

Collaborative Inquiry, Teacher Efficacy, and Writing Achievement

At Lake Shore Elementary School

by

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ABSTRACT

A teacher's belief in what he or she can do is often a predictor for how well students may do in their classroom. Working together in a collaborative setting while looking at student work, determining next steps, and setting goals for student achievement can provide the impetus for teachers to change practices, implement different strategies and find success in the classroom. Collaborative practitioner inquiry focused in a single content such as written expression can bring about positive change for student achievement and teacher efficacy.

In this study, a collaborative practitioner inquiry process was used to enhance teacher efficacy and increase student achievement in writing. This process was implemented school wide as an integral part of the school's instructional program. Teachers met once each month in Data Writing Team groups to look at student writing in their own classrooms and across their grade level. Based on the writing samples, teachers created SMART goals, determined levels of proficiency, and identified instructional strategies to implement. Data were collected through the administration of a teacher efficacy survey, focus group and individual interviews, student achievement data from pre- and post-writing samples, and observations and interpretations in a research journal.

Findings concluded that collaborative practitioner inquiry contributed measurably to most Lake Shore Elementary School teachers' efficacy as teachers of writing especially by enhancing their convictions that they could teach writing and solve instructional roadblocks individually and collectively. In addition, collaborative practitioner inquiry contributed to substantial improvement in Lake

Shore students' writing achievement. Teachers' accountability and purposes for instruction were enhanced through opportunities to work collaboratively together. Finally, collaborative practitioner inquiry contributed to students' writing achievement by adding to teachers' understanding of writing instruction and fostering continuously improved teaching practices.

As a result of conducting this study, I learned that teachers who have the time to meet, talk, and think together form a greater focus as a grade level and, in turn, a purpose for what they do in the classroom. When teachers find success in their instruction their efficacy increases and as found during this study student achievement increases.

This dissertation is dedicated to the following people:

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Chapter 1 Context and Purpose

“Never doubt that a small group of thoughtful, committed people can change the world. Indeed, it is the only thing that ever has!” (Mead, n.d.)

People who share a common direction and sense of community can accomplish much. As principal of Lake Shore Elementary School¹, a Title One K-8 school in northwest Phoenix, I believe a shared sense of direction and community is the foundation to the overall success of our school.

Improving student achievement by enhancing teacher efficacy is my ultimate goal as the instructional leader of my school. Teacher efficacy refers to the extent to which teachers feel capable to help students learn; efficacy can affect teachers’ instructional efforts in areas such as choice of activities, level of efforts, and persistence with students (Tschannen-Moran & Hoy, 2001). Teachers’ beliefs in their abilities to help students learn impact their sense of efficacy and, in turn, their students’ achievement and learning (Woolfolk & Hoy, 1990). Teacher efficacy matters.

Collaborative inquiry is a promising approach to teacher efficacy and instructional improvement. Richard Elmore first explained this idea to me during an informal conversation while I was at Harvard University for a school improvement initiative (R. Elmore, personal communication, June 29, 2008). Following this conversation with Dr. Elmore, I customized the idea of collaborative inquiry as a focus for teacher discussion and examination of student work. Teachers at Lake Shore meet in different groups ranging from data teams

¹ All local names are pseudonyms.

and grade level teams to communities of practice. The collaborative inquiry process involves teacher in these groups talking together, analyzing student work, collectively determining student proficiency, and collaborating on next steps for instruction. The focus is on students' writing achievement.

The action research reported here focuses on my efforts to improve students' writing at Lake Shore. The impetus for this action stems from unsatisfactory Arizona Instrument to Measure Standards (AIMS) achievement data from 2006 through 2008. After three years of student achievement data being below the school district mean, and scores at all grades being 70% or less in meeting the state standard, a change was needed.

During the 2008-2009 school year, I introduced collaborative inquiry through a data team process focusing on improving student writing. Grade level teams met formally once each month to analyze student writing, determine student proficiency, and collaborate on next steps for instruction. AIMS results in the spring of 2009 indicated increased achievement in student writing with increases from 9% to 27% at all grade levels from the previous school year. However, the increase in achievement was mainly in the Meets the Standard category, with students achieving in the Exceeds the Standard category at only 1% to 4% across the grade levels. AIMS performance level indicators are presented in Appendix A. This AIMS performance raised the concern of why our students' substantial improvement in writing achievement did not extend to the Exceeds the Standard level. Another concern was how to sustain this continued improvement in writing as measured by AIMS.

This action research involved teachers using collaborative inquiry to improve student writing. The purpose of this study was to investigate the extent to which teachers working together in a collaborative inquiry process enhanced their efficacy with regard to teaching writing and exerted a positive impact on student writing achievement. The research questions to be addressed are as follows:

1. What will collaborative inquiry contribute to Lake Shore's teachers' self-efficacy in writing instruction?
2. What will collaborative inquiry contribute to Lake Shore students' writing achievement?

Chapter 2 Review of Scholarship

This section reviews three domains of scholarship. The first domain involves the theoretical lens used to focus this action research. The second includes the conceptual frame used to support my instructional intervention. The third domain involves the cycles of action research I conducted prior to this study that inform it.

Theoretical Lens

The theoretical lens for this research study includes socio-cultural and socio-cognitive perspectives; both conceptualize the relationship between social and individual factors in learners' development. Each theory helps scholar-practitioners understand learners' development, and each provides a reference point for my action and research on the action.

Socio-cultural theory. The social world influences cognitive growth, and cognitive growth influences the social world (Tudge & Winterhoff, 1993). Looking at social influences and cognitive growth means focusing on the ways cultural contexts (macro factors) shape and are shaped by individuals' interactions (micro factors).

The culture of a social system shapes the prevailing thinking of those who are part of it and builds a specific system of behavior. Vygotsky (as cited in Tudge & Winterhoff, 1993) put it this way, "In the process of historical development, a social being changes the means and methods of his behavior, transforms natural inclinations and functions, develops and creates new, specifically cultural, forms of behavior" (p. 66). Schools and teams of teachers are

cultural systems that influence what is learned through formal and informal conversations. This change in behavior, in turn, impacts instruction at a school, thereby changing the behavior of not only teachers but students as well.

While culture influences learners, learners also influence culture. Being a learner in school, whether child or adult, means that individual thought and interpersonal interactions mediate the culture in which they are embedded. The socio-cultural point of view focuses on peoples' thoughts and actions during these micro, or interpersonal, interactions as they take up and eventually alter cultural influences. "The focus is on the processes involved in social interactions. This is partly because of the importance attached to the concept of mediation in socio-cultural theory" (Dillenbourg, Baker, Blaye, & O'Malley, 1996, p. 2).

Socio-cultural theorists assert that the difference between what a person can accomplish alone and what he or she can accomplish in conjunction with others is a zone of proximal development (Vygotsky, 1978). Learning occurs effectively when people are in this zone, when they engage common activities such as collaboratively inquiring and solving problems that they would have difficulty doing individually.

The picture of socio-cultural theory presented here is one primarily of collaboration. It is one of negotiation and adjustment. It focuses on the meaning people internalize as both members of a social group and as individuals.

"Individual development cannot be conceived outside a social world, and that social world is simultaneously interpersonal, cultural, and historical" (Tudge & Winterhoff, 1993, p. 75). When the teachers at Lake Shore school meet to

collaborate, they share conversations centered around personal experiences on writing instruction. They look at student writing over time, and this gives them a perspective they may not have had individually.

Socio-cognitive theory. According to socio-cognitive theory, people are self-organizing, proactive, self-reflecting, and self-regulating rather than reactive organisms shaped and shepherded by environmental forces or driven by concealed inner impulses (Pajares, 2002). Socio-cognitive theory espouses people as active in their learning, transforming, classifying, and organizing concepts into easily remembered schemes rather than taking snapshots that simply store information (Tudge & Winterhoff, 1993).

Socio-cognitive theory goes beyond socio-cultural theory in positioning people as active decision makers and agents. As Bandura (1986) put it,

Social cognitive theory is rooted in a view of human agency in which individuals are agents proactively engaged in their own development and can make things happen by their actions. Key to this sense of agency is the fact that, among other personal factors, individuals possess self-beliefs that enable them to exercise a measure of control over their thoughts, feelings, and actions, that what people think, believe, and feel affects how they behave. (p. 25)

Socio-cognitive theory puts the idea of the individual thoughts, needs, and wants forward even though they are embedded within social groups. It stresses the role of people assessing their accomplishments amid social groups' judgments.

Personal decision making is a key to learning and behaving as people learn what to engage in during group interactions.

This picture of socio-cognitive theory is one primarily of individual decision making. It is one of people deciding their thoughts and actions in light of group norms and feedback. It highlights self-determination amid cultural influences.

Conceptual Frame

The conceptual frame used to inform my initiative encompasses three categories: collaborative inquiry, teacher efficacy, and writing achievement. Research in each of these categories provides support and guidance for the success of my initiative.

Collaborative inquiry. Collaborative inquiry involves the mutual engagement of people in a coordinated effort to solve a problem (Dillenbourg et al., 1996). It is built upon the idea that collaboration among people who are searching for solutions to problems produces greater results than individual endeavors.

This action research uses collaborative inquiry to help solve the challenge of depressed student writing achievement across all grade levels at Lake Shore Elementary School. The premise is that teachers interacting and inquiring, coordinating their approaches to solve problems will increase the likelihood that each individual teacher will develop new approaches to increase student achievement in their own classrooms. When teachers collaborate, whether through data teams, grade level teams, or cross grade teams, they can build and

maintain a shared perception of problems and inquire together to resolve the problems.

Collaboration tends to support teachers' use of data for decision making during inquiry sessions. "Teachers are more likely to collect and use data systematically when working as a collaborative group; when working by themselves, teachers tend to rely on anecdotes and intuition" (David, 2008, p. 87). Teachers become researchers as they work together to understand their students and the impact of their teaching. Teachers are ethnographers as they study their students within their classrooms. They become experimenters assessing various instructional practices and strategies to change their student's capabilities in writing. Teachers who meet in collaborative inquiry tend to focus their dialogue and gain new ways to think and new ideas to think about (Shaughnessy, 2004).

Socio-cultural theory suggests that or with a common focus will enhance their development as effective instructors. When teachers gather to discuss student writing, look at student work, and determine next steps and instructional strategies to employ, they are developing collective and individual understandings and capabilities through interaction and collaboration with their peers. Thus, inquiring collaboratively differs from what teachers would do individually.

To be sure, collaboration can and should create opportunities for individuals to do more than they could independently, but it does not enable individuals to do infinitely more. The contribution of collaboration to performance is restricted to the limits determined by the state of the person's development and intellectual potential (Tudge & Winterhoff, 1993). This is

evident in some young teachers who have little experience to draw upon for educational decisions and in some experienced teachers who choose not to look at alternative ways to address instructional problems.

Socio-cognitive theory provides an additional understanding of why collaborative inquiry can be effective. Individuals, teachers in this case, have the capacity to go beyond collaboration as a viable way to address a collective problem. These capabilities include the ability to “symbolize, plan alternative strategies (forethought), learn through vicarious experience, self-regulate, and self-reflect” (Pajares, 2002, p. 3). Collaborative inquiry provides teachers with an avenue to collectively address the problem of writing instruction and writing achievement, and it permits teachers to apply their own cognitive means to influence the efforts both of the group and themselves.

Teacher efficacy. Teacher efficacy refers to the extent which a teacher feels capable to help students learn (Tschannen-Moran & Hoy, 2001). It affects teachers’ instructional efforts in areas such as choice of activities, level of efforts, and persistence with students. Teachers who report high self-efficacy are more likely to overcome situations that challenge their teaching. They tend to be more optimistic than their peers and contribute a greater effort to their jobs while taking more personal responsibility for their successes and failures. Conversely, teachers who report low self-efficacy are more likely to attribute their successes or failures to outside factors such as lack of resources (Ware & Kitsantas, 2007). Stated differently, “If success is attributed to internal or controllable causes such as ability or effort, then self-efficacy is enhanced. But if success is attributed to luck

or the intervention of others, then self-efficacy may not be strengthened” (Tschannen-Moran, Hoy, & Hoy, 1998, p. 211).

Two dimensions of teacher efficacy deserve attention, general and personal (Ashton & Webb, 1986). General teacher efficacy refers to the belief that educators can and should greatly influence student performance in spite of potential barriers. General efficacy “relates to the external constraints that might impede teaching, or in other words, teachers’ beliefs concerning limits in the effectiveness of teaching, especially in overcoming environmental factors such as the influence of home or family background” (Graham, Harris, Fink, & MacArthur, 2001, p. 179). Teachers who believe that they can positively impact student achievement despite perceived barriers of students’ home circumstances or low motivation tend to be more effective in implementing change (Berman, McLaughlin, Bass-Golod, Pauly, & Zellman, 1977).

Personal efficacy refers to a teacher’s belief that she or he, as an individual, can influence student learning strongly (Cantrell & Callaway, 2008). Personal efficacy beliefs relate to teacher’s confidence in their own abilities to affect student learning. Differences between personal and general efficacy are as follows:

The investigation of teacher efficacy began when the RAND organization asked teachers to respond to two items assessing their beliefs about teachers’ abilities to overcome environmental factors (i.e., the home environment) and their personal capabilities to teach students experiencing difficulties. ... There is considerable agreement that the first factor,

typically called *personal teaching efficacy*, reflects teachers' beliefs about their teaching competence. The meaning of the second factor, however, is less certain. Although it is commonly referred to as *general teaching efficacy*, it has also been called "external influences" and "outcome expectancy" (Graham et al., 2001, p. 178-179).

Along with differences between general and personal efficacy, feelings of efficacy vary from one situation to another (Bandura, 1981). In particular, teacher efficacy is a specific expectancy. For instance, teachers' feelings of efficacy have been shown to vary depending on the subject, the type of instructional activity, and the composition of the class (Benz, Bradley, Alderman, & Flowers, 1992; Raudenbush, Rowan, & Cheong, 1992). Self-efficacy is a situation-specific determinant of behavior rather than a global personality trait.

A dimension of specific efficacy among teachers that deserves attention involves efficacy in teaching writing. Although teachers' feelings of efficacy tend to be largely ignored in writing research (Raudenbush et al., 1999), attention to teachers' feelings of efficacy in improving their students' writing is warranted. Personal, subject-specific feelings of efficacy deserve attention because effective instruction in writing is dependent on teacher's confidence and requires more than possession of the latest knowledge and skills. As previously noted, teacher efficacy influences effort and persistence, goals and aspiration, and overall quality of instruction (Tschannen-Moran et al., 1998).

Self-efficacy beliefs are created in four fundamental ways, listed here in descending levels of influence: mastery experience, vicarious experience, social

persuasions, and somatic and emotional states (Pajares, 2002). Mastery experiences are courses of action that individuals successfully accomplish. These experiences lead individuals to the belief that they are capable of sustained success in similar activities or tasks. Outcomes determined as successful increase self-efficacy beliefs, while outcomes that are considered failures decrease self-efficacy. When teachers engage in collaborative inquiry to determine a course of action that actually raises student achievement, they experience mastery and enhance their self-efficacy (Bandura, 1986).

Vicarious experiences come from observing others perform a task. These experiences enhance self-efficacy especially when people are unsure of their own ability or when they have limited experience in a task or activity. In many cases, highly efficacious people can also increase self-efficacy by observing another person model better ways of doing or accomplishing something. When teachers, through collaboration, determine a strategy to implement in teaching writing, the ability for one or more individual to model for the other how that might work in each specific classroom provides a powerful experience especially when the teachers can see similarities and parallels to their own classrooms of students.

Social persuasion cultivates individuals' beliefs that they are capable and that accomplishments are attainable. Social persuaders are important to the development of individual's self-beliefs as well as the collective efficacy of the group. Many teacher groups have someone who naturally becomes the social persuader, encouraging their group to continually raise expectations and implement varied instructional practices to meet the team goal. Persuaders have

considerable power in either building efficacy beliefs through positive encouragement or weakening self-efficacy through negative judgments.

Somatic and emotional states describe the way a person feels, their mood, anxiety, and stress levels. “People can gauge their degree of confidence by the emotional state they experience as they contemplate an action. Strong emotional reactions to a task provide cues about the anticipated success or failure of the outcome” (Pajares, 2002, p. 7).

The Roman poet, Virgil, stated, “They are able who think they are able” (as cited in Pajares, 2002, p. 7). In contrast, those who doubt themselves to the point of questioning their capability to accomplish a task tend to ensure their failure through a negative self-fulfilling prophesy that more often than not becomes a reality. In education, self-efficacy is a more consistent predictor of behavior and outcomes than any other motivation construct: “Studies on self-efficacy in educational contexts tend to support growth in academic achievement, success and failure of task outcomes, goal setting, problem solving, career development, and teaching” (Pajares, 2002, p. 8). Developing teacher-efficacy relative to writing instruction is an important effort.

Writing achievement. “Writing is one of the most complex literate activities in which children and adults engage” (Troia & Graham, 2003, p. 75). Concerns have been documented regarding children’s writing attainment (National Center for Education Statistics, 1997) and the quality of classroom instruction (Palinscar & Klenk, 1992). Writing frequently is a challenging task for children, and it often is a frustrating and stressful endeavor for teachers who

teach it. During the 2007-2008 school year, many Lake Shore teachers across all the grade levels expressed to me that they did not believe they had the knowledge and skills to effectively teach and facilitate writing with the children in their classrooms. This was unacceptable due to the importance of writing to student success in school and because students' achievement in writing relies much on the competence and confidence of their teacher.

Educational researchers have devoted considerable attention to identifying productive methods and approaches for teaching writing (Englert, Raphael, Anderson, Anthony, & Stevens, 1991). Instructional adaptations are one aspect. "Outstanding teachers thoughtfully and skillfully make adaptations to their instructional methods, materials, and expectations for student performance" (Troia & Graham, 2003, p. 81). They modify instruction relative to students' needs in areas such as writing conventions, extra conferences, and re-teaching.

Moving from a product emphasis to a process emphasis for writing instruction is a significant shift for many. With a process emphasis, teachers use a variety of writing opportunities that range from journal writing and peer conferencing to free writing and peer revision. In addition, teachers have students write for different audiences, and they publish student writing.

Understanding the phases of the writing process is important. These phases include first generating ideas through brainstorming, outlining and journal writing. The next phase of the process involves drafting ideas, which involves opportunities for student free writes that discourage revision along the way to enhance fluency. Finally, peer revision, rewrites, and collaboration among writer

and reader to develop revision plans constitute another phase of the writing process (Galbraith & Rijlaarsdam, 1999).

Writing can be considered a social activity consistent with socio-cultural and socio-cognitive theories. Providing students with authentic writing tasks means that students will have a purpose external, in many cases, to their classroom and where someone else will read their writing for meaning. Writers attempt to have different effects with different audiences, supporting the idea that writing is a social activity. Another way to emphasize the social aspect of writing is through the revision process:

This involves students producing a draft of text which is responded to by the reader, either a peer or the teacher. The crucial feature of this response is that it consists of the reader thinking aloud while they read the text. The writer is given direct access to the thoughts activated in the reader by the text (Galbraith & Rijlaarsdam, 1999, p. 99).

When viewed as a social activity, writing becomes an interaction between the writer and the reader (Galbraith & Rijlaarsdam, 1999). “Students must have frequent opportunities to share their writing with other young writers who can offer feedback on the efficacy of their writing” (Dudley-Marling & Paugh, 2009, p. 8). When students share writing, teachers can use theory to determine which type of collaborative opportunity is appropriate. “Socio-cognitive theory refers to symmetrical pairs (i.e., symmetrical with respect to general intellectual or developmental level) where members have different viewpoints, whilst socio-

cultural theory is concerned with asymmetric pairs where members have different levels of skill” (Dillenbourg et al., 1996, p. 9).

Another important aspect of writing instruction involves explicit focused teaching that occurs within students’ zones of proximal development. Explicit teaching includes modeling, guided practice, coaching, and specific and intentional feedback amid many varied writing experiences (Troia & Graham, 2003). One way to accomplish this is through writing workshops that emphasize whole class mini-lessons, independent writing time, and writing conferences. Writing workshops provide a framework for teachers to assess the needs of individual students and provide “frequent, intensive, explicit, and individualized support and direction as needed” (Dudley-Marling & Paugh, 2009, p.3).

Writing is both an individual accomplishment as well as a social activity. When teachers create learning environments so students experience focused instruction with the writing process including mini-lessons, peer editing and review, and coaching opportunities through writing conferences, improved writing tends to occur. Putting these strategies in place gives students a better likelihood of being able to demonstrate the ability to identify and apply proficient written communications.

Finally, a school-wide emphasis on writing is another important contributor to students’ writing achievement (Pressley, Mohan, Raphael, & Fingeret, 2007). Such an emphasis is characterized by leaders viewing writing as a priority and devoting resources to it, teachers sharing a commitment to writing, a curriculum focused strongly on literacy, and positive social support for writing.

In essence, a school-wide emphasis involves continuing efforts to enable knowledgeable and caring educators to apply effective instructional practices in ways that engage and inform students.

Previous Action Research

Two cycles of action research that I conducted previously help inform this study. Cycle One occurred during fall 2008, and Cycle Two happened during spring 2009.

Cycle one. During the fall of 2008, my first action research cycle brought teachers together in small data teams to analyze student writing samples. This effort was based on the assumption that small groups of teachers would improve their practice by working together in teacher teams with an overall goal of enhancing grade level writing achievement.

After analyzing three different data sources, field notes, facilitator surveys, and focus group interviews, I constructed several themes. One, data teams had a collective collaborative focus on student learning and achievement in writing. Teachers worked well with one another to enhance their writing instruction. Another theme was that working in data teams helped align scoring and instructing within the teams. Teachers indicated that the data team process allowed them to proceed one step at a time, identifying what was most important in student writing, looking for trends across each classroom, and having each teacher at a grade hold all students at that grade level to the same high standards for written instruction. A third theme that emerged involved teacher motivation. The process of collaborative inquiry was motivating for teacher teams, especially

in helping gauge student performance against other students at the grade level. One teacher said, “The students in seventh grade know we collaborate together, especially with writing” (L. Murray, personal communication, October 28, 2008). Working through a collaborative inquiry process, teachers were motivated to collectively strive toward solutions for student writing.

Bringing teachers together in small data teams to analyze student writing samples has a foundation in social learning theory. During this short study when working in data teams, the teachers of Lake Shore were building a shared understanding of writing instruction and writing achievement. Each data team collectively built their understanding of the process, but more importantly they built a collective knowledge base about student proficiency in writing and how to analyze student work to set and meet a goal. Each team’s interactions and ultimately their success as a team in impacting student achievement were colored by each member’s values, desires, and practices as an educator.

From this first cycle of research I realized the value of social interaction within groups, particularly the interaction of teachers creatively seeking ways to improve student writing. Their collaborative examination of student writing and determination of proficiency benefited from peer learning. “Those who are more experienced and competent provide models of efficacious styles of thinking and behavior. A vast amount of social learning occurs among peers” (Tudge & Winterhoff, 1993, p. 70). The data team process and collective learning as a team seemed to improve student achievement.

Cycle two. During the spring of 2008, many Lake Shore teachers noted that they did not know how to teach writing effectively or did not feel comfortable teaching writing. A teacher from each grade level participated in a five day professional development session with Write from the Beginning (WFTB) (Buckner, 1996), a trainer-of-trainers model, to become a writing teacher trainer for their grade level. A plan was developed with the teacher trainers and the school leadership team to start training. The whole-staff training began during the three pre-service days set aside for professional development before school started in early August 2008, and a follow-up training occurred during the early release professional development time in late August and again during each month's early release professional development days.

WFTB is a developmental writing program focused on criteria. A shared focus and accountability for school-wide writing performance were established. A yearlong plan was created to ensure that ongoing professional development and support with WFTB would occur. In addition, teachers had the opportunity to visit trainers' classrooms to observe a WFTB lesson or to have a teacher trainer model a WFTB lesson in their classrooms.

This Cycle Two innovation implemented WFTB as the basis for teachers to instruct students in how to organize their thoughts and write coherently. Formative assessments showed increased student performance from the beginning-of-year writing sample in August 2008 to the end-of-year writing sample collected in April, 2009. Students at all grade levels showed marked gains in their organization and development of ideas from rough draft through final

draft. The final summative assessment, which consisted of AIMS scores, showed increased achievement for all grades assessed, 3-8.

Analysis of the teacher-based data collected in this research cycle supported mastery experiences as a major source of teachers' self-efficacy relative to WFTB. Of the four sources of self-efficacy beliefs, the one purported to be most powerful, mastery experiences, was validated. When teachers found success in their instruction, they gained confidence and grew as teachers of writing. Additionally, using the structured program and confronting obstacles in writing instruction enabled teachers to develop their own skills.

This second cycle of research led to my study reported here, which assesses the effect of increased teacher efficacy on writing achievement. The second cycle of research suggested that teachers' efficacy as writing instructors improved when they spent greater effort in teaching writing, provided students time to write, constantly confronted student writing challenges, and addressed those challenges. The Lake Shore teachers seemed to develop an expectancy of their own competence as it related to mastering specific pedagogical tools.

Chapter 3 Method

The following describes the method used for this action research. It presents the setting, action plan, and data sources and collection.

Setting

The setting for this study consisted of the school site where I serve as principal. Ten percent of the students at each grade level of the school and all teachers served as participants in this study.

Site. This study was conducted in a large, ethnically diverse, K-8 campus representative of many suburban schools in Phoenix, Arizona experiencing demographic changes and declining enrollment. This is a Title 1 school with close to 50% of its students qualifying for a federally funded lunch program. The school is located in the northwest area of Phoenix with a socio-economic range of high poverty to middle-class families. It enrolls 1,100 students in pre-school through 8th grade. Fourteen languages other than English are represented. In order of frequency, from most to least numbers of speakers, the languages are Spanish, Romanian, Serb Croatian, Filipino, Bengali, Vietnamese, Mandarin, Tagalog, Cantonese, Arabic, Korean, Polish, Navajo, and other non-Indian. The English Language Learner and special education populations are 12% and 10% respectively. Being a Title 1 school provides Lake Shore the funding to hire teachers, provide targeted interventions, and implement programs to serve students who had limited exposure to developing prior knowledge in the areas of early reading and writing.

From 2005 through 2008, AIMS achievement data for students in grades 3-8 indicated a flat line, or no growth, in students' writing performance. Specifically, students' writing achievement did not improve in either grade-to-grade scores or in cohort scores for writing on the April 2008 AIMS writing assessment.

Interventions were put in place for the 2008-2009 school year to address poor writing achievement, with special attention to organization and the development of ideas. These interventions included specific data teams focused on student writing, the implementation of a structured framework for teaching writing, and a focus on the 6-traits of writing featured in many instructional programs and assessed by AIMS. With these writing interventions in place, students' achievement as measured by the 2009 AIMS assessment increased in all grades and cohorts. While this increase was encouraging, it did not extend to the Exceeds the Standard level on the AIMS assessment. The next challenge to overcome was sustaining the student's successes in writing demonstrated during 2008-2009 and increasing student achievement at higher levels as measured by AIMS.

Participants. During this study, I served as principal, collaborator, and researcher. Carrying out these three roles simultaneously could have presented a problem for the Lake Shore teachers; thus, in a discussion during a faculty meeting, I explained these roles and the study process. Then I explained that their participation was voluntary, and they could opt out of the data collection portion of the study relative to efficacy. However, the part of the study involving

students' writing was integral to the school and remained a teacher responsibility. The benefit of my role as principal was that it allowed me to put in place the study, observe teachers involved in collaborative inquiry, and measure students' writing achievement.

The intervention in this study was implemented school-wide as an integral part of the school's instructional program. Nine percent of the students' writing samples at each grade, K-8, was selected randomly to assess student achievement in writing. This resulted in eighty-two total samples for this study.

Again, because this intervention was implemented school-wide as an integral part of instruction, all teachers who taught writing participated. Lake Shore comprised 61 teachers who provided writing instruction for students; this number included general education, special education, and English Language teachers. In addition, one teacher from each grade level, Kindergarten through eighth grade participated in focus group and individual interviews. The teachers who participated in the interviews were the grade level representatives for their grade K-5 and the Language Arts teacher at grades six, seven, and eight. Although the teachers were not randomly selected nor were they selected by anything more than this school year. Three distinct focus groups were formed by combining grade levels together. Kindergarten through second grade met; third grade through fifth grade met; and sixth grade through eighth grade teachers met with me in a focused interview.

Action Plan

The premise of this study was that collaborative inquiry into student writing increased teachers' efficacy and, in turn, improved student writing. I provided ongoing and consistent leadership and training that supported collaboration and data-based decision making to promote the success of this collaborative inquiry effort. I provided teachers time to meet each month, training in inquiry skills, protocols to guide data collection and discussion of data team SMART goals and proficiency toward those goals, and facilitators at each grade level to focus the conversations.

Teachers worked together in three distinct teams: data teams, grade level teams, and cross grade teams (See Appendix B). Data teams included grade level teachers, English Language teachers, special education and special area teachers. The difference between the data teams and grade level teams was the addition of a special education and/or special area teacher to each team. These teachers provided a different perspective of student proficiency in writing as well as participating in the grade level writing goal within their own program and groups of students. Grade level teams included only those teachers who taught in a particular grade level. Cross grade teams were made up of teachers from various grades, although mainly teachers at the grade levels above and below their particular grade levels.

Each team utilized collaborative inquiry as the method of discourse and dialogue. Collaborative inquiry facilitators were trained the first week of August prior to teachers returning to the 2010-2011 school year. In particular, I

implemented collaborative inquiry according to the sequence summarized below. Specific actions implemented week by week are presented in Appendix B.

During a two-day June 2010 training, teachers across grades learned to effectively implement and use writing conferences. This training included conversations and inquiry about peer and teacher conferencing. Topics included: (a) collecting data during and following conferences, (b) using a simple framework for teacher/student conferences, and (c) training students on peer conferencing, using a considering-while-writing and writing-while-considering process. This group of teachers became the experts and eventually teacher-of-teacher trainers for the remaining staff on student writing conferences. They also became writing facilitators promoting change in writing instruction specific to student writing conferences with their fellow teachers.

During two pre-service professional development days in August, 2010, all teachers received general training in the implementation of student writing conferences. Teachers were trained by the writing facilitators and researcher in the effective use of peer and teacher conferencing.

From August to December 2010, on the third Wednesday of each month, all teachers met in data teams to collaboratively analyze students' writing samples, determine proficiencies, and plan instruction. Each data team was led by a collaborative inquiry facilitator to help maintain conversations centered on collaborative inquiry. In addition, opportunities were built in for dialogue between the various data teams. Built into each data team meeting each month was rescoring of the pre-determined student writing sample to ensure appropriate

inter-rater reliability. Not all six traits were scored for each month's writing samples. This is a limitation of the study.

Data Sources and Collection

This study was a mixed-methods study utilizing both quantitative and qualitative data. Data were gathered at regular intervals from June through December 2010. This research strategy of integrating different data sources promised to produce rich results in terms of the quality and scope of this action research study. The schedule for collecting this data is located in Appendix C; an overview of the data sources is presented in Appendix D.

This study's mixed methods research plan was intended to serve purposes of triangulation and development as discussed by Greene (2007). Triangulation results in a consistency of findings obtained through different instruments. In this action research study, triangulation through a teacher survey (i.e., Teacher Efficacy Scale), group and individual interviews, and student writing samples was used to increase chances to produce trustworthy results about teacher efficacy.

The mixed methods purpose of development refers to the formation and revision of data collection methods in succeeding data sources (Greene, 2007). In this study, information from the teacher survey (i.e., Teacher Efficacy Scale) was used to create the focus group interview questions. Responses from the focus group interviews were used, in turn, to create individual teacher interview questions.

The following describes the instruments and techniques used to gather data for this action research. Data were generated using the following five items:

(a) the Teacher Efficacy Scale for Writing, (b) focus group interviews, (c) individual interviews, (d) student writing samples, and (d) a research journal.

Teacher Efficacy Scale for Writing. The Teacher Efficacy Scale for Writing (Graham et al., 2001) was used to help assess teachers' efficacy as teachers of writing. This scale is designed to assess subject-specific teacher efficacy in writing. The items for the Teacher Efficacy Scale for Writing are presented in Appendix E. Six items are worded in a negative manner; all others are positive. The scale contains two measurable factors that are slightly correlated ($r=.20$). Personal teaching efficacy refers to teachers' beliefs about their capacity as individuals to improve their students' writing proficiencies. General teaching efficacy refers to teachers' beliefs about their capacity to overcome students' unsupportive outside-of-school conditions that might impede academic learning.

The developers of the Teacher Efficacy Scale for Writing (Graham et al., 2001) reported that internal consistency reliability measures consisting of Cronbach's alpha (Cronbach, 1951) yielded coefficients of .84 for personal teaching efficacy and .69 for general teaching efficacy. The finding that high- and low-efficacy teachers reported their classroom practices differing as predicted by their scores on the scale points to its validity. Correlations among teachers' beliefs about writing instruction and their scores on this scale also demonstrate validity. The Teacher Efficacy Scale for Writing provides a pre and post quantitative source of data for this research project.

Focus group interviews. A focus-group interview (Stringer, 2007) was used to help determine the interactions among collaborative inquiry, teacher efficacy, and student writing achievement. Each focus group of teachers participated in a semi-structured group interview consisting of open-ended and probing questions. Queries into the fidelity of the collaborative inquiry process were threaded through the interview questions. Questions were created to examine ideas and information generated from the August administration of the teacher efficacy survey. The questions were informed by socio-cultural theory, which focuses on the meaning individuals internalize as members of a social group as well as the meanings individuals contribute to the group.

The focus-group interview questions addressed what collaborative inquiry contributes to efficacy in teaching writing as well as what efficacy in teaching writing contributes to student achievement. Specific questions addressed topics such as training in inquiry skills, the use of protocols to guide data collection and discussion, and dialogue focused on implications for instruction. Appendix F contains the interview questions. I conducted focus group interviews in November, 2010.

The data from focus group interviews were triangulated with the Teacher Efficacy Scale and individual teacher interviews (see Appendix G). Focus group interviews allow interviewers to probe research participants in a more natural social setting than a one-to-one interview. When combined with both verbal and non-verbal observations, focus group interviews can be used to develop a better understanding of social and cultural influences on the focal group participants.

Individual interviews. A semi-structured interview process (Stringer, 2007) with individuals from the focus groups was used to help determine the interactions among collaborative inquiry, teacher efficacy, and student writing achievement. Teachers within each focus group participated in an individual interview consisting of open-ended and probing questions. Again, queries into the fidelity of the collaborative inquiry process were threaded through the interview questions. Questions were created using ideas and information generated from the August administration of the teacher efficacy survey and the November focus group interviews. The questions were informed by socio-cognitive theory, which positions people as active agents deciding their thoughts and actions in light of group norms and feedback (Tudge & Winterhoff, 1993). Appendix F contains interview questions used. I conducted individual interviews in late November, 2010.

One benefit for individual interviews is the level of detail that can be obtained; follow-up questions and probing for meaning can be easier to accomplish with one person than with a group. The data from individual teacher interviews were triangulated with the Teacher Efficacy Scale and focus group interviews.

Student writing samples. Student writing samples were used to determine writing achievement. All Lake Shore students regularly produce a fall writing sample, known as the Campus Improvement Plan (CIP) Writing Sample. For this study, a random sampling of 10% of students' scored Campus

Improvement Plan (CIP) Writing Samples in Kindergarten through grade 8 were selected and compared.

The students' CIP writing samples were kept in their writing portfolios during the school year. Each grade had a different writing prompt that was matched to a similar writing prompt on the AIMS, and each grade-level prompt elicited a particular genre independently from other grade levels' genres. All CIP writing samples were handwritten.

Teachers scored each student's writing sample according to each of the traits presented in the 6-Traits Writing Rubric (i.e., ideas, organization, voice, word choice, sentence fluency, and conventions) (see Appendix H) or to the Holistic Scoring Rubric (see Appendix I), which is based on the 6-trait model. Point scores were translated to a percentage score based on the conversion of Six-Trait Scores to percentage points (see Appendix J).

An unforeseen challenge worth noting occurred in how to score student summative writing. During the summer of 2010 the state of Arizona introduced the Holistic Scoring Rubric based on the 6-Traits of Writing as its scoring format for the 2011 AIMS Writing assessments. I felt it was important to introduce this to teachers in August as it would be the way the state scores students writing on the AIMS 2011 test. Having this additional scoring rubric caused a slight division in how to grade student papers throughout the school year and also through this research study. Overall, either rubric can be used with the conversation chart to percentage points; however, by adding this new rubric, teachers may have felt conflicted on which one to use in preparation for AIMS this year.

Research journal. I used a research journal (Stringer, 2007) to record my informal observations and reflections during this study. I integrated theoretical material from my readings on socio-cultural and socio-cognitive theories as well as on collaborative inquiry, self-efficacy, and writing achievement with my observations during this action research study. At the forefront of the research journal were my research questions and prompts about how my observations related to these questions. Prompts included looking for and listening to conversations to hear if teachers noted mastery experiences, or vicarious experiences in their discussions with other teachers. Another prompt reminded me to listen for specific talk on student achievement and growth in writing. The specific headings included in the research journal were: Collaborative Inquiry, Self-efficacy, Writing Achievement, and Writing Instruction.

I wrote in my research journal following events that occurred with collaborative inquiry and writing. Specific writing occurred after each data team meeting and early release professional development sessions involving writing. I wrote thoughts after administering the efficacy scales, focus group interviews, and individual interviews. Throughout my observations, I focused on the fidelity of teachers' implementation of collaborative inquiry. The journal was set up with a space for my observations and comments on my observations. A template for the journal can be found in Appendix K.

Written reflections in this journal helped me make sense of teachers', students', and my own responses to this study's intervention. Reflective journal writing enabled me to articulate new ideas about the links among the theoretical

lens and conceptual frame of this study. I used my observations and reflections to help inform the other methods and expand upon the scope and range of research, thereby providing another layer of data on which to draw conclusions.

Chapter 4 Methodology, Analysis, and Results

This chapter reports how the data were analyzed and the corresponding results. It includes two main sections: methodology as well as analysis and results.

Methodology

This study followed a mixed-methods methodology. Mixed methods methodology is “where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study” (Johnson & Onwuegbuzie, 2004, p. 17). Mixing quantitative and qualitative methods is thought to contribute to understanding social phenomena better than when relying on a single method (Greene, 2007).

The aim of mixed method research is to integrate the traditional approaches of quantitative and qualitative research, thereby increasing the advantages and decreasing the disadvantages of each methodology when done individually (Gelo, Braakmann, & Benetka, 2008). Both types of data used in the current study had unique and distinct advantages for responding to the research questions. With my implementation of mixed methods, neither data source had more value than the other.

Analysis and Results

Quantitative analysis. For the quantitative data, which included the pre-post scores for the teacher efficacy scale and the CIP writing samples, I computed descriptive statistics including means, mean differences, and effect sizes. Effect sizes were calculated using Cohen’s *d* (Cohen, 1988) for the differences between

the means divided by the pooled standard deviation. Effect sizes measured the magnitude of the impact of the innovation. For statistical interpretation, I applied Cohen's (1988) benchmarks of $d = .20$ as small, $.50$ as moderate, and $.80$ as large.

Student writing (CIP writing samples) were also analyzed by comparing the percents of students who reached Exceeds Expectations with AIMS baseline scores from the past three years. Additionally, Writing scores were grouped across three levels of schooling, primary (grades K-2), intermediate (grades 3-5), and middle (grades 6-8).

Table 1 displays an inventory of the quantitative data gathered and analyzed in this study. Each data source includes a description, the contents of data collected, and the total time that was taken to gather and analyze each data source.

Table 1

Quantitative Data Sources Inventory

Data Source	Description	Contents	Duration
Teacher Efficacy Scale	This scale is designed to assess subject-specific teacher efficacy in writing. A pre-survey in August and a post-survey in December were administered.	16 survey items	480 minutes
Student Writing	Pre-writing sample from August CIP Writing. Post-writing sample from November "All Write Day."	132 single-spaced and single-sided handwritten pages	720 minutes

Quantitative results. As Table 2 shows, teachers demonstrated a somewhat moderate increase ($d = .38$) in personal efficacy from pre-to post-survey results, their expectations that individually they can perform actions leading to students' learning and achievement in writing. Teachers demonstrated a slight increase ($d = .21$) in general efficacy during the same time period, their belief that their teaching of writing is not limited by factors beyond school control. Analysis of the combined scores demonstrated a somewhat moderate increase in overall teacher efficacy.

Table 2

*Efficacy Scale Instrument Descriptive Statistics by Construct**for Teachers of Writing (N = 26)*

Construct		Initial Survey	Final Survey	$M_2 - M_1$	d
Personal Efficacy	<i>M</i>	2.86	3.08	0.22	0.38
	<i>SD</i>	.64	.54		
	95% CI	[3.12, 2.60]	[3.28, 2.88]		
General Efficacy	<i>M</i>	2.81	2.94	0.13	0.21
	<i>SD</i>	.68	.61		
	95% CI	[3.08, 2.54]	[3.08, 2.70]		
Total Efficacy	<i>M</i>	2.84	3.03	0.19	0.31
	<i>SD</i>	0.66	0.57		
	95% CI	[3.10, 2.58]	[3.25, 2.81]		

Note. Maximum score = 4

Student writing samples were categorized according to grade levels as primary (grades K-1-2), intermediate (grades 3-4-5), or middle (grades 6-7-8). As Table 3 shows, primary-grades student writing demonstrated an enormous increase ($d = 2.19$) from August to November, intermediate-grades student writing had a very large increase ($d = 1.53$), and middle-grades school student writing had a large increase ($d = .83$). Overall writing achievement indicated a very large increase ($d = 1.24$) from pre- to post-writing samples.

The large standard deviations for the primary students, especially for the pre-test (22.48), indicated substantial variation among their writing scores. A possible explanation for this variability is that writing samples from this band of grade levels include samples from five year old kindergarten students with no formal experience in writing prior to the pre-writing assessment. This is in

contrast to second grade students who had at least two years of writing experience prior to the pre-writing assessment.

This can further be shown in the decreasing standard deviations for intermediate students and middle school students. The more experience students had in writing prior to the pre-writing assessments is associated with decreased standard deviations in relationship to the means.

Another noteworthy pattern in the quantitative results involves the stair-step progression of initial mean scores from primary (36.43) to intermediate (63.65) to middle grade (76.65) students. Importantly, the writing samples are scored in relation to grade-level criteria as well as grade-level anchor papers; they are not scored in relation to students' writing at higher or lower grades. A possible explanation for the stair-step progression of scores across the grade levels also involves the experience students had prior to the pre-writing assessment. For example, a first grade student would have one year of academic writing experience when taking the pre-writing assessment, while a third grade student would have four years of academic writing experience, and a sixth grade student would have seven years of experience prior to taking the writing assessment in the fall of the school year. As students move through the grade levels in their Lake Shore school experience, there seems to be an associated growth in writing achievement demonstrated at the beginning of the school year.

The progressively high pre-test scores at each grade level might also help explain the decreasing growth in writing achievement between August and November demonstrated by Lake Shore students as they move through the grade

levels. This pattern can be seen in the diminishing mean differences as the grade levels increase. The mean difference for primary students is 51.37, while the difference for intermediate students is 14.85, and middle school students is 5.85. As Lake Shore students increase in grade levels, there is the potential for a ceiling effect as students score closer to the maximum, or accepted level of achievement in writing, at the beginning of each school year.

Table 3
Writing Sample Descriptive Statistics by Grade Level for K-8 Students
 (N = 83)

Grade Level		Initial Writing Sample	Final Writing Sample	<i>C</i>	<i>d</i>
K-1-2 Writing Samples (N = 34)	<i>M</i>	36.43	87.80	51.37	2.79
	<i>SD</i>	22.48	13.89		
	95%	[44.31, 28.55]	[92.67, 82.93]		
	CI				
3-4-5 Writing Samples (N = 31)	<i>M</i>	63.65	78.50	14.85	1.53
	<i>SD</i>	8.13	11.31		
	95%	[66.62, 60.68]	[82.63, 74.37]		
	CI				
6-7-8 Writing Samples (N = 18)	<i>M</i>	76.65	82.50	5.85	.83
	<i>SD</i>	5.85	8.36		
	95%	[79.48, 73.82]	[86.56, 78.44]		
	CI				
K-8 Total Writing Samples (N = 83)	<i>M</i>	57.87	80.84	22.97	1.24
	<i>SD</i>	22.65	13.38		
	95%	[62.87, 52.87]	[83.80, 77.88]		
	CI				

Note. Maximum score = 100

In addition to increasing writing achievement in the Meets Expectations category for AIMS, teachers and administration had been tracking the increase in our Exceeds data as well. We had made significant progress increasing students to Meets but had not yet had success with moving student achievement higher into the Exceeds category. Table 4 shows the percentage of students in Exceeds over the past three years.

With the increased focus on pedagogy, writing everyday in all content areas, and the addition of collaborative inquiry, our students have seen a greater percentage scoring in the Exceeds category each succeeding year. The initial three years of data showed a slight increase of three percent between 2008 and 2009. From 2009 there is a noticeable jump of eight percentage points from five percent to thirteen percent. Although the next data point represents only three months of instruction from August to November, there is an increase of 2 percent in Exceeds from thirteen to fifteen percent. This is encouraging data. With just under five months left before this year's AIMS testing, Lake Shore teachers and administrators predict that students will continue to grow in their ability to write effectively and show an increase in the Exceeds category during the spring 2011 AIMS assessment.

Table 4

Percent of 3-8 Grade Students Exceeding on AIMS Writing and Post-Writing Assessment for Research Study

School Year	<i>Exceeds</i> Students	Total Students	Percent <i>Exceeds</i>
Spring 2008	16	732	2
Spring 2009	33	732	5
Spring 2010	92	710	13
Fall 2010	7	47	15

Qualitative analysis. Three types of qualitative data sources, focus group interviews, individual interviews, and research journal entries, were collected and analyzed using a constant comparative method (Lincoln & Guba, 1985). These materials were assembled, sorted into dated perspectives of focus group interviews then subsequent individual interviews, coded, and compared in multiple ways to permit analytic induction while examining similarities between the various verbal and narrative pieces of data. Table 5 displays an inventory of the qualitative data gathered and analyzed for this study.

Table 5

Qualitative Data Sources Inventory

Data Source	Description	Contents	Duration
Group Interviews	One teacher from each primary grade level, K-1-2, one teacher from each intermediate grade level, 3-4-5, and one teacher from each middle grade, 6-7-8. Each group of three teachers met for a focus group interview for a total of three interviews. -	18 pages	661 minutes total
Individual Interviews	Each teacher who participated in a focus group interview then participated in an individual interview. There were nine interviews total.	32 pages	109 minutes total
Research Journal	I used a research journal to record my observations and interpretation. There were seven observations over the months of June through November.	35 pages	12 hours

To begin analysis of these sources, I re-listened to the focus group interviews while reading the transcriptions multiple times for a detailed analysis. I then re-listened to the individual interviews, reading the transcriptions multiple times also for detailed analysis. After listening to the interviews, I noted moments of intensity or passion in the participants' tone of voice and responses. I read through the data several times to obtain a general sense before focusing on the inductive development of themes, codes, and assertions.

After reading the focus group and individual interview transcripts multiple times, I began to circle key terms and phrases that pertained to each of the research questions. I remained open to possible alternative groupings as I repeatedly examined the data. Each question had different groupings of key terms and phrases as related to that question. The selected key terms and phrases were recorded in a spreadsheet to facilitate sorting, organizing, and to note frequency. The selected key terms and phrases were sorted first by data category (i.e., collaboration, efficacy, achievement, instructional practices, etc.), then general observations, and then reflections. Semantic similarities such as “able”, “comfortable”, and “confident” were grouped together as emerging codes. The codes consisted of key terms or phrases that expressed a meaningful pattern for each category.

To ensure the trustworthiness in identifying codes, I enlisted the assistance of two colleagues and a non-educator to review the lists of key words, phrases and categories and independently group them into possible codes. The discussions around the key terms, phrases and categories assisted in refining the final codes. I continued this overall analysis process until the qualitative data were saturated, when I could discern no more meaningful patterns.

Qualitative results. Analysis of data based on group interviews, individual interviews, and the research journal were completed. Table 6 displays the qualitative codes associated with the first research question: What will collaborative inquiry contribute to Lake Shore teachers’ self-efficacy in writing instruction? From this analysis, eleven codes were inductively constructed and

named as follows: (a) conviction, (b) better ways of teaching, (c) awareness of instructional practices, (d) shared knowledge, (e) conversation, (f) problem-solving, (g) accountability for instructional actions, (h) purpose, (i) effective teaching practices, (j) accomplishment, (k) capability. The eleven codes presented in Table 4 represent the qualitative data centered on my first research question.

Table 6
Research Question 1 Qualitative Data Codes

Code	Descriptor
Conviction	An unshakable belief in something without need for proof or evidence.
Better ways of teaching	Effective strategies that enhance teaching (i.e., increased engagement, promoting transfer of learning, expanded assessment, effective and consistent pedagogical practices).
Awareness of instructional practices	Having or showing realization, perception, or knowledge of instruction.
Shared knowledge	Collective or group intelligence that is a shared and emerges from the collaboration of individuals and appears in consensus decision making.
Conversation	The spoken exchange of thoughts, opinions, and feelings; talk
Problem-solving	Thinking that brings together information focused on solving a problem.
Accountability for instructional actions	The trait of being answerable to someone for something or being responsible for one's conduct.
Purpose	A result or effect that is intended or desired; an intention.
Effective teaching practices	Instructional variety; teacher task orientation; engagement in the learning process; and student success rate.
Accomplishment	Something achieved or successfully completed.
Capability	The quality of being able to perform; a quality that permits or facilitates achievement or accomplishment.

Table 7 displays the codes associated with the second research question:

What will collaborative inquiry contribute to Lake Shore students' writing

achievement? This next analysis yielded six codes which were named as follows: (a) tools for teaching, (b) collaborative learning, (c) advancing student learning, (d) talking to think, (e) collective expertise, (f) commitment to results. The six codes presented in Table 5 represent the qualitative data centered on my second research question.

Table 7

Research Question 2 Qualitative Data Codes

Code	Descriptor
Tools for Teaching	A multitude of strategies that enable a teacher to effectively teach.
Collaborative Learning	The idea that learning is a naturally social act in which the participants talk among themselves. It is through the talk that learning occurs.
Advancing Student Learning	Teachers are committed to their student's learning, helping students reach high level goals.
Talk to Think	Sounding out ideas, saying what's on your mind, relying on other teacher's responses, determining a course of action with others.
Collective Expertise	Special skills, knowledge, or judgments; expertness shared and built within a team of teachers.
Commitment to Results	Reassessing traditional beliefs, assumptions and practices, & testing innovative approaches to improving performance. Increased emphasis on using individual data to measure and enhance the success of each.

I sought to triangulate the data sources from both quantitative and qualitative data sources. I also kept in mind the possibility of dissonance and divergence between data results, identifying disconfirming data points to the complexities of social

phenomena such as collaborative practitioner inquiry, self-efficacy, and writing. By utilizing different methods to assess the impact of collaborative inquiry on teacher efficacy and student writing achievement, I planned to develop trustworthy, warranted assertions in response to the research questions.

Chapter 5 Findings

After determining descriptive statistics for the quantitative data and codes for the qualitative data, I conducted an integrative analysis across data sources to construct data-based assertions. This analysis and construction of assertions followed guidelines and examples presented by Smith (1997).

First, I assembled and read the descriptive statistics and codes from all of the data sources several times, all the while taking notes about tentative key linkages within and across the data sources. This was an inductive analytic approach to determining and testing patterns of data. I classified like ideas with like ideas and separated that which I perceived as dissimilar. I identified and wrote reactions to the characteristics I noted in all of the data sets that I deemed relevant (Jang, McDougall, Pollon, Herbert, & Russell, 2008). Based on my multiple readings and conceptualizations of key linkages, I wrote tentative assertions based on the patterns of data.

To refine my assertions, I took one at a time and systematically searched for data that supported or refuted each assertion. This was “an exercise in disciplined skepticism” (Smith, 1997, p. 81). Descriptive statistics, codes, and key linkages that supported or refuted my assertions were recorded on post-it notes and attached to each assertion.

Assertions with a greater number of confirmatory notes across all data sources were given more attention and were considered to have greater validity. If the instances of discrepant notes caused me to doubt an emerging assertion,

then I reworded the language of the assertion so that it applied to all pertinent data.

Finally, as recommended by Stringer (2007), I presented my preliminary assertions to the focus group teachers for member checking. This procedure was an attempt to confirm that my statements adequately represented the teachers' perspectives and experiences, and it provided them opportunities to clarify and develop what I claimed about their perspectives and experiences. The group encouraged me to change my use of the term *instructional problems* to *instructional roadblocks* in my first assertion. Then they approved the wording and contents of all my assertions.

I constructed four assertions, which are presented below:

- Collaborative practitioner inquiry measurably contributed to most Lake Shore Elementary School teachers' efficacy as teachers of writing especially by enhancing their convictions that they could teach writing and solve instructional roadblocks individually and collectively.
- Collaborative practitioner inquiry contributed to substantial improvement in Lake Shore students' writing achievement.
- Collaborative practitioner inquiry contributed to students' writing achievement by promoting teachers' accountability and purposes for instruction.

- Collaborative practitioner inquiry contributed to students' writing achievement by adding to teachers' understanding of writing instruction and fostering continuously improved teaching practices.

Assertion One: Changes in Self-Efficacy and Problem Solving

In response to my first research question, What will collaborative practitioner inquiry contribute to Lake Shore teachers' self-efficacy in writing instruction? I constructed the following assertion: Collaborative practitioner inquiry contributed measurably to most Lake Shore Elementary School teachers' efficacy as teachers of writing especially by enhancing their convictions that they could teach writing and solve instructional roadblocks individually and collectively.

Increased self-efficacy. As reported in Chapter Four, teachers as a group demonstrated moderate gains on the Personal Efficacy construct of the Teacher Efficacy Scale. They generally scored higher on items such as, "If a student did not remember what I taught in a previous writing lesson, I would know how to increase his/her retention in the next lesson" and "If I try really hard, I can help students with the most difficult writing problems." Teachers demonstrated an increase in their expectations that they could solve instructional problems in writing.

Teachers as a group demonstrated slight gains on the General Efficacy construct of the Teacher Efficacy Scale. They generally scored somewhat higher on items such as "The influence of a student's home experience on writing can be overcome by good teaching." Their scores on this construct indicated a slight

increase in their beliefs about their capacity to overcome students' unsupportive outside-of-school conditions that might impede academic learning.

The quantitative results suggesting an increase in teachers' self-efficacy in writing were supported and complemented by data from the focus group and individual interviews. For instance, each of the teachers interviewed in the focus groups indicated that working together, dialoging about student writing and instructional strategies, enhanced their self-efficacy, their beliefs in themselves and their abilities to teach writing. Many referred to increased confidence and comfort as writing teachers. For instance, one teacher said in reference to another teachers comment, "Well I was agreeing with her about having more confidence as a teacher" (FGINT.3G.11-2-10).² As another teacher said, "So now I feel more confident and I'm able to add, change, or create my own writing instruction based on what I've learned through collaborative inquiry" (IINT.6I.11-24-10). A third teacher put it this way,

So even these content area teachers who aren't solid in their writing teaching confidence in what they are able to do; with these collaborative inquiry groups we go as far as giving those teachers ideas, saying like, "Why don't you try..." to give them an idea on how to do their writing within their content area which makes it more comfortable on the teacher

² Parenthetical information specifies data based support for each assertion. The first letter string identifies the data source (FGINT=focus group interview; IINT=individual group interview; OBS=observation). The second letter string identifies the pseudonym for the participant. The numerals identify the date.

which will then be more comfortable on the students. (FGINT.6G.11-8-10)

Throughout the different interviews, teachers reported growth in their teaching abilities. Many of the teachers stated that collaborative inquiry contributed to this growth. As one teacher stated, “The biggest impact for me from the very beginning to now that has changed tremendously is now I can think constantly and come up with all sorts of writing lessons.”(FGINT.6G.11-8-10). Another teacher put it this way, “It’s a learning process for everyone, not just the kids, and that’s the biggest impact that I’ve seen and I feel like I am growing instead of being stagnant and frustrated and throwing things up in the air” (FGINT.7G.11-8-10).

Ability to solve problems. Increases in self-efficacy were based in large part on the teachers’ new regard for their collective and individual problem solving abilities. Regardless of the grade level represented, each teacher made some comment on solving problems including their ability to overcome challenges related to students’ writing. As one teacher said, “I think I have a better idea of problem solving when something happens and it’s not working out well, here is another option here is another pathway” (IINT.7I.11-30-10). Another teacher stated the following about her individual as well as collective approach to finding solutions to problems,

I feel more confident in creating and implementing the new lessons when I see some struggles that some of my writers are having than I did when I was as a teacher three years ago, so that is different. Collaborating with

my team has changed for the positive. We are working together, we're planning our lessons together, we are talking about what are you doing and how is that writer progressing, and what did you do to get that result. (IINT.2I.12-9-10).

Collaborating with others seemed to affect the Lake Shore teachers' self-efficacy because they were sharing what they did in terms of instruction as well as receiving feedback from other teachers, instructors, or educators. It seemed that in those opportunities teachers became better able to reflect on what they did in their own instruction, identifying what worked and whether a certain skill or a certain teaching strategy may have been lacking.

With intense analysis of their instruction and student writing, teachers tended to value solving problems collectively to help meet specific instructional challenges. One teacher said, "You just have other peoples' perceptions of it [the challenge] and other ideas on how to move on. If you are all stuck on the same position you are each determined because you want to find the solution" (FGINT.4G.11-2-10). This belief can be found in a statement from this teacher,

I think that just the way that a teacher teaches writing can have an impact, so I think the collaboration with talking to other teachers and looking at each other's writing and coming up with what we should do next, I think all of that has helped. I mean, I know it has definitely helped me enjoy teaching writing more because I would stumble with the individual difficulty, but now I have some feedback that allows me to help all of the

kids in writing, regardless of whether they are emerging or they are ready to kind of take off. (IINT.4I.11-20-10).

Collaborative inquiry added the collective wisdom of peers for individuals to expand upon their teaching strategies and, in turn, improve instruction. One teacher said,

So we were able to come together and help each other come up with different ideas and different ways of instruction. And even going further was the ability to work as a team which that's where the most impact has come for me was from working with them and seeing how do you include these lessons on the process of writing. (FGINT.6G.11-8-10)

Through the process of consistently meeting together, examining student writing, discussing successes and challenges as well as each individual teacher's results enabled teachers to believe they could impact student writing achievement. As one teacher said,

I like talking about it [student writing] with my team because we do come up with different ways and somebody always has a different idea than somebody else. So it brings different ways of teaching things where we see weaknesses, where I might be still like I tried everything and I can't think of something that is going to get them to that next place where I want them to be ... When you have other people to talk to that maybe have gotten to that point but moved beyond that, they have ideas. Of course, when you are all struggling on the same thing, it really makes you

think together on you know there has to be a way to get there.

(FGINT.4G.11-2-10)

Assertion Two: Changes in Student Writing Achievement

In response to my second research question, What will collaborative practitioner inquiry contribute to Lake Shore students' writing achievement? I developed the following assertion: Collaborative practitioner inquiry contributed to substantial improvement in Lake Shore students' writing achievement.

Increased achievement. As reported in Chapter Four, student writing achievement increased noticeably at all grade levels. As a school, the post-writing mean was 80.84, which was a substantial increase from the pre-writing mean of 57.87. Cohen's *d* for this difference between the means was 1.24, indicating a very large increase in student writing achievement.

The data on student writing scores in the Exceeds Category of AIMS has increased each year and over this past fall with just three months of instruction, increased 2 percentage points from the spring 2011 AIMS writing assessments. Data from the qualitative sources supported and complemented the quantitative results regarding the role collaborative practitioner inquiry played in students' writing achievement changes.

Contributions to achievement. All teachers mentioned the positive impact of collaborative inquiry on their students' learning of writing. In response to a question about how collaborative inquiry has impacted their teaching, one teacher said, "I feel like what I'm teaching is actually coming across to the students. I'm seeing that in their essays and their writing samples that they are

producing” (IINT.7I.11-30-10). A different teacher described her student’s attitude to learn when writing began in her class, “They are sitting on the edge of their chairs and they are ready with their pencils and they are excited” (FGINT.5G.11-2-10).

When teachers examined student writing together, they built a collective expertise among themselves to diagnose problems, identify solutions to implement in their classroom, and increase the writing ability of their students. One teacher said,

I would definitely say, from the collaborative inquiry, really breaking down what students need in terms of being able to write and how we can get them to that point through different ideas and strategies and all the opportunities that they get [*sic*], I would say that their development in terms of the writing skills, from what I see, they’ve become more organized. (IINT.6I.11-24-10).

The link between collaborative practitioner inquiry and student writing achievement can be seen in the practice of setting monthly attainments toward a specific student writing achievement goal in writing. One teacher said, “I think that since we've been setting our goals and collaborating as a team on what is appropriate, their [student] writing skills have improved because we are more focused” (IINT.1I.11-24-10). Another teacher said, “I think their writing skills have increased, because they know exactly what it is that I'm looking for. Last month it was the four or more on organization, and we talked about it every day” (IINT.5I.11-24-10).

Further evidence for collaborative practitioner inquiry being a factor in students' writing achievement is shown with this primary-grade teacher's statement, "My instruction has changed [as a result of collaborative inquiry], being more focused, which then produces excited writers. When [my students] are excited to start writing, it's not a dreaded thing" (IINT.2I.12-9-10). She also stated, "I think it has impacted the way children learn because we are focusing in on a goal, and we are directing our teaching towards meeting our goal, so it narrows down what we are teaching (IINT.2I.12-9-10).

Another example of how teacher collaborative practitioner inquiry impacted student learning is shown in the sharing of ideas across the data team. Data teams discussed strategies to implement in their classroom and, for the most part, settled on one or two strategies that they would each implement in their classes for students learning. One teacher shared this,

It impacts the way [students] are learning in that we get ideas from each other and we use the ones that work so that it makes it easier for the children to learn. So when we find a way that works for the little guys then we are all doing it together so that is impacting how [students] are learning and the children are better for it. (IINT.1I.11-24-10)

Teachers asserted that collaboratively together, discussing student writing, teaching practices, and being able to improve student achievement not only energized teachers but also translated into the classroom with even more student achievement. As one teacher put it, "Truly I'm excited about writing so [my students] get excited about writing and then it is easier for me to teach [writing]

and it is easier for them to understand and apply it” (IINT.5I. 11-24-10). Another teacher said, “I have definitely even noticed students from the beginning of the year to the end of the year they even say, Oh my gosh, I’ve never been able to even write a five paragraph essay before, and look, I wrote two pages” (FGINT.6G.11-2-10))

With increased confidence in their instruction, teachers saw increased student achievement. A middle school teacher said,

I think that the writing instruction itself has improved drastically. In my part and around the school, I feel much more comfortable teaching writing. I feel like what I’m teaching is actually coming across to the students. I’m seeing that in their essays and the writing samples that they are producing. (IINT.7I.11-30-10)

Assertion Three: Changes in Accountability and Purpose

My third assertion about the contribution of collaborative practitioner inquiry to Lake Shore students’ writing achievement is as follows: Collaborative practitioner inquiry contributed to students’ writing achievement by promoting teachers’ accountability and purposes for instruction. This claim emphasizes some of the ways in which collaborative practitioner inquiry influenced the Lake Shore teachers’ actual instruction and their students’ writing. The links among students’ writing achievement and teachers’ accountability and purpose were supported by the qualitative data sources.

Teacher accountability. According to the teachers, accountability increased when they brought student work to their collaborative inquiry sessions

and assessed student progress toward the grade level goal set the previous month. As one teacher said, “Yeah part of that process is an accountability thing ... [collaborative inquiry] has definitely made me up my ability as a teacher if I know that the next time I have to have data to prove ‘Did you make the goal; did you not make the goal’” (FGINT.5G.11-2-10).

Having the same goals as everyone else on the grade level team seemed to make teachers’ grade level teams more cohesive and time conscious. As one teacher said, “Just knowing that you have a target date when you want to have everything completed keeps you on track and not wandering during your writing time or getting off task” (FGINT.3G.11-2-10).

Increased purpose. Meeting together to examine student writing and seeing that their peers had the same challenges seemed to build a sense of goal-directed purpose. One teacher put it this way, “Now [my grade level team of teachers] are on the same page. I think that before that we were maybe floundering a little bit. We were writing the way we thought we should write, and the person next door, they were writing the way they thought they should write. And now we're all on the same page writing the same way and reaching a goal” (FGINT.1G.11-9-10).

Prior to collaborative inquiry, teachers were teaching the way they thought they should teach, but without communication and collaboration among each other at a grade level, the differences in what students received in instruction varied widely classroom to classroom with little to no consistency between classrooms. As one teacher put it, “We were writing the way we thought we

should write. The person next door was writing the way they thought they should write. Now we're all on the same page writing the same way and reaching a goal” (FGINT.1G.11-9-10).

As a campus, teachers appeared to be more purposeful in what they did with student writing (i.e., varying instructional strategies; specific task orientation to reach a goal; engaging students in the learning process; and celebrating student success). Collaborative inquiry seemed to be a factor in developing a sense of cohesiveness in setting goals to achieve greater gains. As one teacher expressed,

I would definitely say now with the collaborative inquiry we are creating focuses and we are creating goals to achieve which has never been seen by me at different places. So having a goal to achieve, there's focus, there's what you've got to work up to so you can plan accordingly ... It just fits into place each time so there is growth each time. But if there is no goals, then free for all, and there is no focus, and that's confusing to some.

(FGINT.7G.11-8-10)

That collaborative inquiry helped individual and grade level teachers' focus on specific goals with students was apparent in much of the data. Participants reported searching for commonalities within their classes, so it was not simply writing that occurred in individual classrooms but writing that occurred within a grade level as a whole. One teacher said, “I think it kind of gives you a bigger picture about what challenges you have and then you can focus on really specific goals to help them improve their writing (FGINT.KI.12-6-10). As another teacher stated, “I just get a lot from the discussions that we have about

writing and what works best for the kids. I think it kind of makes you focus on what is important.”(FGINT.KI.12-6-10). Finally, a third teacher put it this way,

Now that we are collaborating, we all know exactly, it's all written down, we know what we've got, we know what we're expecting and we know where we are going, and that's what the collaboration has done for us. For me I know I'm a better teacher of writing because I have a clear vision ahead of me. (IINT.1I.11-24-10)

Assertion Four: Changes in Understanding and Improving Writing

Instruction

My fourth assertion about the contribution of collaborative practitioner inquiry to Lake Shore students writing achievement is as follows: Collaborative practitioner inquiry contributed to students’ writing achievement by adding to teachers’ understanding of writing instruction and fostering continuously improved teaching practices (i.e., increased engagement, promoting transfer of learning, expanded assessment, effective and consistent pedagogical practices). These links among students’ writing achievement and teachers’ changes in understanding were supported by the qualitative data sources.

Improving understanding. By providing each other feedback based on student writing and from that initial discussion then providing ideas and strategies to address next steps in students learning, teachers who taught writing as well as non-writing teachers were able to come together and increase their depth of knowledge about writing instruction. Teachers worked together on specific writing genres or the 6-traits model of writing, examining common and

uncommon student miscues in writing. Such work seemed to play a part in teachers becoming more familiar with how to look at data, extrapolate next steps for instruction, and know which strategies to use for a specific writing miscue. As one teacher said,

I know that writing was always something I struggled in as a teacher and I was looking at the clock realizing that I were out of material...okay ideas, I don't know. But now that I've got so many more tools in my tool box that I can be throwing at my kids I look at my clock and we only have five minutes left...where did it go? (FGINT.5G.11-8-10)

In addition, based on feedback received from colleagues in data teams, collaborative inquiry seemed to impact the way teachers chose to teach writing. It seemed that feedback given during the collaborative inquiry process tended to nourish teachers' instructional skills, help them identify specific teaching strategies, and reflect on their own practices related to writing instruction. As one teacher shared,

[Collaborative inquiry] does definitely impact the way I teach because you are not only sharing what you do in terms of instruction but you also, within writing, get feedback from other teachers or instructors, professionals of some sort, and in those opportunities you are also reflecting on what you do. You see what works and you see what maybe lacking; a certain skill or a certain teaching strategy and you pick up on what other people are doing that you may not be doing that is necessary. (IINT.6I.11-24-10)

Many of the teacher interviews showcased how they felt better prepared to help students make progress. This was said to be due in part to a clearer focus and expanded knowledge base on how to teach writing, including specific strategies they could use in their instruction. This idea is displayed in the following teacher's statement about her ability to teach writing,

I think that I am much more effective but I understand what I'm doing. I have enough training by good people to understand and have enough practice to go back and apply it and work with good people and use my team. So when everybody understands it, and can use it more often, then yeah, you are going to grow and you are going to see yourself growing and changing and this year really pushing myself and everything that I'm learning and bringing it back and ironing it out. I would say I'm now standing at the top of that hill looking for the next hill to climb.

(IINT.5I.11-24-10)

Improving practices. Links among collaborative practitioner inquiry, continuously improved practices, and student growth were apparent in much of the focus group and individual interview data. For instance, many teachers mentioned that meeting together in data teams gave them the opportunity to set a common goal, as noted earlier, but several noted that shared the learning goal with students was important. Many teachers posted goals, talked with students about them, and encouraged each student to take ownership of them. One teacher shared,

I just understand it [data teams] more and I understand that okay I'm going to teach this goal, I'm going to tell my kids what the goal is, I'm going to post the goal, I'm going to hold kids accountable for the goal, we're going to have it in our class meeting and then we are going to work towards the goal. And if I make it, that's great, and if I don't make, I know how to deal with it. (IINT.5I.11-24-10)

Teachers started to take more time with individual student writing through a writer's workshop or writing conference format. One teacher shared how her practice had changed and impacted student's view of their own learning. She stated,

It opened up some of that time for me to actually collaborate with the kids and as far as the communication part they will talk about their writing more. Before we would sometimes be rushed to try to talk about their writing and it didn't really help them move on. I think that's why they would have been okay with, you know this is where I'm at, I got a four in word choice and I'm okay with a four. But now when we get down and talk and ask them questions about their writing or they tell something about their writing and we ask more questions, I think that has helped move the kids along in writing too. (IINT.4I.11-30-10)

Collaborative inquiry gave teachers the time to talk and build a culture of continuous improvement within each team as teachers of writing. One teacher stated, "There is always room to be better. I think after one change you have to want to be a better teacher. At the end the kids are what benefit from all of this"

(IINT.5I.11-24-10). Another view is the professional dialogue provided a way for teachers to look at their teaching practice, ask questions about it, looking at the results of their instruction in the form of student writing and determining how to improve. One teacher agreed with this sentiment saying, “I am more willing to try everything to teach my kids everything that we've learned and then if they don't fully grasp I come back to it” (IINT.3I.11-30-10). This idea of continuous improvement as an educator meant reassessing previous more traditional beliefs about instruction, student learning, and identifying innovative approaches to improve student performance. One teacher summarized this thought by saying,

This is something that I feel like I have grown in and I am continually trying to improve them [students]. I'm seeing students do this as well and I'm getting more ideas about what works best and what's not working. And the more opportunities we have to share with one another, the teachers, the more we grade, the more we find out what we need to do to accomplish those goals. So I think it is more effective. I think that personally I feel more comfortable therefore I'm probably doing a much better job than I would have been...instead of well I'm not really sure what I'm doing but here is a lesson, go do it.(IINT.7I.11-30-10).

Another teacher put it this way,

I would say it is impossible to nearly impossible for a student's writing achievement to increase if a teacher is not collaborating with professionals to enhance their own writing instruction. So if we are not collaborating

and questioning and viewing and changing our ways, then how are students ever going to improve? (IINT.6I.11-24-10)

Chapter 6 Conclusion

Discussion

Prior to this research study, as mentioned in Chapter Two under Previous Action Research, each previous action from introducing collaborative practitioner inquiry to providing teachers with a method for teaching writing (Write From the Beginning) and becoming more familiar with each of the writing traits laid the groundwork for this current cycle of research. More importantly, each previous cycle utilized collaborative practitioner inquiry as the main component of building teacher efficacy and student achievement in writing.

Three constructs were the impetus for this study: collaborative inquiry, teacher efficacy, and student achievement. As the principal of Lake Shore Elementary School, my action research goal was to ascertain the contribution of school personnel meeting consistently in a collaborative inquiry format to teacher efficacy and student achievement. I believed that teachers taking the time to talk and think about student writing successes and challenges, sounding out ideas together, relying on other teachers' responses for feedback, and collectively determining a course of action would help build teacher efficacy.

In addition, I believed that building the collective knowledge base of teachers through goal setting, planning and implementing similar pedagogical practices, and ongoing dialogue centered on writing would increase student achievement. These two beliefs were embedded in the research questions for this study. The results and findings of this study generated through observation,

teacher interviews, the efficacy survey, and students' writing samples provided credible support for these beliefs.

Professional literature connections. When the Lake Shore teachers met together during collaborative inquiry, they expanded and increased their thinking about instructional practices related to writing and student writing achievement through their interaction with the teachers in each data team and in collaboration with their peers. This finding links specifically with Vygotsky's (1993) social learning theory as presented in Chapter Two. Social learning theory promotes the idea that learning occurs best through interaction and collaboration with peers. Learning is embedded within social events such as data teams and occurs when teachers interact with other teachers, with objects such as student writing, and with events such as a specific writing strategy and writing for students all within the environment of the school. In addition, common understandings were formed through shared actions and communication between teachers. Collaborative practitioner inquiry made the most of social learning theory by providing the means for shared action and communication through data team dialogues. For Lake Shore, the shared understandings accomplished during data team collaborative inquiry seemed to be the essential ingredient in bringing about both cognitive and instructional changes in teachers.

As presented in Chapter Two, Bandura's (1993) theory of social cognition puts forward the idea that a considerable capacity for learning occurs among peers particularly when those who are most skilled and capable model efficacious styles of thinking and behavior for individuals to adopt. Collaborative practitioner

inquiry made the most of socio-cognitive theory by enabling teachers at each grade level whose belief in their own competence as writing instructors, who had the student writing data and practices to back up that belief, dialogued with their less efficacious peers. Through social persuasion and vicarious experiences, the efficacious teachers helped others grow as teachers of writing. This was especially true for several middle grade content area teachers who initially lacked the confidence, skills, and instruction strategies to effectively not only teach writing but have students write within their content areas.

The gains in Lake Shore students' writing achievement documented in this report are consistent with the disciplinary research in writing presented earlier. For instance, Troia and Graham (2003) indicate that the quality of instruction is one of the greatest predictors in writing achievement. Graham and Harris (2000) point out that exceptional teachers of writing adjust instructional methods, materials and expectations to further enhance student performance in writing. Lake Shore teachers, as a whole, improved their writing instruction through collaborative inquiry, enhanced pedagogy, and a focus on student writing. As noted in this report's findings, many teachers mentioned during the focus group and individual interviews that they believed they had a greater repertoire of instructional strategies, additional resources in the form of their peers and collaborative inquiry, higher expectations for their student writers, and an efficacious attitude in helping their students overcome roadblocks in writing. Their comments centered about collaborative practitioner inquiry promoting problem solving, accountability, purposeful instruction, new understandings, and

a culture of continuous improvement relative to their writing instruction. The school's cultural and historical context of monthly data team meetings where teachers bring student writing, actively participate in collaborative inquiry centered on student writing, set collective goals, and work on a focused skill with students, worked to improve student writing achievement in a manner consistent with the research on writing that was reviewed earlier.

The review of scholarship found in Chapter Two supports the findings in this action research study. The relative success of Lake Shore teachers instruction and student achievement in writing can be aligned to the collaborative practitioner inquiry found in the Data Writing Team process. The school in general and the data teams in particular formed unique cultural systems influencing what teachers learned through formal and informal conversations about their own and other students' writing. This is consistent with socio-cultural theory. Along with the systems of teachers working together to identify student writing miscues and ways to address those miscues, teachers became their own agents making decisions for their students based on conversations and feedback. This is consistent with socio-cognitive theory.

Reflections. As a result of conducting this study, I learned that teachers who have the time to meet, talk, and think together form a great focus as a grade level and, in turn, a purpose for what they do in the classroom. This enhanced focus translates to a laser-like awareness of what needs to be taught and how to teach for individual and group mastery. In addition, with greater focus on the teacher's part, there is greater focus for students themselves in the classroom.

An unexpected new idea for me involved the content area teachers who do not teach writing formally but who are required to include writing daily. They were able to gain considerable knowledge and confidence from being a part of the collaborative inquiry discussions. At the beginning of this study, many times these content teachers did not feel they could bring student writing that had meaning toward the discussion; however, now teachers of content areas outside of language arts bring writing their students have accomplished in their classrooms. They follow the data team goal and post it in their classrooms.

A welcome discovery was that student writing achievement was impacted substantially by the focused conversations teachers had about student writing. It was expected that students will gain writing skills as the year progresses; however, the increase school-wide from the beginning of the study to the end certainly makes an argument for focused dialogue centered on student writing as a strategy that can and should be employed to raise student achievement at Lake Shore Elementary School.

I found in talking to the nine teachers through the focus group interviews then individual interviews that many, if not all of them, found an intrinsic value to having focused time to talk with their peers on a single topic, in the case of this study, writing. Many times, as educators, we meet to collaborate and learn; as a leader, I am not always sure if teachers do this because they have to or because they find value in the conversations. Hopefully, these nine teachers, who were grade level representatives at the elementary level and Language Arts teachers at the middle level, were a representative sampling of teachers across the grade

levels within my building, and, as such, the value they found in collaborative practitioner inquiry could also be found by the majority of teachers at Lake Shore School.

Through this study, I learned a few things about myself as an educational leader, which was not a focus of the research reported here. I became quite aware that I need to follow what I know works for me as a leader. For example, I generally try to place myself in a teacher's role, looking at the existing stressors in their day to weigh the advantage of adding a new stressor, such as a new school-wide initiative, against the possible push back from teachers. Being aware of the timing of introducing a new initiative or task is also something I try to gauge carefully. Additionally, I prepare my teachers for change in advance, rather than spring something new on them simply because it is the newest change from the district level. I found that asking teachers to do something this past fall, which I had not prepared them for last spring, caused a major delay in moving forward with data collection and goal setting.

I also found that being aware of initiative fatigue is important not only for my teachers but for myself. I cannot manage or monitor multiple new initiatives effectively, and this can have a serious impact on the fidelity of implementation and future success of the initiative in the long run. If I had this past fall to do over, I probably would not have started four new initiatives all at once in addition to the action research reported here.

Implications for Practice

The research on collaborative inquiry centered on writing will be of benefit to me and Lake Shore Elementary School teachers and students. A next step for writing achievement will be to build in more opportunities to celebrate student writing. This might look like a Writer's Showcase where each teacher would select one or two student's *All Write Day* writing to be showcased with other writers from their grade level along with me along. The Writer's showcase would be in conjunction with individual recognition at the quarterly Pride Award Assemblies.

A challenge recently has emerged with math instruction and achievement. With the Arizona common core standards in math due out in 2011, and math practices and pedagogy still mainly lecture, drill and skill, and rote memorization, our school needs to find a way to change practices in a safe and productive environment. Looking at students' math problem solving and math miscues can be the next area of focus for collaborative inquiry to enhance teacher efficacy, change instructional practices, and increase math achievement. In fact, I have already talked to the Math Action Team about making the focus of our Data Team meetings next school year on mathematics instruction, student work, and student achievement. Because this is a practice that is part of the school culture, making the switch to a new content area should be smooth.

Implications for Research

Over the past two and a half years I used action research to determine the extent to which changing pedagogy, introducing collaborative inquiry, focusing

on the 6-traits of writing, and expecting writing to be taught everyday in every class and content area would enhance teachers' beliefs that they can teach writing effectively and impact student achievement. Because student writing achievement, teacher efficacy, and collaborative inquiry have been a focus for longer than just this past fall, it is hard to determine which of these changes had the most substantial impact on teacher efficacy and student achievement. Certainly the data suggest that each of the changes impacted both teacher efficacy and students' achievement; however, which change (i.e., changing pedagogy, introducing collaborative inquiry, focusing on the 6-traits of writing, and expecting writing to be taught everyday in every class and content area) may have had the greatest impact is difficult to ascertain. In both focus group interviews and individual interviews, each of the above changes was mentioned by all of the teachers as a factor positively impacting their teaching practices and subsequent student achievement. Attempts to repeat the findings of this study in another situation would be very complicated because this study involved a distinctive constellation of changes occurring within a distinctive context. Attempts to determine which changes contributed more than others also would be complicated because each change affected the others in complex ways; they did not work alone.

The Teacher Efficacy Scale results are somewhat puzzling. The increase in Personal Efficacy was moderate, yet the increase in General Efficacy was only slight. Further, the General Efficacy results were not repeated in the focus or individual interviews, where teachers reported believing they could make a

difference in student writing achievement regardless of external factors. One possible explanation for the merely slight increase on the General Efficacy scale involves its type of items. Each of the items focuses on the impact of the home and family situation on writing achievement. Perhaps the teachers believed they could accommodate students' home and family situations less effectively than they could accommodate other external factors such as students' friends, communities, and popular culture. The reason for these discrepant results deserves further investigation.

The power of action research is that it is a living type of research that is impacted by not only the original area of study but by ongoing reflections on practice and changes implemented (Stringer, 2007). In the case of my action research to improve teacher efficacy and student achievement in writing, the successive iterations enabled data collection at different periods of time across multiple semesters. I am fortunate to have had the opportunity for long-term assessment of the effects of each data set observed in previous iterations

My next step is to take what I have learned in affecting change in students' writing achievement to a new content, specifically math. A possible question may be, "What will student data folders and classroom data centers contribute to student achievement in math?" or "What will setting SMART math goals contribute to effective teaching practices in math?" Both questions require systematic reflective study of change in the classroom and teaching practice and the ensuing effect of these actions in the classroom. Both questions involve deep inquiry into teacher and student action.

Closing Word

The most satisfying accomplishment of my action research is that change occurred. This is most likely due to the impact collaborative practitioner inquiry had on both enhanced teacher efficacy and increased student achievement in writing. My greatest learning comes from the understanding that sustained and focused examination of work encourages educators to seek improvement.

Through a series of reflective semesters, action research has provided me a way of gaining data-based knowledge and learning from my experience as a building principal and school leader. With each successive iteration of action research, the question(s) and design of research improved, and, in turn, each became a part of the story of changing practice, belief in one's practice, and increased student achievement.

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APPENDIX A

ARIZONA WRITING STANDARD PERFORMANCE LEVEL DESCRIPTORS

Grade	Performance Level	Writing	
3 rd	Falls Far Below	Suspended for 2010	
	Approaches		
	Meets		
	Exceeds		
4th	Falls Far Below	Suspended for 2010	
	Approaches		
	Meets		
	Exceeds		
5th	Falls Far Below	255-393	0-9
	Approaches	394-496	10-1
	Meets	497-614	19-27
	Exceeds	615-740	28-36
6th	Falls Far Below	275-406	0-11
	Approaches	400-503	11-18
	Meets	504-629	27-36
	Exceeds	630-760	27-36
7th	Falls Far Below	290-406	0-11
	Approaches	407-509	12-18
	Meets	510-644	19-28
	Exceeds	645-770	29-36
8th	Falls Far Below	Suspended for 2010	
	Approaches		
	Meets		
	Exceeds		

APPENDIX B

ACTION PLAN

Preparation: June & July

Week Number	Date	Action
1	June 2010	Focal teachers will participate in training for effective use of writing conferences. Teachers will be trained on the effective use of peer and teacher conferencing. The focus of the training will include: <ol style="list-style-type: none"> 1. How to collect data during and following a conference 2. Understanding a simple framework for teacher/student conferences 3. Training students on peer conferencing possibly using a considering-while-writing and writing-while-considering process as a design process framework
2	June 2010	Offer book/online study (The Digital Achievement Gap) for digital literacy skills centered on communication and collaboration in writing.
3	June 2010	Determine formal collaborative inquiry dates and processes for examining student writing.

Implementation: August – December

Week Number	Date	Data Teams	Grade Level Teams	Cross Grade Teams
1	August 2-6			Meet with Action Team Leaders to review AIMS data
2	August 11-13	Identify celebrations and challenges from AIMS data; Teachers receive training of writer's workshop and student writing conferences (Pre-service days)	Identify celebrations and challenges from AIMS data (Pre-service days)	

3	August 27	Set goals for student achievement in meets and exceeds categories (Early release professional development)	Teachers share grade level Big Hairy Audacious Goals BHAGs for writing with students. These are goals that set the achievement bar so high it seems unlikely one could ever attain them. (Early release professional development)	
4	September 2	Teachers bring scored student writing from pre-assessment prompt; ID area of need, create SMART goal, ID strategies to reach goal (Data Team Thursday)	Teachers share writing goal with students and parents, and post it up in their classroom. (Data Team Thursday)	Grade levels meet above and below to share pre-assessment writing and information about students. (Data Team Thursday)
5	September 7-10		Teachers implement strategies to meet the September goal including writing conferences in their classrooms.	

6	September 13-17		Teachers implement strategies to meet the September goal including writing conferences in their classrooms.	
7	September 23	Teachers bring scored student writing from previous months SMART goal; ID if they achieved the goal and ID area of need, create SMART goal, ID strategies to reach goal (Data Team Thursday)	Teachers share how students did in achieving the September goal. Teachers share new writing goal with students and parents, and post it up in their classroom. (Data Team Thursday)	
8	September 27-October 1		Teachers implement strategies to meet the October goal including writing conferences in their classrooms.	

9	October 4-8		Teachers implement strategies to meet the October goal including writing conferences in their classrooms. The first All-Write day occurs the morning of the early release.	
10	October 12-15		Teachers implement strategies to meet the October goal including writing conferences in their classrooms.	
11	October 18-22		Teachers implement strategies to meet the November goal including writing conferences in their classrooms.	

12	October 28-29	<p>Teachers bring scored student writing from previous month SMART goal; ID if they achieved the goal and ID area of need, create SMART goal, ID strategies to reach goal (Data Team Thursday) Teachers receive follow-up training on writer's workshop and writing conferences</p> <p>(Early release)</p>	<p>Teachers share how students did in achieving the September goal. Teachers share new writing goal with students and parents, and post it up in their classroom. (Data Team Thursday)</p>	
13	November 1-5		<p>Teachers implement strategies to meet the November goal including writing conferences in their classrooms.</p>	
14	November 8-12		<p>Teachers implement strategies to meet the November goal including writing conferences in their classrooms.</p>	

15	November 18	Teachers bring scored student writing from previous month SMART goal; ID if they achieved the goal and ID area of need, create SMART goal, ID strategies to reach goal (Data Team Thursday)	Teachers share how students did in achieving the October goal. Teachers share new writing goal with students and parents, and post it up in their classroom. (Data Team Thursday)	Grade levels meet above and below to share student writing and information about students. Teachers share writing successful strategies. (Data Team Thursday)
16	November 22-24		Teachers implement strategies to meet the December goal including writing conferences in their classrooms.	
17	November 29-December 3		Teachers implement strategies to meet the December goal including writing conferences in their classrooms.	

18	December 6-10		The second All-Write day occurs the morning of the early release.	
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APPENDIX C
RESEARCH PLAN

Week Number	Date	Data Collection
	June, 2010	Research Journal: Reflections and Observations from Book Study
1	August 9-13	K-8 staff complete the Teacher Self-Efficacy Survey (Scale)
	August 11-13	Research Journal: Reflections and Observations on teacher training for writing conferences and collaborative inquiry
2	August 16-20	K-8 students complete the CIP pre-writing writing sample Randomly identify 10% of student population to use writing samples in this study
3	August 23-27	Research Journal: Reflections and Observations on collaborative inquiry process
3	August 30-September 3	Research Journal: Reflections and Observations on collaborative inquiry process
4	September 6-10	Research Journal: Reflections and Observations on student achievement based on the pre-writing writing sample
5	September 13-17	Research Journal: Reflections and Observations on collaborative inquiry process
6	October 25-29	Research Journal: Reflections and Observations on collaborative inquiry process
7	November 15-19	Research Journal: Reflections and Observations on collaborative inquiry process
8	November 22-24	Conduct Focus group interviews and Research Journal: Reflections and Observations on focus group interviews
9	Week of November 29	Conduct individual teacher interviews and Research Journal: Reflections and Observations on individual teacher interviews
10	December 6-10	K-8 students complete the pre-writing writing sample
11	Week of December 13	Analyze student CIP writing sample scores and Research Journal: Reflections and Observations on student writing achievement as it relates to their teachers perception of self-efficacy

APPENDIX D
OVERVIEW OF DATA SOURCES

Teacher Efficacy			
Data Source	When?	Who?	Why?
Teacher efficacy scale	Pre-post August/November	All teacher participants	Show growth of efficacy
Focus Group Interviews	November	Teacher focal groups	Triangulate, complement and expand results to inform results of teacher efficacy scale
Individual Interviews	November	Participants from the teacher focal groups	Triangulate, complement and expand results to inform results of efficacy scale and focus group interviews
Research Journal	June-December 7 observations	Researcher	Observations and field notes

Student Writing Achievement			
Data Source	When	Who	Why
CIP Writing Samples	Pre-post August/November	10% random sampling of students in each grade, K-8	Show growth/lack of growth in writing achievement
Focus Group Interviews	November	Teacher focal groups	Triangulate, complement and expand results to inform results of CIP writing samples
Individual Interviews	November	Participants from teacher focal groups	Triangulate, complement and expand results to inform results of writing samples and focus group interviews
Research Journal	June-December 1-2 X per week	Researcher	Observations and field notes

APPENDIX E

TEACHER EFFICACY SCALE FOR WRITING

1. When students' writing performance improves, it is usually because I found better ways of teaching that student.
SA A D SD
2. Even a good writing teacher may not reach many students.
SA A D SD
3. If a student did not remember what I taught in a previous writing lesson, I would know how to increase his/her retention in the next lesson.
SA A D S
4. The hours in my class have little influence on students' writing performance compared to the influence of their home environment.
SA A D SD
5. If a student masters a new writing concept quickly, this is because I knew the necessary steps in teaching this concept.
SA A D SD
6. If I try really hard, I can help students with the most difficult writing problems.
SA A D SD
7. When a student does better than usual in writing, it is because I exerted a little extra effort.
SA A D SD
8. If students are not disciplined at home, they are not likely to accept any discipline during the writing period.
SA A D SD
9. When a student is having difficulty with a writing assignment, I would have no trouble adjusting it to his/her level.
SA A D SD
10. The influence of a student's home experience on writing can be overcome by good teaching.
SA A D SD
11. A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on his/her writing achievement.

SA A D SD

12. If one of my students could not do a writing assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.
SA A D SD
13. The amount a student can learn in writing is primarily related to family background. SA A D SD
14. If a student becomes disruptive and noisy during writing time, I feel assured that I know some techniques to redirect him/her quickly.
SA A D SD
15. When students' writing performance improves, it is usually because I found more effective teaching approaches.
SA A D SD
16. If parents would do more in writing with their children, I could do more.
SA A D SD

APPENDIX F
FOCUS GROUP INTERVIEW PROTOCOL

<p><i>Introduction</i> (1-2 <i>minutes</i>)</p>	<p>Thank you for taking the time to come together for this focus group discussion with me today. This discussion will probably take about 60 minutes to complete. As I mentioned to you before, we're doing this focus group with some of the teachers in this school who have participated in collaborative inquiry this year. The information from your discussion will be pulled together and used to help our teachers better understand the impact of collaborative inquiry on teacher efficacy and student achievement. It will also be used in my doctoral dissertation.</p> <p>The information you share today will be used for this purpose only. You will not be identified by name or recognizable in any way in the report I prepare. However, although I encourage it, I cannot guarantee such confidentiality from the other participants here. If, for any reason, you don't feel comfortable sharing something with the whole group, please feel free to contact me outside of the group setting and we will arrange a individual interview.</p> <p>Please note that we are not trying to achieve any kind of consensus within this group, but rather, want to hear all different points of view. You are different people with different experiences; therefore you will likely have different points of view to share. Please be respectful of your colleagues during this discussion, avoiding side conversations and dominating the discussion.</p>
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<p>Groundrules (1-2 minutes)</p>	<p>To allow our conversation to flow more freely, I'd like to go over some groundrules.</p> <ol style="list-style-type: none"> 1. Please talk one at a time and avoid side conversations. 2. Everyone doesn't have to answer every single question, but I'd like to hear from each of you today as the discussion progresses. 3. This will be an open discussion ... feel free to comment on each other's remarks. 4. There are no "wrong answers," just different opinions. Say what is true for you, even if you're the only one who feels that way. Don't let the group sway you. But if you do change your mind, just let me know. 5. Just let me know if you need a break. The bathrooms are located to the right and down the hall on the left.
<p>Introduction of participants (3 minutes)</p>	<p>Let's go around the table and introduce yourselves, indicating any relevant information, e.g., grade you teach and how long you have taught science.</p> <p>Now, let me share with you a number of questions that I hope you'll be able to address during our time together. Start wherever you wish. I'll be here primarily as a listener, taking notes. I will be tracking which questions you address and may jump in from time to time to lead you in another direction or to bring you back on topic should you stray.</p>
<p>General questions (20 minutes)</p>	<p>Over the past three years we have focused on collaborative inquiry as a way to impact teaching practices and student achievement in writing.</p> <p>Tell me your definition, with examples of collaborative inquiry at our school.</p>

<p><i>Specific questions</i> (20 minutes)</p>	<p>Do you think collaborative inquiry centered on writing instruction impacts the way you teach? If so, how?</p> <ul style="list-style-type: none"> • What looks different about writing instruction? What makes you think this? • What looks the same? What makes you think this? • To what extent are you a stronger teacher of writing because of collaborative inquiry? <p>Does collaboratively working with your fellow teachers impact the teaching strategies you currently use? If so, how?</p> <ul style="list-style-type: none"> • If I were watching you use these strategies, what would I see? Please describe 2-3 scenarios. • Are you a more confident teacher of writing? Why/why not? <p>What kind of impact, if any, do you think using collaborative inquiry has on your belief that you can positively impact student achievement?</p> <ul style="list-style-type: none"> • Writing instruction? Examples? • Necessary steps in teaching a writing skill? • More effective teaching practices?
<p><i>Closing</i> (5 minutes)</p>	<p>I would like to thank you for your participation. I also want to restate that what you have shared with me is confidential. No part of our discussion that includes names or other identifying information will be used in any reports, displays, or other publicly accessible media coming from this research. Finally, I want to provide you with a chance to ask any questions that you might have about this research. Do you have any questions for me?</p>

APPENDIX G
INDIVIDUAL INTERVIEW PROTOCOL

<p><i>Introduction</i></p> <p><i>(1-2 minutes)</i></p>	<p>Thank you for taking the time to share your thoughts with me today. This discussion will probably take about 30 minutes to complete. As I mentioned to you before, we're doing this individual interview with some of the teachers in this school who have participated in collaborative inquiry this year. The information from your discussion will be pulled together and used to help our teachers better understand the impact of collaborative inquiry on teacher efficacy and student achievement. It will also be used in my doctoral dissertation.</p> <p>The information you share today will be used for this purpose only. You will not be identified by name or recognizable in any way in the report I prepare. However, although I encourage it, I cannot guarantee such confidentiality from the other participants here.</p>
<p><i>General questions</i></p> <p><i>(5 minutes)</i></p>	<p>Over the past three years we have focused on collaborative inquiry as a way to impact teaching practices and student achievement in writing.</p> <p>How are you feeling about writing instruction now?</p>

<p><i>Specific questions</i> (20 minutes)</p>	<p>Do you think collaborative inquiry impacts the way you teach? If so, describe the extent to which your teaching of writing has changed since beginning collaborative inquiry with your team.</p> <ul style="list-style-type: none"> • What looks different? What makes you think this? • What looks the same? What makes you think this? <p>Do you think teacher collaborative inquiry impacts the way children learn? If so, how?</p> <ul style="list-style-type: none"> • What changed? • What looks different? What makes you think this? • How does it look the same? What makes you think this? <p>What kind of impact, if any, do you think having the opportunity for teacher collaborative inquiry had on children’s overall development?</p> <ul style="list-style-type: none"> • Writing skills? Examples? <ul style="list-style-type: none"> • Communication skills? Examples? <p>Please draw a picture that illustrates student writing achievement.</p>
<p><i>Closing</i> (5 minutes)</p>	<p>I would like to thank you for your participation. I also want to restate that what you have shared with me is confidential. No part of our discussion that includes names or other identifying information will be used in any reports, displays, or other publicly accessible media coming from this research. Finally, I want to provide you with a chance to ask any questions that you might have about this research. Do you have any questions for me?</p>

APPENDIX H
SIX-TRAITS WRITING RUBRIC

	Below Expectations (2 Points)	Meets Expectations (4 Points)	Exceeds Expectations (6 Points)
Organization	Ideas, details, or events seem loosely strung together, usually lacking a real lead (thesis).	The organizational structure allows the reader to move through the text without undue confusion, and includes a lead (thesis).	The order, presentation, or internal structure of the writing is compelling, and guides the reader purposefully through the text, with a strong lead (thesis).
Content / Ideas	Sketchy information forces the reader to make inferences, and the paper usually includes an unclear topic, and limited or unrelated details.	The writing has a solid beginning with a defined topic, but is weakened by generalities and/or poor support.	The text is clear, well-supported, and developed, enhanced by the kind of detail that keeps readers interested.
Voice	The text lacks life, spirit, or energy, usually because the writer is distanced from the audience, topic, or both.	The writing seems sincere and willing to communicate with the reader on a functional level.	Energy and passion for the subject drive the writing, making it lively, expressive and engaging.
Word Choice	Limited, vague, or redundant vocabulary, and clichéd or incorrectly used words or phrases impair the writing's effectiveness.	The language communicates in a workable manner and gets the job done.	Precise, vivid, and natural language paints a clear and complete picture in the reader's mind.

Sentence Fluency	Reading the text is difficult as run-ons, fragments, and other sentence problems cause impaired meaning.	The text moves along with complete sentences that do not distract from the ideas presented.	The complete sentences flow with a rhythm that makes this text easy and enjoyable to read.
Conventions	Grammatical errors and lapses in standard writing conventions distract the reader's ability to focus on ideas or organization.	Grammatical errors and lapses in standard writing conventions do distract the attentive reader, but do not impair meaning or readability.	Grammatical errors and lapses in standard writing conventions are so minor that a reader can overlook them unless searching for them specifically.

APPENDIX I
HOLISTIC SCORING RUBRIC

<p>SCORE POINT 6</p> <p>Response is sophisticated and skillful in written communication, demonstrated by</p> <ul style="list-style-type: none"> • exceptional clarity, focus, and control in topic development and organization that often show insight. • in-depth and/or creative exploration of the topic using rich, relevant, and credible details. • a strong, perhaps creative, beginning and a satisfying conclusion. • specifically and carefully chosen words that are skillfully crafted into phrases and sentences that enhance meaning. • intentional and committed interaction between the writer and the reader. • effective and/or creative use of a wide range of conventions with few errors. 	<p>SCORE POINT 5</p> <p>Response is excellent and skillful in written communication, demonstrated by</p> <ul style="list-style-type: none"> • clarity, focus, and control in topic development and organization. • a balanced and thorough exploration of the topic using relevant details. • an inviting beginning and a satisfying sense of closure. • a broad range of carefully chosen words crafted into phrases and varied sentences that sound natural. • awareness of the reader and commitment to the audience and topic. • effective use of a wide range of conventions with few errors.
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<p>SCORE POINT 4</p> <p>Response is appropriate and acceptable in written communication, demonstrated by</p> <ul style="list-style-type: none"> • ideas adequately developed with a clear and coherent presentation of ideas with order and structure that can be formulaic. • relevant details that are sometimes general or limited; organization that is clear, but sometimes predictable. • a recognizable beginning and ending, although one or both may be somewhat weak. • effective word choice that is functional and, at times, shows interaction between writer and audience. • somewhat varied sentence structure with good control of simple constructions; a natural sound. • control of standard conventions although a wide range is not used; errors that do not impede readability. 	<p>SCORE POINT 3</p> <p>Response is inadequate in written communication, demonstrated by</p> <ul style="list-style-type: none"> • broad or simplistic ideas that are understood but often ineffective. • attempts at organizing that are inconsistent or ineffective; beginnings and endings that are underdeveloped; repetitive transitional devices. • developmental details that are uneven, somewhat predictable, or leave information gaps; details not always placed effectively in the writing. • reliance on clichés and overused words that do not connect with the reader; limited audience awareness. • monotonous and sometimes misused words; sentences may sound mechanical, although simple constructions are usually correct. • limited control of standard conventions with significant errors.
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<p>SCORE POINT 2</p> <p>Response is poor in written communication, demonstrated by</p> <ul style="list-style-type: none"> • overly simplistic and sometimes unclear ideas that have insufficiently developed details. • sequencing of ideas that is often just a list; missing or ineffective details that require reader inference to comprehend and follow. • missing beginning and/or ending. • repetitive, monotonous, and often misused words awkwardly strung into sentences that are difficult to read because they are either choppy or rambling; many sentences that begin with repetitive noun + verb pattern. • lack of audience awareness. • little control of basic conventions resulting in errors impeding readability. 	<p>SCORE POINT 1</p> <p>Response is inferior in written communication, demonstrated by</p> <ul style="list-style-type: none"> • lack of purpose or ideas and sequencing. • organization that obscures the main point. • an attempt that is too short to offer coherent development of an idea, if it is stated. • extremely limited vocabulary that shows no commitment to communicating a message. • sentences with confusing word order that may not permit oral reading. • severe and frequent errors in conventions.
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APPENDIX J

CONVERSION OF SIX-TRAIT SCORES TO PERCENTAGE POINTS

Points Earned	Percent Score for 6 Traits	Percent Score for 5 Traits	Percent Score for 4 Traits	Percent Score for 3 Traits	Percent Score for 2 Traits	Percent Score for 1 Trait
36	100					
35	98					
34	97					
33	95					
32	93					
31	92					
30	90	100				
29	88	98				
28	87	96				
27	85	94				
26	83	92				
25	82	90				
24	80	88	100			
23	78	86	98			
22	77	84	95			
21	75	82	93			
20	73	80	90			
19	72	78	88			
18	70	76	85	100		
17	68	74	83	97		
16	67	72	80	93		
15	65	70	78	90		
14	63	68	75	87		
13	62	66	73	83		
12	60	64	70	80	100	
11	58	62	68	77	95	
10	57	60	65	73	90	

9	55	58	63	70	85	
8	53	56	60	67	80	
7	52	54	58	63	75	
6	50	62	55	60	70	100
5	48	50	53	57	65	90
4	47	48	50	53	60	80
3	45	46	48	50	55	70
2	43	44	45	47	50	60
1	40	42	43	43	45	50

APPENDIX K
RESEARCH JOURNAL

Observation #: Purpose of the Observation:

Date:

Location:

Start and Stop Time:

Setting:

Attendees:

Researcher Role:

Prompts:

1. Look for/listen for talk that shows mastery experiences or vicarious experiences.
2. Look for/listen for talk that is specific to students achievement toward the goal.

Research Questions:

1. What will collaborative inquiry contribute to Lake Shore's teachers' self-efficacy in writing instruction?
2. What will Lake Shore's teachers' self-efficacy in writing instruction contribute to student writing achievement?

Observation	Interpretation

APPENDIX L
INSTITUTIONAL REVIEW BOARD APPROVAL

To: David Moore
FAB

From: Mark Roosa, Chair
Soc Beh IRB

Date: 06/15/2010

Committee Action: Exemption Granted

IRB Action Date: 06/15/2010

IRB Protocol #: 1005005192

Study Title: Collaborative Inquiry, Teacher Efficacy, and Writing Achievement at Lake Shore Elementary S

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(1).

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.

