenoweth & Theokas, 2011).

We begin each by year reminding one another that these beliefs are core to our work. Throughout the year we reflect on how our current practices are tied to these core beliefs. And at the end of the year, we reflect individually and collectively on how our beliefs and work made us more effective as a school.
Initially, I, as leader, was the one typically referring back to these belief statements. But as time progressed, I found teachers taking ownership and using these statements. I now hear them in Leadership Team when we are thinking about trying something different. I hear the statements used in PLC meetings when teachers are discussing data. And, I heard these beliefs shared in the focus group interviews conducted at the end of this action research study. A set of shared beliefs that are anchored in a progressive vision is a vital starting place within a school that wants to pursue new things for the greater good.

**Professional learning communities.** Our school began meeting in professional learning communities (PLCs) two and a half years ago. We recognize that the functioning of a PLC is an evolving process. We began that process with grade level PLCs establishing a viable curriculum. A core function of our PLCs is that grade level teachers, along with special education teachers, reading specialists, and myself as principal, unpack curriculum, align instructional strategies, and design formative assessments. To date, we continue to use student data to refine this work. Pursuing action research has been the next step in our PLC journey. This action research study allowed us to build on the collaborative structures we already have in place and expand them. As a result, we now have teachers not only collaborating within their own grade level, but working with other grade levels and focusing on how the curriculum standards and expectations articulate for students.
**Trust.** A third element key to the success of this study was the existence of trust within our culture. Peer observations required that a foundation of trust exist between teachers and between administrator and teacher. Annually, over the last four years, all teachers have taken a survey directly related to our school’s culture and climate entitled, Qualities of the Environment that Teachers Experience. This survey can be found in Appendix M. Results from this annual survey indicate that our climate was healthy enough to engage in peer observations.

As lead researcher and facilitator in the peer observation process, teachers had to trust that I was not going to make the observations evaluative. They had to trust that they could be honest in conversations that occurred throughout this study. It’s natural that in the first year of implementing a new instructional approach with new materials, for there to be questions, feelings of uncertainty, and a lack of confidence. However, because we have established trust within our relationships, we were able to be honest, open, and authentic with one another, which led to the success we experienced in this process and in classrooms.

**An investment in time and resources.** As a leader I have made investing in professional development, and instructional resources to support that professional development, a top priority. I understand that in order for teachers to learn and try something new, they have to have the resources to make new endeavors successful. For example, over the last several years, I purchased textbook resources for Writer’s Workshop and allocated funds to provide on-going professional development with
literacy consultant Lori Wall. I used site-based professional development funds to provide substitutes for teachers in order for teachers to have the time needed to collaboratively plan using new resources and learning. Additionally, the school division has made a significant investment by having literacy coach, Meredith Alvaro, train teachers and develop a Writer’s Workshop curriculum. A willingness to make investments in time and resources is critical in helping and supporting teachers improve their practice.

A New View on Professional Development

At the conclusion of this study, I now have a new understanding for how to design effective professional development. At the beginning of each school year, I outline a plan for teacher professional development. I have always tried to strategically make this plan, taking into account new division and building initiatives and what teachers will need for effective implementation. However, I now have a tool to use to help me evaluate and tailor our school’s professional development plan. This tool is pictured in Figure 3 and illustrates the findings from a study conducted by Garet et al (2001).
In Chapter 2, I presented a study conducted by Garet et al. (2001) that used a national probability sample of 1,027 math and science teachers to provide the first large scale empirical comparison of effects of different characteristics of professional development on teachers’ learning. The study concluded that core features of effective professional development include a focus on content knowledge, active learning, coherence, collective participation, and occurs over a sufficient duration of time. The peer observation models in this study were selected because they each embodied the identified these core features.

A leader may see the results of this study and mistakenly determine that the peer observation process is the best mode of learning for teachers. While the results of study does present evidence to show that engaging in these different peer observation models does in fact help teachers reflect and develop their pedagogy, it does not mean that all
other modes of professional development should be cast aside. For example, a comprehensive plan for training with an expert, paired with peer observations could have a greater impact. Including peer observations as part of an overall professional development plan could provide a safe place for teachers to try new learning, as well as ensure that new learning is applied in the classroom environment.

Due to the fact that this action research study did not separate researcher from participant, our teaching staff is now aware of the five core elements of effective professional development. They will also learn about the results from this study and therefore will be able to bring insight and expertise as we plan for ongoing professional development. As a result of this study, we will create an action plan that will also serve as our professional development plan for the upcoming school year. Considerations for that action plan will appear later in this chapter.

Helping All Teachers Improve

As an instructional leader, I recognize that my primary role is to collectively and individually help teachers improve their pedagogy. I do this in various ways, by being a part of PLCs, delivering or providing planned professional development activities, and through the observation/feedback process. It is challenging to plan professional learning activities that meet the needs of everyone. However, peer observations proved to be effective in helping teachers across all experience levels and grade levels further develop their pedagogy. Throughout this process, teachers became deeply engaged in the learning process, of both their students and themselves.
It was exciting to huddle in the hallway before we entered a room, discuss what we would be seeing, and slip into the classroom to study teaching in action. After the lesson concluded and we made our exit, the teacher learning continued. The debrief process quickly caught my attention as something special. In lesson study, in which the teachers collaboratively planned a lesson, the debrief process was intensely focused on the students reactions at the different stages of the mini-lesson. Everyone was equally engaged in the debrief, excited to discuss what they saw, tweak this here, and refine that there. Teachers left with a polished lesson to implement.

In the other two interventions, the debrief was slightly different, but still productive. The critique of the lesson was absent since the lesson was not planned collaboratively. However, teachers in these groups were equally engaged in the debrief. In the instructional rounds group, by the 4th round, teachers were engaging one another in philosophical discussions about writing, along with questions about Writer’s Workshop that were posing them difficulty.

The dialogue we experienced in the peer observation debriefs was rich and productive leaving teachers armed to return to their own classrooms with new instructional strategies, answered questions, and potentially a new outlook on something that they were finding difficult. Veteran, experienced, and new teachers alike, all grew from this experience. Here is a teacher quote taken from a focus group, directed at the novice teacher:
I love data and I love being observed, not evaluated, but observed. I love having people in my room and it was nice to be able to go in other rooms and see new things and I think it’s a real confidence booster. I feel like I saw that in you as a new teacher. After we came in to see you, I think you realized it’s like, ‘oh, wow, all of these people are in here and we’re getting something out of it.’ I think if the climate is right and the trust is right, it really does good stuff for self-efficacy.

Lessons Learned

As the leader in this study and in this building, I have learned some important lessons that I will keep in mind moving forward. First, ground rules or norms are necessary for teachers when peer feedback is involved. These norms should help teachers avoid crossing that evaluative line when debriefing after a peer observation. I set specific norms for the debrief after the first round of peer observations was completed. In one of our first debrief sessions, a teacher who demonstrated that day later shared with me that she felt as though one of her peers critiqued her lesson, instead of reflecting on her own teaching. In retrospect, if norms were in place before the first round of observations this negative experience could have been avoided. From that point on, the established norms were shared each round and I, as facilitator of the debrief process, had a tool for keeping the dialogue centered on reflection. Moving forward, I see teacher groups reflecting on these norms often and as a result, peer norms will adapt as our culture for this type of work matures.
My second lesson learned is that remaining flexible is necessary when implementing something new and complex. Chapter 4 explained how I applied the concept of loose and tight to this action research study. I was tight on the non-negotiable elements of the action research process, but loose on the elements that could be tweaked to optimize our potential outcomes. Specifically, I was tight on the purpose of the study, the research design, the research questions, data collection processes, and data analysis, but loose on the proposed timeline for the study and the development or refinement of tools along the way. Remaining flexible, reduced negative effects on our school climate.

A third lesson learned was realizing the power of an administrator calibration activity. For the purposes of data collection in this study, the division K-5 Coordinator for Language Arts met with our administrative team and facilitated a calibration training exercise to ensure inter-rater reliability. In this training, we adapted the existing Balanced Literacy Form to include specific “look fors” and identified explicit actions or language that aligned with each “look for.” After that exercise, as part of the study, we then went into each classroom and systematically collected data on teacher pedagogy. That data was powerful. It allowed us as an administrator team to quickly see targeted areas for needed growth of individual teachers and for the entire staff. Opportunities to calibrate our instructional lens as building leaders, and systematically collect data on instructional practices, helps us be strategic in efforts to assist teachers in improving instructionally.
Implications for Practice

This section will outline considerations for an action plan based on findings from this study. An action plan is based on the inquiry and findings of the action research study and is essentially a framework or a blueprint that is implemented to improve practice, conditions, or the environment in general (Craig, 2009). The action plan was the intention of this study all along—to help us as a school develop an effective professional development plan; a plan that would optimize adult learning. Our action plan will be specific to this study’s findings and our school working environment. In the spring, our teaching faculty will create this action plan together.

Considerations for the Action Plan. In the development of our action plan, we will take two major data sources into account. First we will review the data on teacher pedagogy, emphasizing that all three interventions were effective in helping teachers improve their pedagogy. We will also review focus group data and let those who experienced the interventions debrief as a larger group on specific themes that emerged during focus group interviews. For example, lesson study was unique in that it had a collaborative planning component. Teaching and learning tours and instructional rounds both reported benefits of articulation since two grade levels were grouped together.

After teachers share about their specific intervention, we will engage in discussion about how the purpose of the peer observation may drive the type of peer observation selected by the teacher group. For example, if second grade is interested in
developing a lesson and refining it together, they would most likely select lesson study. However, if a group of teachers wants to see how an instructional practice is implemented by different teachers within the same or different grade levels, teaching and learning tours or instructional rounds would be a more appropriate format. Furthermore, teachers would select lesson study if the there was a desire to be student-focused, or instructional rounds or teaching and learning tours if teachers were looking for an articulation opportunity.

We will also review the insights and themes from focus group discussions that were specific to the next phase of peer observations and our overall professional development plan. During focus groups, comments made by teachers could be grouped accordingly:

- Continue peer observations: Include opportunities for articulation, be more flexible in the timing, expand to different subject areas, and continue with voluntary demonstration.

- Timing: Peer observation should be more spaced out; perhaps, once a month.

- Our professional development plan overall: Our professional develop is best when it is job-embedded and its purpose is tied to the work.

Again, we will use these results to formulate our action plan that specifies our professional leaning for the next school year. Action research will also be a way for me to encourage teacher leadership as we look for other places to implement an action
research approach. Additionally, I will share findings showing that there was no change in our collective efficacy as a result of engaging in this study. However, we now have established a baseline and identified the factors that are most inhibiting to our collective efficacy. Per these results, our negative outlooks/beliefs on our students’ home life is what is most inhibiting to our collective efficacy as a teaching staff. This is an area that we can now work collaboratively to address and this data starts that conversation.

**Implications for More Action Research**

While the sample size and contextual factors of this study limit the generalizability of the results, it is my hope that other schools take interest and engage in action research to investigate ways to optimize the adult learning process. This study empowered our staff to investigate, close up, something that we wanted to improve in our working environment. As a result, we not only were successful in improving our instructional pedagogy, but we worked collectively to capture data that will guide and positively impact our teaching and learning environment in the future.

Due to time constraints, student achievement measures were not included in this study. Whenever possible, student achievement data should be taken into consideration when determining the effectiveness of an intervention or a program. Additionally, student data should be directly aligned to the purpose of the intervention. In pursuing more action research, we will strive to use student achievement measures as an indicator of effectiveness.
Students in the United States continue to be out-performed by other nations. As a result, leaders in non-educator roles, including politicians, are in position to fix what is wrong with America’s public education system. Instead, practitioners should use the action research process to identify problems that impact their personal learning environments, collect data, and use that data to determine a course for improvement. It has become vital that educational leaders in the practitioner environment promote a culture of action research with teachers within their buildings. I believe that until practitioners become active consumers of our educational research and literature base, and use that knowledge to drive action research, we will continue to see limited improvement in our teaching and learning communities.

Principals and other educational leaders in the field already have a good place to start this work. Our educational research base has reported important and promising findings. Teacher effectiveness and collective efficacy are leading factors in predicting student achievement (Donohoo, 2016; Eells, 2011; Hattie, 2012; Marzano, 2003; Stronge et al., 2015; Wright et al., 1997). Therefore, the effectiveness of individual teachers and a school’s shared perception that their efforts as a whole can have a positive effect on students are worth the investigation. There is no better place to investigate these findings than in a school with teachers and leaders engaged in the action research process.
References


YCSD. (2016). *York County balanced literacy model.* Yorktown, VA: YCSD.

Appendix A The Teaching and Learning Tours Protocol

Teaching and Learning Tours Process

The steps below explicitly define the teaching and learning tour process:

1. For the initial tour, the lead teacher reminds the group of the purpose of the tour, emphasizing the exercise as a professional development activity for reflective practice not evaluation.

2. Teachers meet briefly and review the focus skill and determine what it looks like in actual practice.

3. The teaching and learning tour protocol, explained above, is reviewed.

4. The teacher group goes into a classroom for five or ten minutes looking for evidence of the focus skill.

5. After five or 10 minutes, teachers leave the classroom and debrief in the hallway using the questions on the protocol.

6. After touring three or four classrooms, a debriefing of the entire tour is conducted (Skrla et al., 2009, p. 97-98).
Teaching and Learning Protocol

Focus: Teacher Pedagogy of Writer’s Workshop

- Reminder: This is not about the person being observed. It is about using your colleague’s classroom as a lab for you to engage in reflective practice, which is thinking about your own practice.

- If this were your classroom, what visible signs of learning are you building upon or leaving for students?

- What is the objective being taught? What did you find particularly effective about the mini-lesson?

- How did each component of the mini-lesson help student understand and achieve the objective?

- What have you taken away from this that you will try in your classroom? (Skrla et al., 2009)
Appendix B Instructional Round Protocol

What are Instructional Rounds?
Instructional rounds are a non-evaluative approach intended to allow teachers in a collaborative team the structure to examine the effectiveness of lessons and to reflectively compare their own instructional practices with those they observed in the classroom visits (DuFour & Marzano, 2011). Unlike the supervision process between administrator and teacher, instructional rounds are not intended to provide the observed teacher with feedback, however it is allowable if requested by the teacher being observed. Alternatively, instructional rounds serve as a learning and reflection process for a team of teachers (2011).

During the 10 to 15 minute observation, teachers should take notes regarding the observed teacher’s use of instructional strategies and language specific to the five components of the mini-lesson. On an individual level, teachers can pay close attention to strategies of interest to them or the group can collectively examine how the teacher incorporates the components of a mini-lesson in her instruction (2011).

The Instructional Rounds Process
- After each instructional round, members of the observing team of teachers meet and reflect on the observation.
- The lead teacher reminds the group of the ground rules for the upcoming reflective dialogue.
  - Ground rules include reminders that the purpose of this activity is not to evaluate the observed teacher, not to offer the observed teacher suggestions unless specifically requested, and to maintain the confidentiality of the group (Marzano, 2011; City et al., 2010).
- With the structure of the lesson (5 components) and lesson delivery in mind, observing teachers take turns stating their observations beginning with a positive and speculating why the positive outcome occurred.
- The observer then identifies questions or I wonder statements about the teacher’s use of strategies (Marzano, 2011).
- Observing teachers may find it helpful to record their observations using a pluses and delta system (2011). (See tool below)
- The observed teacher has the ability to opt in or out of this process.
- The process concludes by asking each observer to reflect on their individual practice based on this experience.
<table>
<thead>
<tr>
<th>Lesson Component &amp; Teacher Language</th>
<th>+/-</th>
<th>Speculation/Why?</th>
</tr>
</thead>
<tbody>
<tr>
<td>The teacher makes a connection for students by explicitly stating how previous learning will connect with today’s learning objective. “Writer’s we’ve been working on…”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher uses the explicit language “Writer’s we’ve been working on…”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher does not use the explicit language but does include a connection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The teacher does not start the lesson with a connection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The teacher states the teaching point for students. “So, today I want to… practice how to ________ or teach you something else that good writer’s do when they need to ________”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The teacher uses the explicit language “So, today I want to… practice how to ________ or teach you something else that good writer’s do when they need to ________”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher does not use the explicit language but does make a teaching point for students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The teacher does not include this component in the lesson</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson Component &amp; Teacher Language</td>
<td>+/- Speculation/Why?</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>---------------------</td>
<td></td>
</tr>
<tr>
<td>The teacher demonstrates the teaching point. “Watch me as I…”</td>
<td>The teacher directly/explicitly models for students and uses the explicit language “Watch me as I…”</td>
<td>The teacher asks questions to guide the modeling and the modeling is more of a guided or shared experience between teacher and students</td>
</tr>
<tr>
<td>The mini-lesson includes active engagement of students. “Now you try…”</td>
<td>Students get to apply/try in the mini-lesson and the teacher uses the language “Now you try…”</td>
<td>Teacher invites students to try but does not include active engagement in the mini-lesson</td>
</tr>
<tr>
<td>The mini-lesson concludes with a link. “So today – and any day – when you need to ____ and you forget how, remember to look for this chart and do Step 1, Step 2, Step 3…”</td>
<td>The teacher uses the explicit language “So today – and any day – when you need to ____ and you forget how, remember to look for this chart and do Step 1, Step 2, Step 3…”</td>
<td>Teacher does not use the explicit language but does conclude the lesson with a reflection or by revisiting the objective/teaching point</td>
</tr>
<tr>
<td>Lesson Component &amp; Teacher Language</td>
<td>+/-</td>
<td>Speculation/Why?</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-----</td>
<td>------------------</td>
</tr>
<tr>
<td>Teacher uses an anchor chart to capture the big ideas of the lesson.</td>
<td>Makes an anchor chart</td>
<td>Makes an anchor chart on the board/Refers to an old anchor chart without adding to it</td>
</tr>
<tr>
<td>The teacher uses touchstone or mentor text as a model for students to use or borrow from.</td>
<td>The teacher uses a touchstone or mentor text in the mini-lesson</td>
<td>The teacher references a touchstone or mentor text in the mini-lesson by referring to a book (telling without showing)</td>
</tr>
<tr>
<td>Mini lesson is the appropriate length.</td>
<td>10-15 minutes</td>
<td>+/- 2 min</td>
</tr>
</tbody>
</table>
Appendix C Focus Group Protocol

Focus Group Interview Protocol

1. Let’s reflect on the peer observation process. How did lesson study, instructional rounds, or teaching and learning tours engage you in the teaching and learning process?

2. By engaging in this process was there an impact on your own teaching in your classroom? (Have those who share elaborate)

3. Let’s focus on reflection. We rarely have time to do that as individuals, and even less as a professional learning community. Did this process help you reflect on your own teaching?

4. What did you see as drawbacks of this process?

5. In comparison to more traditional forms of professional development (i.e. morning staff development) why was this process more or less effective in assisting you in developing your pedagogy?

6. Can we reflect on the action research process? What value, if any, has this experience brought to our school?

7. Is there anything else you want to add about lesson study, instructional rounds, or teaching and learning tours or this process overall?
Appendix D Balanced Literacy Form

Date: _______________________
Teacher Observation: _______________________

Balanced Literacy Form: Writer’s Workshop Mini-Lesson

<table>
<thead>
<tr>
<th>Look for #</th>
<th>Look for &amp; Teacher Language</th>
<th>Yes Evident (2 pts)</th>
<th>Somewhat Evident (1 pt)</th>
<th>Not Evident (0 pts)</th>
<th>Antidotal Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The teacher makes a connection for students by explicitly stating how previous learning will connect with today’s learning objective. “Writer’s we’ve been working on...”</td>
<td>Used Explicit Language</td>
<td>Did not use the explicit language</td>
<td>Skipped this entirely</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Instructional goal for the mini-lesson is aligned to state standards</td>
<td>It aligns to the grade level SOLs</td>
<td>Is not aligned to the SOL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>The teacher states the teaching point for students. “So, today I want to... practice how to_______ or teach you something else that good writer’s do when they need to _________”</td>
<td>Used Explicit Language</td>
<td>Did not use the explicit language</td>
<td>Skipped this entirely</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>The teacher demonstrates the teaching point. “Watch me as I...”</td>
<td>Direct/Explicit Modeling</td>
<td>Asking Questions Guided or Shared Experience</td>
<td>No model</td>
<td></td>
</tr>
<tr>
<td><strong>Look for #</strong></td>
<td><strong>Look for &amp; Teacher Language</strong></td>
<td><strong>Yes Evident (2 pts)</strong></td>
<td><strong>Somewhat Evident (1 pt)</strong></td>
<td><strong>Not Evident (0 pts)</strong></td>
<td><strong>Antidotal Note</strong></td>
</tr>
<tr>
<td>----------------</td>
<td>--------------------------------</td>
<td>------------------------</td>
<td>----------------------------</td>
<td>------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>5.</td>
<td>The mini-lesson includes active engagement of students. “Now you try...”</td>
<td>Students get to apply/ try</td>
<td>Teacher offers to let students try but did not build time in the lesson</td>
<td>Students do not get to try at all</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>The mini-lesson concludes with a link. “So today – and any day – when you need to ____ and you forget how, remember to look for this chart and do Step 1, Step 2, Step 3...”</td>
<td>Used Explicit Language</td>
<td>Did not use the explicit language Ex. What did we learn today</td>
<td>Skipped this entirely</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Teacher uses an anchor chart to capture the big ideas of the lesson.</td>
<td>Makes an anchor</td>
<td>Making it on the board/ Referring to an old anchor chart</td>
<td>Did not make or reference an anchor</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>The teacher uses touchstone or mentor text as a model for students to use or borrow from.</td>
<td>Uses Reference</td>
<td>Does not use or reference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Mini lesson is the appropriate length.</td>
<td>10-15 minutes</td>
<td>+/- 2 min</td>
<td>+/- 5 min</td>
<td></td>
</tr>
</tbody>
</table>

| **Total Points** | **** | **** | **** | **** | **** |

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Appendix E Collective Efficacy Scale

Collective Efficacy Scale Short Form (Goddard & Hoy, 2003)

Directions: Please indicate your level of agreement with each of the following statements about your school from strongly disagree to strongly agree. Your answers are confidential.

Strongly Disagree: 1
Disagree: 2
Somewhat Disagree: 3
Somewhat Agree: 4
Agree: 5
Strongly Agree: 6

1. Teachers in the school are able to get through to the most difficult students.

2. Teachers here are confident they will be able to motivate their students.

3. If a child doesn’t want to learn teachers here give up.

4. Teachers here don’t have the skills needed to produce meaningful student learning.
5. Teachers in this school believe that every child can learn.

6. These students come to school ready to learn.

7. Home life provides so many advantages that students here are bound to learn.

8. Students here just aren’t motivated to learn.

9. Teachers in this school do not have the skills to deal with student disciplinary problems.

10. The opportunities in this community help ensure that these students will learn.

11. Learning is more difficult at this school because students are worried about their safety.

12. Drug and alcohol abuse in the community make learning difficult for students here.
Appendix F Sample Schedule for Teaching and Learning Tours & Instructional Rounds

Grade 2 & 3: Teaching and Learning Tours Date: Tuesday 1/10; make-up Friday 1/13

<table>
<thead>
<tr>
<th>Time</th>
<th>What</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:30 a.m.</td>
<td>Gather</td>
<td>Hallway</td>
</tr>
<tr>
<td>9:40 a.m.</td>
<td>Teacher 1</td>
<td>210</td>
</tr>
<tr>
<td>9:55 a.m.</td>
<td>Debrief</td>
<td>Hallway</td>
</tr>
<tr>
<td>10:05 a.m.</td>
<td>Teacher 2</td>
<td>204</td>
</tr>
<tr>
<td>10:20 a.m.</td>
<td>Debrief</td>
<td>Hallway</td>
</tr>
<tr>
<td>10:35 a.m.</td>
<td>End Time</td>
<td></td>
</tr>
</tbody>
</table>

Grade 4 & 5: Instructional Rounds Date: Thursday Feb. 2

<table>
<thead>
<tr>
<th>Time</th>
<th>What</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:30 p.m.</td>
<td>Gather</td>
<td>Hallway</td>
</tr>
<tr>
<td>2:40 p.m.</td>
<td>Teacher 1</td>
<td>106</td>
</tr>
<tr>
<td>2:55 p.m.</td>
<td>Debrief</td>
<td>Hallway</td>
</tr>
<tr>
<td>3:05 p.m.</td>
<td>Teacher 2</td>
<td>208</td>
</tr>
<tr>
<td>3:20 p.m.</td>
<td>Debrief</td>
<td>Hallway</td>
</tr>
<tr>
<td>3:35 p.m.</td>
<td>End Time</td>
<td></td>
</tr>
<tr>
<td>Week</td>
<td>Dates</td>
<td>Activity</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Week 1 & 2 | Nov. 14- Nov. 22 | • Administrator will conduct pre-intervention observation using the Writer’s Workshop Mini-Lesson Section of the Balanced Literacy Form.  
• The three groups receive a reading assignment on their specific intervention. |
| Week 3     | Nov. 28- Dec. 2  | • Complete pre-intervention observations  
• The three groups will participate in a 45 minute Q & A in their grade level PLC.  
• Each participant will complete the collective efficacy scale short form. |
| Week 4     | Dec. 5- Dec. 9   | • PD: 5 Components of the Mini-lesson  
• Lesson study group will collaboratively plan a lesson in PLC. |
<p>| Week 5     | Dec. 12- Dec. 16 | • Assigned groups will engage in peer observations through lesson study, teaching and learning tours, or instructional rounds. |
| Week 6     | Jan. 3- Jan. 6   | • Lesson study group will collaboratively plan a lesson in PLC.                                                                          |
| Week 7     | Jan. 9- Jan. 13  | • Assigned groups will engage in peer observations through teaching and learning tours, or instructional rounds.                         |
| Week 8     | Jan. 16- Jan. 20 | • Lesson study in K &amp; 1                                                                                                                 |</p>
<table>
<thead>
<tr>
<th>Week 9</th>
<th>Jan. 23- Jan. 27</th>
<th>• Short week so all peer observations were pushed back.</th>
</tr>
</thead>
</table>
| Week 10     | Jan. 30 – Feb. 3 | • Assigned groups will engage in peer observations through lesson study, teaching and learning tours, or instructional rounds.  
• K & grade 1 took a half day of planning. |
| Week 11     | Feb. 6- Feb. 10  | • Assigned groups will engage in peer observations through lesson study, teaching and learning tours, or instructional rounds.  
• K & 1 engage in lesson study.  |
| Week 12     | Feb. 13- Feb 17  | • K & 1 engage in lesson study.  
• Final focus group using semi-structured interview protocol.  
• Each participant will complete the collective efficacy scale short form.  
• Administrator will conduct pre-intervention observation using the Writer’s Workshop Mini-Lesson Section of the Balanced Literacy Form. |
| March/ April |                  | • Results will be shared with the teaching faculty.  
• An action plan will be developed based on our findings. |
### Appendix H Preparing the Lesson Tool

Preparing the Lesson  
Date of lesson: _________________  
Teacher(s): ____________________  
Observer(s): ____________________

Lesson Objective: In this lesson, students will

_______________________________________________________________________  
_______________________________________________________________________

<table>
<thead>
<tr>
<th>When I do this is Step X of the lesson…</th>
<th>… my students thoughts/ misconceptions might be…</th>
<th>What might my students do or say during this step of the lesson?</th>
<th>During the lesson on which responses might I want to intervene? What will I do?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

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Appendix I Revised Tool for Instructional Rounds

<table>
<thead>
<tr>
<th>Lesson Component &amp; Teacher Language</th>
<th>Observation</th>
<th>How this helps me?</th>
</tr>
</thead>
<tbody>
<tr>
<td>The teacher makes a connection for students by explicitly stating how previous learning will connect with today’s learning objective. “Writer’s we’ve been working on…”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The teacher states the teaching point for students. “So, today I want to… practice how to ________ or teach you something else that good writer’s do when they need to ________”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson Component &amp; Teacher Language</td>
<td>Observation</td>
<td>How this helps me?</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>The teacher demonstrates the teaching point. “Watch me as I…”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The mini-lesson includes active engagement of students. “Now you try…”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The mini-lesson concludes with a link. “So today – and any day – when you need to ____ and you forget how, remember to look for this chart and do Step 1, Step 2, Step 3…”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson Component</td>
<td>Observation</td>
<td>How this helps me?</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Teacher uses an anchor chart to capture the big ideas of the lesson.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The teacher uses touchstone or mentor text as a model for students to use or borrow from.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mini lesson length</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix J Peer Observation Norms

Peer Observation Norms

• This is an exercise for us to reflect on our own teaching practices. Therefore we will avoid the use of evaluative statements. We will do this by…
  o Using “I” statements rather than “you” statements.
  o Example: “I liked the way students quickly found partners. I need to think about that process in my classroom.’
  o Non-example: “You have a good partner system.” Or, “you could have done it this way…”

• If someone slips and uses a “you” statement, the facilitator will remind the group to use “I” statements.

• To begin the debrief process, the facilitator will thank the teacher for the learning experience. This will serve as the “good job” and the debrief process will begin.

• The teacher who was observed can ask for feedback, but feedback can only be given if requested.

• When debriefing, speakers should address the group, not the person who has been observed.
## Appendix K Writer’s Workshop Tools (A-C)

**Tool A**

### Components of the Writer’s Workshop Mini-Lesson & the Teaching Continuum

<table>
<thead>
<tr>
<th>Lesson Component &amp; Teacher Language</th>
<th>Yes Evident</th>
<th>Somewhat Evident</th>
<th>Not Evident</th>
</tr>
</thead>
<tbody>
<tr>
<td>The teacher makes a connection for students by explicitly stating how previous learning will connect with today’s learning objective. “<strong>Writer’s we’ve been working on...</strong>”</td>
<td>Teacher uses the explicit language “<strong>Writer’s we’ve been working on...</strong>”</td>
<td>Teacher does not use the explicit language but does include a connection</td>
<td>The teacher does not start the lesson with a connection</td>
</tr>
<tr>
<td>Instructional goal for the mini-lesson is aligned to state standards</td>
<td>The lesson aligns to the grade level SOLs and needs of the students</td>
<td>The lesson is not aligned to the SOL or needs of the students</td>
<td></td>
</tr>
<tr>
<td>The teacher states the teaching point for students. “<strong>So, today I want to... practice how to________ or teach you something else that good writer’s do when they need to __________</strong>”</td>
<td>The teacher uses the explicit language “<strong>So, today I want to... practice how to________ or teach you something else that good writer’s do when they need to __________</strong>”</td>
<td>Teacher does not use the explicit language but does make a teaching point for students</td>
<td>The teacher does not include this component in the lesson</td>
</tr>
<tr>
<td>The teacher demonstrates the teaching point. <em>Watch me as I...</em></td>
<td>The teacher directly/explicitly models for students and uses the explicit language <em>Watch me as I...</em></td>
<td>The teacher asks questions to guide the modeling and the modeling is more of a guided or shared experience between teacher and students</td>
<td>The teacher does not include this component in the lesson</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>The mini-lesson includes active engagement of students. <em>Now you try...</em></td>
<td>Students get to apply/try in the mini lesson and the teacher uses the language <em>Now you try...</em></td>
<td>Teacher invites students to try but does not include active engagement in the mini-lesson</td>
<td>Students do not get to try out the teaching point in the mini-lesson and there is not an invitation to students to try the new skill independently in Writer’s Workshop</td>
</tr>
<tr>
<td>The mini-lesson concludes with a link. <em>So today – and any day – when you need to ____ and you forget how, remember to look for this chart and do Step 1, Step 2, Step 3...</em></td>
<td>The teacher uses the explicit language <em>So today – and any day – when you need to ____ and you forget how, remember to look for this chart and do Step 1, Step 2, Step 3...</em></td>
<td>Teacher does not use the explicit language but does conclude the lesson with a reflection or by revisiting the objective/teaching point</td>
<td>The teacher does not link or conclude the lesson</td>
</tr>
<tr>
<td>Teacher uses an anchor chart to capture the big ideas of the lesson.</td>
<td>Makes an anchor chart or revisits an existing anchor chart</td>
<td>Makes an anchor chart on the board/ Refers to an old anchor chart without adding to it</td>
<td>Does not make or reference an anchor chart</td>
</tr>
<tr>
<td>-------------------------------------------------------------------</td>
<td>----------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>The teacher uses touchstone or mentor text as a model for students to use or borrow from.</td>
<td>The teacher uses a touchstone or mentor text in the mini-lesson</td>
<td>The teacher references a touchstone or mentor text in the mini-lesson by referring to a book (telling without showing)</td>
<td>The teacher does not use or reference a touchstone or mentor text in the mini-lesson</td>
</tr>
<tr>
<td>Mini lesson is the appropriate length.</td>
<td>10-15 minutes</td>
<td>+/-2 min</td>
<td>+/-5 min</td>
</tr>
</tbody>
</table>
Tool B

Structure of a Mini-lesson/ Small Group Lesson or Conference
5 Parts
www.meredithalvaro.com

Connection:
- Readers/Writer’s, we’ve been working on…
- Name and define the genre
- Summarize what we have learned to far

Teaching:
- So today, I want to:
  - Option A: Practice how to…
  - Option B: Teach you something else/new that readers/writer’s do when they need to…
  - Have you been reading/writing and____ happens? Here’s what you can do…
  - Always state what we are teaching, why it’s important, and how to do it.

Demo:
- Watch me as I…
  - Step 1:
  - Step 2:
  - Step 3:

Active Engagement:
- Now you try…
- Turn and talk to your partner about…
- Stop and jot…
- Stop and sketch…
- Stop and act this part out bit by bit…

Link: To bring closure to the lesson, you link the new learning with what the class has previously learned.
- So today, and any day, when you’re reading and you need to _____ remember Step 1… Step 2… Step 3…
Tool C

Title of Lesson __________________
Unit __________________ Lesson # __________

Writer’s we’ve been working on ....
______________________________________________________________________________
______________________________________________________________________________
So, today I want to ....
______________________________________________________________________________
______________________________________________________________________________

Practice how to
______________________________________________________________________________
______________________________________________________________________________
or
Teach you something else that good writer’s do when they need to
______________________________________________________________________________
______________________________________________________________________________

Watch me as I ....
______________________________________________________________________________
______________________________________________________________________________

Now you try ... (shoulder partner, practice, etc.)
______________________________________________________________________________
______________________________________________________________________________

So, today and any day when you need to ___________________________,
remember to look at this chart (think about) and do
______________________________________________________________________________
Appendix L Distributions of Responses of CE-SCALE

Teachers in the school are able to get through to the most difficult students.

- Pre-Intervention
- Post-Intervention

<table>
<thead>
<tr>
<th>Efficacy Level</th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest Efficacy</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Low Efficacy</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Med Low Efficacy</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Med High Efficacy</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>High Efficacy</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Mean St Dev
Pre 4.71 0.59
Post 4.65 0.93

---

Teachers here are confident they will be able to motivate their students.

- Pre-Intervention
- Post-Intervention

<table>
<thead>
<tr>
<th>Efficacy Level</th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest Efficacy</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Low Efficacy</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Med Low Efficacy</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Med High Efficacy</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>High Efficacy</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Mean St Dev
Pre 5.18 0.53
Post 5.12 0.70
Teachers in this school believe that every child can learn.

- **Pre-Intervention**
  - Mean: 5.65
  - St Dev: 0.49

- **Post-Intervention**
  - Mean: 5.65
  - St Dev: 0.61

These students come to school ready to learn.

- **Pre-Intervention**
  - Mean: 4.53
  - St Dev: 0.72

- **Post-Intervention**
  - Mean: 4.53
  - St Dev: 0.62
Home life provides so many advantages that students here are bound to learn.

The opportunities in this community help ensure that these students will learn.
If a child doesn't want to learn teachers here give up.

<table>
<thead>
<tr>
<th>Efficacy Level</th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest Efficacy</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Low Efficacy</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Med Low Efficacy</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Med High Efficacy</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>High Efficacy</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Highest Efficacy</td>
<td>6</td>
<td>9</td>
</tr>
</tbody>
</table>

Teachers here don't have the skills needed to produce meaningful student learning.

<table>
<thead>
<tr>
<th>Efficacy Level</th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest Efficacy</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Low Efficacy</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Med Low Efficacy</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Med High Efficacy</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>High Efficacy</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Highest Efficacy</td>
<td>9</td>
<td>11</td>
</tr>
</tbody>
</table>
Students here just aren't motivated to learn.

Teachers in this school do not have the skills to deal with student disciplinary problems.
Learning is more difficult at this school because students are worried about their safety.

- Pre-Intervention: 12
- Post-Intervention: 13

Drug and alcohol abuse in the community make learning difficult for students here.

- Pre-Intervention: 11
- Post-Intervention: 10

Response Count

Mean St Dev
Pre 5.75 0.45
Post 5.76 0.44

Mean St Dev
Pre 5.41 0.94
Post 5.41 0.80
Response Count

Lowest Efficacy | Low Efficacy | Med Low Efficacy | Med High Efficacy | High Efficacy | Highest Efficacy

Pre-Intervention: 1, 2, 12, 8, 42, 45, 69, 77, 76, 72
Post-Intervention: 1, 2, 1, 12, 8, 42, 45, 69, 77, 76, 72

Mean: Pre = 5.02, Post = 5.02
St Dev: Pre = 0.96, Post = 0.93
Appendix M Qualities of the Environment that Teachers Experience

Qualities of the Environment that Teachers Experience

Rate each item 1 – 5 (1 – almost never, 2 – less often than not, 3 – about half the time, 4 – more often than not, 5 – almost always)

<table>
<thead>
<tr>
<th>Collegiality As a school...</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. We talk in concrete and precise terms about things we are trying in our classrooms.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. We have discussions with one another.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. We teach each other things we know about teaching.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. We all recognize that teaching is inherently difficult and ask for and give assistance for problems within the classroom involving students or teaching. And we know we’ll get it without being judged.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Experimentation</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Other teachers encourage me and back me up when I try new things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>High Expectations</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Good teaching is taken seriously here. This shows up in serious attention to teacher evaluation and letting me know clearly how I stand in relation to administrator expectations. I get prompt and useful feedback.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reaching Out to Knowledge</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. This is a curious school. We are always searching for new and improved ways to educate.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Appreciation and Recognition</td>
<td>8. There is a close relationship in this school between job performance and recognition for that performance.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Trust</td>
<td>9. I feel trusted and encouraged to make instructional decisions in my classroom… and my administrator backs me up when I do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Caring, Celebration, and Humor</td>
<td>10. We enjoy being with and around each other. We offer comfort and help when needed and join in celebration together.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Protecting What’s Important</td>
<td>11. We are protected from unreasonable demands on our time and energy that interfere with contact time with students and other teachers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>12. Meetings are worthwhile and productive</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Traditions</td>
<td>13. We have annual events and ceremonies we look forward to each year.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Decision Making</td>
<td>14. I feel our decision-making processes are productive and efficient.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>15. I feel consulted about decisions to be made in this school house and that I am listened to and can influence decision making.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Frank, Civil, and Open Communication</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>---</td>
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<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>16. People speak honestly and respectfully to one another. We are not afraid to disagree and can do so without jeopardizing our relationships.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17. Conflicts between individuals are resolved quickly and intelligently.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18. The information flow keeps me informed about what’s going on in the school house.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Initiative</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>19. The Administrative, Leadership, and Literacy Teams, as well as grade level/area PLCs show initiative in developing new ideas for the school and seeing them come to life.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vision</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>20. Our school has a clear focus for continued learning for teachers.</td>
<td>1</td>
</tr>
<tr>
<td>21. Our school has developed a vision for our learners.</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Professional Development</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>22. Our school’s professional development is important to my continued learning and growth.</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Feedback</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>23. I receive valuable feedback from my administration that improves my instructional practice.</td>
<td>1</td>
</tr>
<tr>
<td>24. I receive valuable feedback from my peers that improves my instructional practice.</td>
<td>1</td>
</tr>
</tbody>
</table>
Appendix N The Education Internal Review Committee Approval

This is to notify you on behalf of the Education Internal Review Committee (EDIRC) that protocol EDIRC-2016-11-06-11554-mfdipa titled An Action Research Study Investigating Professional Development Models has been EXEMPTED from formal review because it falls under the following category(ies) defined by DHHS Federal Regulations: 45CFR46.101.b.2.

Work on this protocol may begin on 2016-11-28 and must be discontinued on 2017-11-28.

Should there be any changes to this protocol, please submit these changes to the committee for determination of continuing exemption using the Protocol and Compliance Management application (https://compliance.wm.edu).

Please add the following statement to the footer of all consent forms, cover letters, etc.:

THIS PROJECT WAS FOUND TO COMPLY WITH APPROPRIATE ETHICAL STANDARDS AND WAS EXEMPTED FROM THE NEED FOR FORMAL REVIEW BY THE COLLEGE OF WILLIAM AND MARY PROTECTION OF HUMAN SUBJECTS COMMITTEE (Phone 757-221-3966) ON 2016-11-28 AND EXPIRES ON 2017-11-28.

You are required to notify Dr. Ward, chair of the EDIRC, at 757-221-2358 (EDIRC-L@wm.edu) and Dr. Jennifer Stevens, Chair of the PHSC at 757-221-3862 (jastev@wm.edu) if any issues arise during this study.

Good luck with your study.
VITA

Lindsey Caccavale was born in Yorktown, Virginia. After graduating high school from York High School in 1999, Lindsey was accepted to James Madison University where she majored in Psychology and minored in Elementary Education. She received a M.A. in Educational Policy, Planning, and Administration from The College of William and Mary in 2008 and an Ed.D. in Educational Policy, Planning, and Administration from The College of William and Mary in 2017.