

University of Nevada, Reno

**Analysis of CCSS Professional Learning Program's Impact on Teacher
Practice and Student Learning**

A dissertation submitted in partial fulfillment of the requirements for the
degree of Doctor of Philosophy in Educational Specialties

by

Torrey Palmer

Bob Ives/ Dissertation Advisor

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We recommend that the dissertation
prepared under our supervision by

TORREY F. PALMER

Entitled

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Bob Ives, Advisor

Rod Case, Committee Member

Eleni Oikonomidou, Committee Member

Diana Townsend, Committee Member

Bill Evans, Graduate School Representative

David W. Zeh, Ph. D., Dean, Graduate School

December, 2017

Abstract

The Common Core State Standards (CCSS, 2010) for literacy call for students who are College and Career Ready to be able to read texts closely and critically. The standards' emphasis on text complexity requires careful and strategic professional learning for teachers (International Reading Association, 2012). While state and local entities must determine appropriate guidance to support teachers in implementing the standards, determining the effectiveness of professional learning opportunities and subsequent impact on student learning continues to challenge the field. While proponents and critics have noted that it may take many years before impact of the standards on student achievement is evident, stakeholders must understand programs and strategies that may enhance implementation of the standards (Loveless, 2015).

This program evaluation adopts Lave's (1991) situated learning theory, in which learning is a function of the activity, context, and culture, to analyze the medium and long-term outcomes of the Core Task implementation Project (CTiP), a 2-year, inquiry-driven professional learning model designed to strengthen teachers' pedagogical content knowledge and self-efficacy in implementing the English Language Arts (ELA) CCSS. Through mixed-methods analyses, qualitative and quantitative program data sources were examined to understand participating teachers' perceived changes in knowledge of the standards and instructional practice and effects on participants' self-efficacy in implementing the CCSS. Findings indicated that participating teachers made significant gains in understanding and applying close-reading lessons and Basal Alignment Project resources to meet the demands of the CCSS. Furthermore, participants described feeling changed as a result of the CTiP experience, specifically that the project advanced understanding and confidence in teaching with the CCSS.

Teacher reflections and year-end summative assessment data were analyzed to understand impact on student learning. Quantitative data were disaggregated to determine impact of the program on diverse learners in participating teachers' classrooms. Findings indicated that students of CTiP participants outperformed a comparison group on the SBAC, the new CCSS-aligned assessment. Additionally, participants described how students became stronger analytic readers and engaged in higher-quality discussion as a result of the strategies and support shared in the project.

The evaluation concludes with suggestions for strengthening program content and design and integrating a strategic and systematic focus on student learning. Implications for policy, practice and research, limitations of the research, as well as recommendations for future study, are offered.

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Chapter I: Introduction to the Study

In 2010, 46 states signed on to adopt the Common Core State Standards (CCSS), an initiative sponsored by the National Governors Association Center for Best Practices and the Council of Chief State School Officers (NGA & CCSSO, 2010). In drafting the CCSS, reformers had three primary aims: to better prepare students to compete in the global economy, enable high school students to graduate college and career ready, and provide teachers and parents a clear understanding of what students should know and be able to do, regardless of state lines (Kornhaber, Griffith, & Tyler, 2014). State leaders were interested in adopting more rigorous standards to ensure U.S. students would be more competitive with their international peers while raising expectations across the board, as measured by national and international assessments. While the goals of the standards are clear, impacting student achievement through standards-based reform remains elusive (Kamil, Pearson, Moje, & Afflerback, 2011; Loveless, 2015). The purpose of this study is to understand whether an inquiry-driven model of professional learning to support implementation of the literacy CCSS has led to changes in teachers' content knowledge and instructional practice, and to investigate whether student achievement significantly changed for teachers who participated in the two-year professional learning program. This chapter will frame the study by providing background for the standards reform movement and a brief analysis of influential federal policy, namely No Child Left Behind (2001) and the more recent Every Student Succeeds Act (2015), as well as contextualizing challenges in evaluating the impact of professional development on student learning.

Global and Historical Context for Standards Reform

The current standards and accountability movements in education date back to the mid-twentieth century with the launch of Sputnik and the international competition of the Cold War (Sellar & Lingard, 2014; Trohler, 2014). There emerged in America a strong interest in developing uniform education standards that would be managed by a council of education experts, though the actual creation of standards would not happen for another 40 years. Just as standardization in education was conceived of at a national level to allay fears about the influence of the Soviet Union, there is a similar motivation with the globalization of education today—specifically, the need for the United States to be competitive with international peers (Sellar & Lingard, 2014). Ultimately, the launch of Sputnik and the Cold War put into motion a series of self-decried crises within American education, resulting in increasing federal involvement in large-scale reform efforts (Steeves, Bernhardt, Burns, & Lombard, 2009).

The Organisation for Economic Co-operation and Development (OECD), an international organization devoted to promoting policies to improve the economic and social well-being of people around the world, formed an international education agenda around the organization's inception in 1961. However, it was nearly forty years later that the OECD fully embarked on an effort toward standardization with the development of the Programme for International Student Assessment (PISA). First implemented in 2000, the PISA measures 15-year-old students' reading, math, and science literacy every 3 years in more than 70 countries and educational jurisdictions. The PISA is intended to provide its 35 member countries comparative data and measures of their educational processes and systems, evaluating students against a definition of literacy that emphasizes items designed to measure students' ability to apply knowledge of these subjects in real-

world settings. Developed and implemented by the OECD, the PISA reflects the organization's view of these literacies, or a singular set of global standards used to compare achievement in these literacies, targeted to advance the global economy (Anderson, Mel-Hung, & Yore, 2010).

The OECD notes that of the countries that performed well on the PISA, all have developed world-class academic standards for their students, and these standards consistently predict the overall strength of the education systems. While approaches to standard setting vary between countries, standards establish rigorous, focused, and coherent content at all grade levels; reduce overlap in curricula across grades; and reduce variation in implemented curricula across classrooms. Furthermore, standard setting enables the coordination of different policy initiatives and reduces inequity in curricula across socioeconomic groups (OECD, 2013). The OECD and the similar international think-tank World Bank have influenced the development of the CCSS with their education agendas and are keeping a close watch on potential impact in the United States (Callis, 2014; DeNisco, 2014).

The standards movement gained further political traction following the release of *A Nation at Risk*, the 1983 landmark report that highlighted U.S. students' poor performance as compared to their international peers (Shanahan, 2014). Among myriad recommendations, the White House commission that drafted the report suggested schools adopt more rigorous and measurable standards, launching the United States into the standards reform era. Efforts to introduce voluntary national standards began in 1989 with those developed by the National Council of Teachers of Mathematics. In 1992, the U.S. Department of Education funded a standards project for English Language Arts, headed up by the National Council of Teachers of English (NCTE) and the International

Reading Association (IRA); though federal funding was canceled before the project was complete, the IRA and NCTE went on to complete the project on their own (Applebee, 2013). Standard setting, set against a high-stakes-accountability backdrop, became the responsibility of the states when it was written into No Child Left Behind (NCLB) legislation in 2001.

Influence of Federal Policy

In 2002, President Bush authorized NCLB, a federal policy designed to close the achievement gap between low- and high-achieving students in the United States.

Through federal requirements, states were to administer annual standardized tests in Grades 3 through 8 to measure student proficiency of state standards. NCLB required that scores be reported for students based on socioeconomic status, race, ethnicity, language, and disability, a major step forward in highlighting the achievement gap for diverse students (Gamoran, 2008). Each year, schools were given performance targets to ensure all students were moving toward proficiency in math and reading by 2014; there were consequences for teachers and schools who failed to meet these goals. The law provided federal funding for low-performing schools to help them improve, and it gave parents the choice to transfer their children from low-performing schools (NCLB, 2001). While NCLB was a high-stakes accountability initiative aimed to ensure all students would become proficient in math and reading, there were significant consequences for standards-based teaching and learning.

As performance targets became more difficult to attain, *teaching to the test* became increasingly popular, often taking the form of a quasi-curriculum (Amrein-Beardsley, 2009; Hirsch, 2007; Jennings & Bereak, 2014). Analyzing the effects of NCLB on classroom instruction, Holcombe, Jennings, and Koretz (2013) developed a

hierarchical model of content-based forms of teaching to the test. The first level of the model involves aligning instruction to state standards upon which the assessment is based. This is simply the shift in instructional planning by which teachers begin to plan based on standard, ensuring that they are covering all requisite standards over a given time. The second level of the hierarchical model emphasizes those standards that are predictably represented on state tests, or those highly assessed standards that may inflate test scores. This is often referred to as a *narrowing of the curriculum* when teachers avoid teaching some topics or spend more time on others, knowing that what they omit will not be covered on state assessments (Amrein-Beardsley, 2009). The third, or most focused level of the hierarchy, is to teach skills that follow the same formats as items found in state tests. According to Jennings and Bearak (2014), “this is distinct from the idea of teaching test-taking skills specific to the test form noted above, because it extends beyond test-taking skills to modify the ways in which specific content is introduced and taught.” (p. 383). This third level of the *teaching to the test* hierarchy, one in which teachers largely teach skills that would most likely show up on the assessment, has led to a surface-level approach to literacy instruction (Hiebert & Pearson, 2012). Teaching to the test worked with state standards because these standards were “less like goals and more like a curriculum or a scope-and-sequence guide to daily instruction” (Shanahan, 2014, p.11).

While NCLB was actually set to expire in 2007, congressional gridlock prohibited any chance of reauthorizing or amending the law, and only in 2015 was NCLB legislation amended with the Every Student Succeeds Act (2015). Between 2007 and 2015, the U.S. Education Department passed Race to the Top (2010) legislation, which enabled states to apply for waivers from NCLB student-achievement requirements through models that

promoted teacher evaluation and performance-based compensation, further exacerbating accountability pressures from NCLB (Wel, 2015). Also tied to the Race to the Top legislation were criteria that required states applying for federal monies to adopt common standards. It was at the height of NCLB, when teaching and learning was focused largely on the skills most likely to appear on high-stakes assessments, and during increasing accountability pressures through Race to the Top evaluation expectations, that the CCSS were introduced in 2010.

Common Core State Standards

In making the case for the state-led Common Core State Standards, the NGA and the CCSSO cited concern that America's children are well behind their international peers and need to increase rigor in order to maintain global economic vitality. In 2012, the United States continued their lackluster performance on the PISA, faring little better than previous results, ranking 27th in mathematics, 17th in reading, and 20th in science, as compared with the 34 participating OECD countries. In their analysis, the NGA and CCSSO (2009) found that nine nations that consistently outperform U.S. students, as well as being economic powerhouses, have a far more rigorous, content-rich curriculum. Munson (2011) contrasted the U.S. students' test-focused learning in preparation for high-stakes achievement tests for NCLB with the rich content-based learning of South Koreans, Japanese, Canadians, and others. The CCSS were developed to increase the rigor of U.S. state standards so they would more closely align with the expectations of, or would be internationally benchmarked against, outperforming foreign nations.

In crafting the standards, reformers also aimed to increase the number of high school students who graduate college and career ready. SAT scores had been on a steady decline from 1962 to 1980, during which verbal scores fell 54 points to 502; since 1980,

verbal scores have remained unchanged at 502 (Adams, 2011). Additionally, National Assessment of Educational Progress (NAEP) reading scores for 12th graders have declined, and, in 2015, two thirds of U.S. middle school students were not reading at a proficient level (U.S. Department of Education, 2016). The flat-lining and, in some cases, decline in achievement on national tests was another call to address the gap between high school and college readiness. Furthermore, while approximately 80% of high school students nationally graduate in 4 years, only 67% of Black and 71% of Hispanic students graduate in 4 years, compared with 84% of White students and 87% of Asian/Pacific Islanders (U.S. Department of Education, 2016). Minimal movement in national reading data, paired with lackluster graduation rates exacerbated by an achievement gap, was further impetus for drafting the standards.

The third reason for the development of the Common Core State Standards was interest in developing a common set of standards so that students would be held to the same expectations across state lines. Under No Child Left Behind (2001), states were responsible for developing their own standards and assessment systems, resulting in 50 different visions of what students should be able to know and do, with students proficient in one state but barely passing in the next state (Applebee, 2013). One effect of NCLB's accountability expectations was that states, in an effort to ensure all students met proficiency benchmarks, lowered their standards to make them more achievable (Shanahan, 2014). In developing the CCSS, work team members began with a shared vision, drafting a set of College and Career Readiness Standards, or Anchor Standards, that reflected what all students should be able to know and do to be prepared for college or a career. As described in the CCSS (NGA & CCSSO, 2010), students who meet the expectations of the standards demonstrate independence; build strong content knowledge;

respond to the varying demands of audience, task, purpose, and discipline; comprehend as well as critique; value evidence; use technology and digital media strategically and appropriately; and come to understand other cultures. The CCSS do not prescribe specific instructional methodologies but rather let teachers determine how to support students in reaching the standards (Hodge & Benko, 2014; Shanahan, 2014).

States and districts are left to determine appropriate guidance to support teachers in understanding the standards and to provide implementation guidance to ensure all students are afforded opportunities to meet the expectations of the standards (NGA & CCSSO, 2010). Several organizations, such as Achieve (2012) and the Aspen Institute (2013), have released documents to guide implementation at the state and local levels, though how these translate, if adopted, into professional learning for teachers varies tremendously (Jenkins & Agamba, 2013).

Professional Learning

Teacher quality has a considerable impact on student learning and achievement (Meister, 2010; Opfer & Pedder, 2011), and professional development is the modus operandi for affecting teacher practice (Cochran-Smith & Lytle, 2009). However, professional development is remarkably complex, from how it is defined to how success is measured. For decades, studies of professional development focused on teacher satisfaction or attitude change, and only recently has attention shifted to more empirically valid methods of studying its effectiveness (Desimone, 2009). Even with increased focus on effectiveness, a meta-analysis by the IES (2008) revealed that only 9 of 1300 professional development studies have yielded significant gains in student achievement. The authors noted that “because of the lack of variability in form and the great variability in duration and intensity across the nine studies, discerning any pattern in these

characteristics and their effects on student achievement is difficult” (Suk Yoon, Duncan, Lee, Scarloss, & Shapley, 2007, p. iv).

Determining how to maximize meaningful learning opportunities for the benefit of teachers and students is a complex undertaking, and measuring such efforts is even more challenging. There is ample research indicating challenges in isolating the role of professional development activities to improve teacher effectiveness. Hanover Research (2015) suggests “using multiple data sources to analyze student, educator and system performance helps create a more balanced and comprehensive portrait of the impact of professional learning programs, and this, in turn positively contributes to program decision making” (p. 1). This mixed-methods evaluation combines traditional approaches of analyzing program effectiveness through participant satisfaction and perceived changes in practice with analyses of the program’s impact on student learning, in order to understand the strengths and limitations of one district’s model to support teachers in implementing the CCSS in literacy.

Purpose of the Program Evaluation

The purpose of this program evaluation is to examine how the Core Task implementation Project (CTiP) impacted participating teachers’ pedagogical content knowledge and self-efficacy with the English Language Arts CCSS and how the program impacted student learning. A preliminary qualitative analysis of CTiP data revealed noteworthy evidence of a shift in instruction. As shared at WestEd’s Nevada Education Research Symposium (Palmer & Schmidt, 2013), 90% of CTiP teachers attributed a growing ability to implement the shifts, and to assess and monitor student progress using close reading resources, to the CTiP. Early analyses of monthly teacher reflections indicated changes in instruction via materials selection, writing assignments, and

selection of vocabulary. There were perceived changes in collaboration, motivation, and a deepening knowledge around pedagogy and standards, also associated with the professional learning.

This evaluation builds on these earlier findings by systematically analyzing monthly qualitative reflections and end-of-program surveys and student data to understand impact on teacher practice and student learning. Findings and recommendations will not only support the field in understanding the strengths and limitations of one district's model for supporting implementation of the CCSS but will also assist stakeholders in understanding the challenges of measuring the impact of the CCSS in a field as complex as education.

Organization of the Study

Chapter II presents a review of the literature of inquiry-based professional learning, major approaches to reading instruction, the Instructional Shifts of the CCSS, and trends in student achievement, with specific attention to special populations. The methodology and results of the program evaluation are divided into two parts: impact on teacher practice and impact on student learning. Chapter III describes the first phase of the program evaluation, which includes the development and implementation of the Core Task implementation Project and the methodology for analysis of impact on teacher practice. Chapter IV details the findings around teacher practice. Chapter V presents the methodology for analyzing medium- and long-term outcomes on student learning while Chapter VI contains the findings. Chapter VII closes with a summary of findings and with implications for policy, practice, and research.

Chapter II: Review of the Literature

When 46 states adopted the CCSS state and local education agencies were left to determine how to roll out the new, more rigorous standards to improve student achievement. While standards documents alone do not raise achievement, it is up to schools, districts, and states to identify the curriculum and instructional practices to support teachers in reshaping expectations and practice. This study evaluates the Core Task implementation Project (CTiP), an inquiry-driven professional learning pilot program developed to support teachers in guiding students to reach the demands of the CCSS in ELA. Specifically, this program evaluation considers how the model has influenced participating teachers' pedagogical content knowledge and self-efficacy as well as its impact on student learning, with attention to the achievement level of special populations.

This chapter begins with an overview of the theoretical framework used for this study. Then, empirical research of inquiry-driven models of professional learning and dominant paradigms in reading instruction is reviewed. This is followed with an analysis of historic gaps in achievement between students from low-income families, English Language Learners, and students with Individualized Education Plans (IEPs) as compared to children who do not meet those criteria. Together, each of these areas can help build understanding of program effectiveness of the CTiP model, extending beyond goal attainment (to improve student achievement while closing the achievement gap) to a broader understanding of program processes and outcomes.

Theoretical Frame

In a shift from more traditional learning theories, which focus on cognitive processes and conceptual structures that may influence learning, this study adopts Jean

Lave and Etienne Wenger's (1991) *Situated Learning: Legitimate Peripheral*

Participation theory that analyzes learning as a social process influenced by the person, practice, and social world. Founded in Dewey's work with experiential education, situated learning focuses on the relationship between the learner and the context rather than on learning within the individual or on learning out of context. Situated learning occurs through a social process whereby knowledge is co-constructed through social interaction, and structure is essential to providing the context for learning. According to Lave (1991), situated learning

emphasizes the relational interdependency of agent and world, activity, meaning, cognition, learning, and knowing. It emphasizes the inherently socially negotiated quality of meaning and the interested, concerned character of the thought and action of persons engaged in activity. ... This view also claims that learning, thinking, and knowing are relations among people engaged in activity in, with, and arising from the socially and culturally structured world. (p. 67)

Quay (2003) highlighted participation within the social and cultural world as an integral aspect of situated learning, or a model of learning in "interconnected communities of practice" (p. 108). In this program evaluation, my role as program co-developer, co-facilitator, and then evaluator has influenced my understanding of and engagement with the CTiP; it was therefore important to situate my participation within the evaluation design. Additionally, for program participants, learning was collaborative in nature and situated within the context of literacy planning and instruction so participants would deepen their understanding of standards implementation within their classroom contexts.

The Fostering Communities of Teachers as Learners (FCTL) theoretical frame can be used to organize the learning experiences of teachers driven by reform policies which "ask teachers to do different things with the disciplines, and these different demands set distinctive problems of pedagogical content understanding for the teachers

who are attempting to learn in these new ways” (Shulman & Sherin, 2004, p. 136). Shulman and Shulman (2008) designed the FCTL frame to support comprehensive understanding of the features of teacher learning and development within communities and contexts, or, in the case of this study, the CTiP model. Shulman and Shulman’s (2008) FCTL model of teacher learning encompasses dimensions of personal and professional development within a multilayered frame that moves from the individual to community to policy. The authors outlined six features of teacher development—reflection, vision, motivation, understanding, and practice—which “serve to define the focal points of any efforts in teacher education or development dedicated to preparing teachers to work effectively in the uncertain, complex, and often unpredictable settings of schools” (Shulman and Shulman, 2008, p. 4).

At the core of the FCTL model is *reflection*, both of the individual teacher and institutionalized within the larger system. The key to teacher learning and development, reflection empowers teachers and communities to look back and learn from experience to make purposeful change. The second feature is *vision*. Educators who possess vision reflect readiness; they are dissatisfied with the status quo and consider teaching and learning to be a process. As described by Shulman and Shulman (2008), “a highly developed and articulated vision serves as a goal toward which teacher development is directed, as well as a standard against which one’s own and others’ thought and actions are evaluated” (p. 2). Teachers who display *motivation* are willing to take action; not only do they possess vision, but they are willing to exert the effort to change. In the FCTL model, *understanding* may include content knowledge, curriculum understanding, pedagogical knowledge, classroom management and organization, classroom assessment and understanding, learners and community, or, more broadly, the *what* and *how* of

teaching. The fifth feature, *practice*, is “the capacity for intelligent and adaptive action” (p. 4). Practice includes being adept at working with diverse groups of students and effectively integrating technology, formal and informal assessment processes, curriculum design, and other tools. In summary, the accomplished teacher—and, consequently, teacher learning—should encompass vision, motivation, understanding, and practice, guided by purposeful reflection.

In considering the structural frame of Shulman and Shulman’s (2008) FCTL model, the constructs of accomplished teacher development can either be independent of or interact with the broader contexts of community and policy. Figure 1 shows the relationship of vision, motivation, understanding, and practice within the three layers of Shulman and Shulman’s (2008) model: individual, community, and policy. At the community level, shared vision or ideology (vision), shared commitment, support, incentives (motivation), knowledge base (understanding), and community of practice (practice) can “either serve to enhance the development of particular accomplishments, actively inhibit their development or are neutral with respect to them” (p. 5). Allocation of resources define the outermost domain of policy, in which Shulman and Shulman used forms of “capital” to connect with each of the features outlined with teacher and community learning. Shulman and Shulman stated, “the policy world is both the sustainer and the executioner of the innovations in teaching and learning that occupy our attention” (p. 7). It is this degree of permeability of the model’s layers that significantly affects the ability to create and sustain communities of teacher learning.

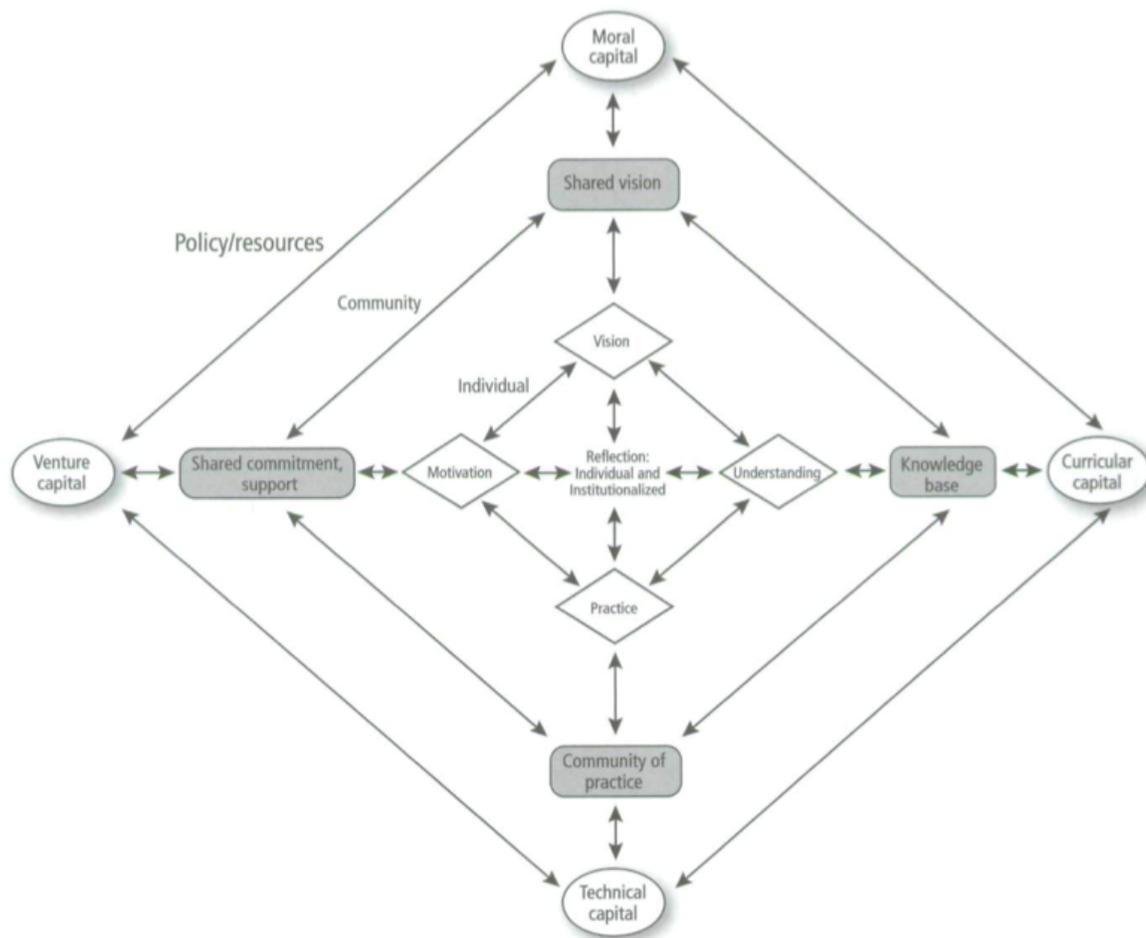


Figure 1. Levels of analysis: Individual, community, and policy.

The FTCL model serves to frame the inquiry-based CTiP through the effects of community and policy on the experiences of practitioners engaging in inquiry. The multi-faceted FTCL model captures the experience of teachers engaged in inquiry in a period governed by NCLB policy as CTiP teachers were.

Review Methods

For this literature review, I used the ERIC and EBSCO search engines to identify empirical research of inquiry-based professional learning, dominant strategies to support reading comprehension, and academic trends related to special populations.

An initial search of inquiry-based professional learning included the search terms *teacher inquiry* and *action research*, with secondary terms of *efficacy* and *change*. These

secondary terms were identified through prominent field literature. The literature focused on the professional growth of experienced teachers in the field. Through the initial screening of search results, I rejected studies focused on the effects of pre-service teachers' engagement in action research. However, if pre-service engagement studies contributed to the implications for implementing broader communities of inquiry-driven professional learning, I retained them. The nature of the literature around teacher inquiry was typically small-scale, predominantly qualitative work. The majority of studies took place within contexts of university partnerships with teachers and schools, including collaborative action research project and course requirements.

For the second section on reading comprehension, I initially considered the *Handbook of Research on Reading Comprehension* (Israel & Duffy, 2008) to determine prominent theories and pedagogies driving reading comprehension research and practice. Those theories elicited the search terms used to identify current empirical studies through the ERIC and EBSCO search engines. Search terms included *comprehension skills*, *whole language* and *content knowledge*, and *background knowledge*, with the secondary terms *reading comprehension* and *elementary*. I also considered the *Handbook of Reading Research* (2011) to gain a broad understanding of past and future trends in reading research. The introduction highlighted trends in the last decade to link policy and research, as well as several efforts to reinforce the *gold standard* through government research banks such as the Institute of Education Sciences' What Works Clearinghouse. This second section of the literature review concludes with the theory and evidence driving the instructional shifts described by lead writers of the Common Core State Standards: an emphasis on text complexity, evidence, and building knowledge.

The third section of the review focuses on academic trends related to special populations, or children with disabilities, low-income children, and English Language Learners. Drawing on achievement trends in the literature as well as the demographic of this study, I focused attention on low SES students, or students classified as receiving free and reduced lunch (FRL) assistance or federal assistance. Search terms included *achievement gap*, *student performance*, *socio-economic* and *teacher expectations*. The purpose was to gain an understanding of trends in academic achievement and factors influencing achievement of low-SES students.

Review of Inquiry-Based Professional Learning

There have been numerous efforts to identify key elements of effective professional learning (Bayar, 2014; Carlisle, Cortina, & Katz, 2011; Desimone, 2009; Hill, 2004). Bayer (2014) found that effective professional development activities must match teacher and school needs, involve teachers in design and planning, include active participation opportunities, occur over a long period, and include high-quality instructors. Hill (2004) cross-referenced several lists of standards and concluded with the following as characteristics of professional development: active/inquiry learning, examples from classroom practice, collaboration, modeling, reflection, focus on content, focus on student learning, and teacher choice/ involvement in planning. Carlisle, Cortina, and Katz (2011) also included institutional and professional support as an essential element to effective professional development. The literature has identified several criteria essential to effective professional learning, with inquiry-driven models surfacing as one approach for achieving change in instructional practice and, in some cases, for impacting student achievement.

Teacher inquiry is a systematic process involving reflection and the gathering of information to improve practice as educators (Calhoun, 2002; Herr & Anderson, 2008; Fichtman, Gimbert, & Silva, 2001). Teacher inquiry “focuses on the concerns of teachers (not outside researchers) and continually involves them in the design process, data collection, and interpretation” (Fichtman, Gimbert, & Silva, 2001, p. 53). Through collaborative inquiry, teachers become generators of new knowledge for themselves, their schools, and the field of education (Calhoun, 2002; Herr & Anderson, 2008). Inquiry takes place within classrooms and extends beyond, is collaborative in nature, and explores issues of professional development, school development, school planning and program evaluation, teacher preparation, and school reform (Herr & Anderson, 2008; MacLean & Mohr, 1999; Mohr, Rogers, Sanford, Nocerino, MacLean, & Clawson, 2004). The research used the terms *action research*, *collaborative inquiry*, and *teacher inquiry* interchangeably, as will this review.

Supporting Features of Teacher Inquiry

Research suggests that teachers engaged in teacher inquiry may experience conceptual change, increased efficacy beliefs, and empowerment. Conceptual change is one of the effects of reflection on teacher cognition and is important because teachers who think more complexly about their teaching practice help students achieve at higher levels (Rucinski, Franco, Nocetti, Queirolo, & Daniel, 2009). Several studies indicate it is the process-driven practice of teacher inquiry that leads to conceptual change (Goodnough, 2010; Hall, 2009; Lloyd, 2002). Lloyd (2002), particularly, suggested that the process resulting from teacher inquiry leads to conceptual change:

Action research provided [teachers] with a structured framework for critically evaluating their practice. This, in turn, made them more self-confident and able to

articulate their ideas, which enabled them to share responsibility and to work more collaboratively with colleagues and with pupils. (p. 120)

Goodnough (2010) additionally identified teacher engagement in systematically planning, gathering data, analyzing results, and informing practice as integral to change.

Research has also cited evidence of conceptual change through teachers' reported outcomes of engaging in teacher inquiry. Manfra (2009) identified social studies teachers' engagement in more culturally relevant pedagogy and commitment to empowering marginalized students to be a result of their critical action research.

Feldman and Weiss (2010) evidenced teachers' process of becoming technology experts in their schools through their engagement in action research. Elliot (2007) reported teachers' documentation of their own transformation to be a result of their participation in the Early Literacy Initiative Project. The teachers reported powerful change in their beliefs and understanding as well as pedagogical action. One teacher wrote:

I will be going back to kindergarten this fall, but my teaching has been changed forever. I know now that you learn to read and write by reading and writing. And it does make a difference to the learner if one is taught in small groups or whole class. (Elliot, 2007, p. 37)

Teachers who engage in the process of inquiry identify a change in teaching from transmitting knowledge to students to engaging in a continual cycle of reflective practice (Goodnough, 2010; Lloyd, 2002).

Efficacy Beliefs

According to Enderlin-Lampe (2002), in order to increase efficacy, teachers must see that their behaviors improve education of their students. Bandura (1997) defined self-efficacy as beliefs regarding personal competency to affect or execute a given task.

Teachers who have a higher sense of self-efficacy are more likely to try new strategies

and show greater ability in dealing with classroom challenges (Marshall, Horton, Igo, & Switzer, 2007).

Studies have indicated that teachers engaged in teacher inquiry find its systematic structure to guide them in being far more intentional in their classroom practice decisions, consequently exhibiting increased self-efficacy. Instead of relying on unfounded beliefs, teachers use the components of teacher inquiry to focus on facts when making decisions in their classrooms (Brown & Macatangay, 2002; Seider & Lemma, 2004). Ross, Rolheiser, and Hogaboam-Gray (1999) reported using a two-step approach to teacher inquiry, in which the partnerships between experienced and exemplar teachers strengthened efficacy beliefs. The teachers' engagement in collaborative action research focused on evaluation practices that led to enhancing student learning; this process showed teachers how their actions improve students' learning (Ross et al., 1999). The teachers with whom O'Connor, Greene, and Anderson (2006) studied also perceived themselves as more effective in the classroom as a result of their participation in action research. This sense of self-efficacy, or teachers' connection between their behaviors and student outcomes, contributes to teachers' perceived competency, which can be explored in the context of empowerment.

Empowerment

Teachers' ownership and control of their involvement throughout the research process contribute to empowerment (Goodnaugh, 2010; Elliot, 2007). As a result of the process of collaborative inquiry, the professional confidence that teachers experience also contributes to a sense of empowerment (Brown & Macatangay, 2002; Lloyd, 2002; Manfra, 2009; O'Connor et al., 2006). According to Manfra (2009), teachers spoke more confidently about teaching and learning after engaging in inquiry. Lloyd (2002) reported

that teachers felt that action research empowered them to take responsibility for their own practice. While none of the teachers in these studies conducted action research as part of compulsory professional obligations, the teachers were empowered to take leadership roles in their schools based on their participation in action research and consequent increased expertise (Feldman & Weiss, 2010). Goodnough (2010) reported that many of the 50 teachers engaged her 3-year action research study, *Science Across the Curriculum*, later shared their projects at local and national conferences, and some published their work in journals. These opportunities resulted in teachers being able to demonstrate their competence through their participation in collaborative inquiry.

From Individuals to Community

Despite positive trends in professional growth for teachers engaged in school-wide action research (Gallimore, Ermeling, Saunders, & Goldenberg, 2009; Gordon, Stiegelbauer, & Diehl, 2006; Sheridan-Thomas, 2006), some teachers rarely elect to take part in action research independently (Seider & Lemma, 2004). While many teachers reflect on their practice, teachers need support from a community to engage in the intentional, systematic process of inquiry (Hahs-Vaughn, 2009; Vogrinc & Valencie-Zulian, 2009). By understanding the characteristics of teachers engaging in research, administrators or community leaders may more efficiently allocate resources (Hahs-Vaughn, 2009). Further, by identifying potential teachers and supporting the structures for engaging in action research, school and district leaders can begin to construct a culture of reflective practice.

Considering the value of developing knowledge and capacity around the process of action research, studies have identified teachers who are more likely to engage in action research. Newcomers, or teachers in their first three years, and experienced

teachers, those who have taught seven to 18 years, are more willing to take part in action research (Hahs-Vaughn, 2009; Vogrinc & Valencie-Zulian, 2009). Teachers who voluntarily engage in professional development activities related to content, teaching methods, and student assessment are also more likely to engage in inquiry activities (Hahs-Vaughn, 2009). By identifying teachers who are already likely to take part in action research, administrators can strengthen capacity and possibly initiate a positive climate for school reform initiative.

While independent engagement in action research often leads to a variety of topics and questions, there is an opportunity with action research to unify teachers in exploring shared goals. By collaboratively engaging educators through inquiry, that sense of wondering has the potential to be effectively harnessed toward one common end (Piggot-Irvine, 2010). Though Sheridan-Thomas (2006) identified challenges in having individuals establish their own focus and inquiry approach, Gordon et al. (2006) reported that a shared focus area generated more success through collaborative action research.

Broader Teacher-Inquiry Initiatives

Several elements should be considered in implementing action research as a larger initiative for teachers' professional growth. School culture may be foremost. Administration and teacher leaders must be willing to adopt an inquiry mindset—the idea that there may not be one correct answer to solve the many challenges of educating all children. This mindset can often lead to disequilibrium, considering the emphasis on process over a product (Bryant & Bates, 2010).

In studies of broader communities of action research, time invested in the process was critical to its success (Gallimore et al., 2009; Gordon et al., 2006; Sheridan-Thomas, 2006). Carving out consistent time to engage in the inquiry process was difficult

considering the multitude of reform initiatives aimed at schools (Gallimore et al., 2009). It frequently took a year or longer for schools to see better-than-average results in student performance and teacher confidence in the action research process (Feldman & Weiss, 2010; Gallimore et al., 2009; Gordon et al., 2006). As teachers identified with the process of action research, their primary concern was a shortage of time for planning and collaboration.

Action research is not a professional development quick-fix. Hall (2009) found that “the acquisition of a research ‘skills set’ dominates teachers’ thinking in early cycles of practitioner enquiry” (p. 670). It takes one to two years for teachers to shift from a procedural understanding to a conceptual understanding of collaborative inquiry, to a point that is more likely to affect change (Gallimore et al., 2009; Gordon et al., 2006; Snow-Gerono, 2005). Resources must be invested in constructing and supporting the holistic process of action research. It is a continuum, a process, in which teachers may enter at many different points. While an obvious outcome is responding to classroom challenges by intentionally taking action, equally important is adopting an inquiry mindset (Mosley & Ramsey, 2008; Ulanoff, Vega-Castaneda, & Quioco, 2003). Exposing teachers to the research methodology is not sufficient for teachers to engage in action research (Hahs-Vaughn, 2009). Teachers need the continual support of an inquiry framework, through a group, coursework, or school-wide initiative, in order to pursue topics of focus.

Many of these studies were relatively small, and, considering action research runs counterculture to the NCLB skills-driven climate, the benefits suggest a potential need for exploring additional avenues of making teacher inquiry an accessible opportunity for professional growth. Zeichner (2003) stated, “In this era of educational accountability

and standards, teacher research is not a tool that can be used by policy-makers or administrators to externally impose particular changes on teachers' practices. When it is organized and supported, though... it can become a professional development experience that has a clear impact on teachers and their students" (p. 321). It is through this frame that the CTiP model was crafted, with curriculum and instruction leaders working side-by-side with teachers to understand and explore potential impact of the CCSS on teacher practice and student learning.

Reading Instruction in the Standards-Driven Era

With the release of *A Nation at Risk* (National Commission on Excellence in Education, 1983) and the ascent of standards-based reform, reading instruction has evolved in response to research and policy. In the mid-twentieth century, reading was perceived as a transactional process, with a singular and static view of texts, and with instruction drawing upon the *3Rs* (recitation, repetition, and replication). Currently, reading is widely viewed as the construction of meaning dependent upon background knowledge and context (Fox & Alexander, 2009). According to Fox and Alexander (2009), reading instruction has more recently involved "constructive-integrative models of comprehension that allow for the possibility of more individualized response, as each reader builds his or her own mental representation of what the text is saying and of what it means" (p. 230). Federal education policy has been increasingly influenced by reading research (Comber & Nixon, 2011; Kamil, Afflerbach, Pearson, & Moje, 2011; Shanahan, 2014) with the aim of bolstering literacy performance on national and international assessments. To this end, an understanding of reading comprehension and common instructional methodologies is relevant when considering the impact of standards-based literacy reform.

Reading comprehension is the interaction of the reader, the text, and the activity or purpose for reading, mediated by the sociocultural context (Duke & Pearson, 2002; McLaughlin, 2012). Readers bring to the textual interaction their own cognitive capabilities, motivation, content knowledge, and experiences. Similarly, the text has a range of features that can affect reading comprehension, with the reader constructing representations of the wording, ideas, and representation of meaning within the text. The activity or purpose with which the reader engages in the text occurs within a specific context and can change as the reader reads. The complex interaction of reader, text, and activity, mediated by the readers' sociocultural context, is how meaning is constructed.

In the literature, strategy instruction, whole language, and content-driven pedagogies emerged as three common approaches to building reading comprehension, with an inherent challenge of finding the right instructional balance among these approaches. Explicit instruction of comprehension strategies improves students' comprehension of text (Brown, 2008; Duke & Pearson, 2002; McLaughlin, 2012). By studying how good readers comprehend, researchers have identified six strategies that strong readers frequently use: making predictions, thinking aloud, questioning, utilizing text elements or story structure, visualizing, and summarizing. Strategy instruction is grounded in the Constructively Responsive Reader Model which draws from an understanding of the strategies that capable readers use when accessing text (Afflerbach & Cho, 2009; Brown, 2008). The focus on understanding the strategy use of accomplished readers is intentional because "more accomplished readers often are of higher verbal ability[;] they are more often successful in choosing and using reading strategies and they may use more diverse reading comprehension strategies" (Afflerbach & Cho, 2009, p. 73). The assumption is that, by charting the performance of strong

readers, their strategies can be applied to less adept readers through the novice–expert paradigm. However, there is research across fields to suggest that strategies that are effective for skilled learners are not always effective for supporting lower-performing readers (McKeown, Beck, & Blake, 2009).

The whole language approach to reading comprehension is guided by the principle that to read is to comprehend—that there is no reading without comprehension. Further, there is not a sequence of skills that must be learned prior to reading for comprehension; reading instruction is focused on the full text. In a whole language classroom, students have access to authentic texts appropriate to their language, interests, and experiences. And it is the role of the teacher to analyze literacy artifacts as the students are actively exploring and learning, as well as to use the authentic contexts to plan for literacy development (Goodman & Goodman, 2009). According to Goodman and Goodman (2009), “whole language teachers see reading as one of the key tools needed to participate in a language-centered curriculum... Reading and writing are mediators through which learning occurs” (p. 100). Ultimately, whole language teachers believe that students learn to read by reading, so a volume of reading is paramount in the whole language classroom.

Reading instruction paired with content area instruction is a third pedagogical approach that yields gains in comprehension. Readers who have prior knowledge and experience with particular topics can more readily make connections between what they are reading and what they know (Cervetti & Hiebert, 2015; McLaughlin, 2012; Pearson, Hansen, & Gordon, 1979). In two different studies, students with developed knowledge on a subject (either from direct instruction or from background experience) performed better on a comprehension assessment on the topic than students with less content

expertise, despite reading ability (Pearson et al., 1979; Recht & Leslie, 1988). This outcome can be explained by the fact that “cognitive development is more heterogeneous, with children and adults exhibiting higher levels of cognitive development in domains in which they have more knowledge” (Cartwright, 2009, p. 117). Content-focused pedagogy draws from schema theory, which highlights the importance of domain knowledge to enhance reading comprehension (Spiro, Collines, Thota, & Feltovich, 2003). Students’ knowledge funds or schemata provide a framework for classifying information within a text; the more the individual knows about something, the stronger the framework or schemata for classifying new information (Pearson et al., 1979).

Each of these approaches, strategy instruction, whole language, and content-driven pedagogies, are rooted in the constructivist paradigm, and each is well supported by the literature. Constructivism is based on the process of learning, representing the intersection of Vygotsky’s theory of the zone of proximal development and Piaget’s work with the cognitive stages of development. While Vygotsky perceived external variables as primarily influencing the process of learning, Piaget focused on the cognitive developmental stages. According to Fosnot (1996), the basis for constructivism is this intersection of cognitive and social theory, though many debate which theory grounds the other. Fosnot (1996) emphasized, “The important question to be asked is not whether the cognizing individual or the culture should be given priority in an analysis of learning, but what the interplay between them is” (p. 23). Constructivism reflects a paradigm shift that has occurred over the last 25 years from when reading comprehension was perceived as a transactional process with a singular and static view of texts and when instruction drew upon the 3Rs (recitation, repetition, and replication) to current and widely-held views that

the construction of meaning is dependent upon background knowledge and context (Fox & Alexander, 2009).

In adopting a constructivist lens, the interaction of the reader's knowledge and the context are instrumental in shaping the text's message. Students must develop knowledge and comprehension strategies, both of which are embedded in a volume of reading and authentic literacy experiences (Comber & Nixon, 2011; Pearson & Liben, 2014). Duke & Pearson (2002) were explicit that teaching reading strategies alone would not be a sufficient model of comprehension instruction. Despite this, driven by the National Reading Panel's (2000) recommendations and by NCLB (2001) legislation, there has been a preponderance of attention to teaching the skills and strategies of reading comprehension rather than attending to the content of texts (Cervetti & Hiebert, 2015; Duke & Block, 2012; Shanahan, 2014). According to Valencia and Wixson (2013),

Together with the pressure of high-stakes assessment that often accompanies standards-based reform, this focus on the details, without consideration of the big ideas, often results in misguided instruction and the ultimate failure of reading standards to produce better learning and teaching. (p. 181)

While early indications of the convergence of reading research and federal policy date back to the 1970s, increasing guidance was presented through the Reading Excellence Act of 1998, and greater specificity for reading curriculum and instructional expectations was required under NCLB. Under this legislation, Title 1 Reading First schools were required to teach reading based on findings from the National Reading Panel (2000), which emphasized comprehension skills as well as phonemic awareness, phonics, oral reading fluency, and vocabulary. According to Shanahan (2014), "All states ended up with those research based skills in their educational standards, and all major textbooks aligned themselves with these skills as well" (p. 10). Unlike state

standards that elevated reading comprehension skills, the CCSS, with its introduction and appendices, respond to the skills-based emphasis of previous standards and elevate other research.

ELA Common Core State Standards

The CCSS emphasize text quality and complexity, evidence, and building knowledge in ELA (NGA & CCSSO, 2010), representing a powerful departure from the largely rote, skills-based teaching and learning that had evolved through previous state standards and low-level state assessments driven by NCLB accountability expectations. These priority areas, referred to as the instructional shifts, have been debated in the literacy field, with literacy experts both embracing and drawing questions around the effects of elevating these areas in policy (Hodge & Benko, 2014). According to Hodge & Benko (2014), the instructional shifts are viewed as a “necessary corrective” (p. 176) to current instructional practice.

Text quality and complexity. Standard 10 of the CCSS is unique in how it draws attention to quality, complexity, and range of texts to which students are exposed. Appendices A and B of the CCSS highlight the importance of selecting texts of rich quality and appropriate complexity, as measured by a three-part model of complexity, ensuring students have regular opportunities to practice with texts that put them on a trajectory for the expectations of college and career (Student Achievement Partners, 2011). The shift from skills-based instruction both draws specific attention to the complexity of texts students should be working with at each grade level and suggests that instruction should attend to the features that make a particular text challenging, instead of privileging generic reading skills and strategies. Shanahan (2014) contrasted past standards with the CCSS:

Past standards were explicit about the cognitive skills students had to demonstrate during reading (e.g., summarization, inferring, recalling literal information). The CCSS still describe such cognitive skill requirements, but they also indicate how demanding the texts must be where students are expected to implement these skills. (p. 11)

This shift emerged because of evidence of a steady decline over time across Grades K–12 in the complexity of textbooks while, at the same time, writing in college texts and science journals had become increasingly complex. Williamson (2004) found a 305 Lexile gap equivalent to 1.5 standard deviations between end-of-high-school and college texts—more than the Lexile difference between the fourth and the eighth grade NAEP reading assessments. This focus on the complexity of texts is found in Reading Standard 10 of the CCSS, which specifically calls for students to read and comprehend grade-level literary and informational texts independently and proficiently because it “is essential for high achievement in college and the workplace and important in numerous life tasks” (NGA & CCSSP, 2010, p. 4). For the first time since the standards movement began, there is a single standard devoted to text complexity (Valencia, Wixson, & Pearson, 2014). This is a substantial change from literacy practice, particularly in the elementary levels, where students are often asked to read texts that are at their instructional level (Shanahan, 2014).

Evidence. Supporting students in reading, writing, and speaking grounded in evidence is the focus of the second shift. This shift draws on Reading Anchor Standard 1, which requires students to read texts closely, using a content-based approach to reading comprehension and shifting the focus away from a predominantly skills-and-strategies approach. Hiebert and Pearson (2013) summarized the shift:

Although NCLB has successfully focused educators’ efforts on making sure that all students have basic literacy skills, it hasn’t produced the thoughtful, critical readers and writers we desire. By going beyond NCLB’s fascination with the

basics, we can transform the literacy curriculum into what we wanted in the first place: a systematic effort to develop engaged and powerful readers, writers, and thinkers. (p. 49)

This shift raises the question of how the standards shape students' interaction with the content of the text (Hodge & Benko, 2014), calling for students to begin to draw meaning of the text through general content-based questions. In a supporting study that compared a content-based instructional approach with a strategy-driven approach, urban fifth graders performed significantly better with the content-based approach (McKeown, Beck & Blake, 2009).

A pedagogical approach often connected with this shift is close reading. The ELA CCSS (2010) call for students who are college and career ready to be able to read texts closely and critically. "Students who meet the Standards readily undertake the close, attentive reading that is at the heart of understanding and enjoying complex works of literature" (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010, p. 4). Attention on close analytic reading is often cited as a cornerstone of CCSS instruction (Brown & Kappes, 2012; Fisher & Frey, 2012; Shanahan, 2012). Close reading is an instructional method in which students critically examine a text, especially through repeated readings. Fisher and Frey (2012) stated, "This practice has been used at the secondary and college levels (e.g. Richards, 1929), but specific research on the implementation of close reading with elementary students is lacking" (p. 179). The emphasis on close reading, a more holistic and focused exploration of text, could be traced to the disappointing findings of the Reading First Program and its emphasis on skills and strategies (Sparks, 2012). According to Susan B. Neuman, professor of educational studies, educators' "knowledge of comprehension is changing. We used to teach strategies, on the assumption that those strategies would

translate to any text. Now we recognize that transferability has real problems; we need to teach in the context of the text” (Sparks, 2012). Dr. David Pearson, a literacy scholar from the University of California, Berkley, and a member of the CCSS validation committee, noted close reading of texts and grounding of reading in the disciplines as two big ideas underlying the Common Core (Sparks, 2012). The focus on close reading of complex texts and the importance of content area literacy is a fundamentally different pedagogical approach than previous emphases on skills-based reading instruction per state standards.

Building knowledge. Building knowledge is the third shift driving the standards, and is evident throughout the standards themselves (Shanahan, 2014). It is described in the introduction to the standards as one of the seven characteristics of being College and Career Ready (CCR):

Students establish a base of knowledge across a wide range of subject matter by engaging with works of quality and substance. They become proficient in new areas through research and study. They read purposefully and listen attentively to gain both general knowledge and discipline-specific expertise. (NGA & CCSSO, 2010, Introduction)

A cluster of the standards is devoted to the integration of knowledge and ideas. Standards for reading with informational texts are presented separately from standards for reading with narrative texts, with each of four clusters of reading standards represented by separate, but equivalent, representations for narrative and informational text. In addition, the amount of informational text increases relative to narrative text over the school years. The CCSS authors provided ratios for the proportions of informational and narrative texts that should form the foundation of the school day at different grade levels, using the guidelines from the U.S. Department of Education’s Institute of Education

Sciences, National Center for Education Statistics (2016) for the NAEP reading assessment (Cervetti & Heibert, 2015).

Knowledge is a critical foundation to reading comprehension, one that had largely been marginalized during the skills-focused NCLB, when social studies and science often gave way to extended reading blocks (Hiebert & Pearson, 2013). Readers who have prior knowledge and experience with particular topics can more readily make connections between what they are reading and what they know (Cervetti & Hiebert, 2015; McLaughlin, 2012; Pearson, Hansen, & Gordon, 1979). As referenced previously, students with developed knowledge on a subject (either from direct instruction or from background experience) performed better on a comprehension assessment on the topic than students with less content expertise, despite reading ability (Pearson et al., 1979; Recht & Leslie, 1988). The CCSS restore the importance of building knowledge in reading comprehension, in a sense adding a sixth pillar to the findings of the 2000 National Reading Panel (Cervetti & Hiebert, 2015).

How the standards will ultimately influence teaching practice, curricular materials, or a host of other factors influencing student achievement has been widely contemplated (Applebee, 2012; Hodge & Benko, 2014; Pearson, 2012). Kamil et al. (2011) warned that, “while the standards themselves promise to be research-based, conducting research on the effects on reading instruction and achievement of adopting such standards may be extremely difficult” (p. xvi).

The Achievement Gap

NCLB was drafted not only to ensure all students would become proficient in math and reading by 2013–2014 but also to close a substantial achievement gap between special populations and majority peers. However, this has not happened. In 2015, two

thirds of U.S. middle school students were not reading at a proficient level (U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics, 2016). While the NAEP has shown student achievement in reading has flatlined or made a very moderate uptick in the last 15 years, the headline has been a persistent and, in some cases, widening achievement gap for students from low-income families, English Language Learners, and students with Individualized Education Plans (IEPs) versus children who do not meet those criteria. Considering that this study focused on core reading instruction, rather than targeting support for students on IEPs, and that the data disaggregation in this study highlights many low-income students receiving federal Free and Reduced Lunch (FRL) support, the effects of poverty on achievement are the focus of this review.

Achievement gaps are related to both out-of-school factors and school-level institutional practices (Diamond, Randolph, & Spillane, 2004). Since the 1970s, the achievement gap for students of low SES has grown nearly 40% beyond what it was decades earlier, which contrasts with the black–white achievement gap that has reduced significantly in that same time period (Reardon, 2013). While racial inequality has dropped, it is far from eliminated; however, economic inequality has reached historic highs, and “now exceeds racial inequality in education outcomes” (Reardon, 2013, p. 12). The gap in income between high-income and low-income families has increased substantially, meaning that a high-income family has many more resources relative to low-income families than was the case 30–40 years ago. Furthermore, upward social mobility has become far less certain, making it increasingly difficult for children to rise through education and hard work to the higher social strata.

According to the National Center for Educational Statistics (2013), the substantial gap in income inequality emerges through variation in students' reading achievement levels. The reading gap between poverty and non-poverty fourth graders has remained steady for the past 15 years, with an approximate ten point gap between the two groups on the NAEP (Sousa & Armour, 2016). However, recent research has shown that low-SES students make increasingly less progress than their middle- and high-SES peers as they move through school, often described as the Mathew Effect or the phenomenon of accumulated advantage by which the rich get richer and the poor get poorer (Strand, 2014). Ultimately, low-SES students are less likely to succeed in elementary and secondary schools and less likely to attend a higher education institution (Wyner, Bridgeland, & Dilulio, 2007).

Low-SES students' performance is attributed to both out-of-school and within-school factors connected to differences in school quality and teacher expectations (Strand 2014). School systems are structured around middle- and upper-class values, which can be further exacerbated with schools' focus on individual students independent of social class. In their study, Dunne and Gazeley (2008) found that teachers tended to connect lower-SES achievement to factors beyond their sphere of influence, such as home life conditions. However, teachers were more likely to look to classroom solutions for addressing middle-class students' underachievement. Ultimately, the researchers found "differences in the ways that teachers constructed the underachievement of middle-class and working-class pupils, and these prompted different strategies for addressing it" (p. 461). Further, many of the practices used by teachers actually enhance middle- and upper-class experiences, which only expands gaps between social class.

Teachers interact with students differently based on how they expect them to perform, profoundly affecting students' academic success. As found in Rosenthal's 1968 study, teacher expectations influence even the smallest day-to-day interactions which, over time, intensify to shape a child's academic trajectory (Dunne & Gazeley, 2008; Sorhagen, 2013). According to Dunne and Gazeley (2008), teachers consistently described lower educational and occupational goals for lower-SES students; in light of the Pygmalion Effect, these beliefs lead to self-fulfilling prophecies of lower achievement. Then, as these students demonstrate low achievement, "teacher expectations for the student's future performance will be low, leading the teacher to present less rigorous content for the student to master, with less intensive instructional and interpersonal engagement, keeping the student's academic achievement low" (Gaynor, 2012, p. 34). Studies have shown that positive expectations can increase student performance whereas students whose teachers underestimate their abilities achieve less (Sorhagen, 2013). Furthermore, "teacher expectations have a more substantial impact on more vulnerable students, including students from low-income families, as well as low-achieving students, students who perceive differential treatment from teachers, and minority students" (Sorhagen, 2013, p. 465).

Compounding the effects of teacher expectations with the focus of NCLB to close the achievement gap through test scores, the curricular focus for low-SES students has been on relatively low-level tasks assumed to yield gains on year-end assessments (Vitale & Joseph, 2008). Hackman (2005) found that classrooms with low-SES students are devoid of critical thinking because of low teacher expectations. These lower expectations can lead to long-term effects in student achievement. In a 2013 longitudinal study, Sorhagen found that underestimating a child's language skills disproportionately affected

children from poorer families with respect to reading comprehension, word knowledge, and verbal reasoning test scores, consequently affecting student performance ten years later on standardized assessments. Interestingly, the effects of teachers' underestimation of basic reading abilities do not differ by income, gender, or ethnicity, and students who are placed in advanced reading groups perform better on reading assessments regardless of prior reading ability (Allard & Santoro, 2008; Sorhagen, 2013; Vitale & Joseph, 2008).

The Current Study

To support educators in an era of reading instruction framed within the policy of the CCSS, professional learning is essential. The International Reading Association (2012) has explicitly acknowledged that the CCSS, with their emphasis on text complexity, evidence, and building knowledge, require careful and strategic professional learning for teachers. The IRA noted that with the inclusion of Standard 10, or the complexity standard, the CCSS encourage teachers to engage all students in reading some texts they may struggle with in terms of fluency and reading comprehension. It has also acknowledged that "this represents a major shift in instructional approach.... To accomplish this shift successfully, teachers must have access to appropriate instructional resources and professional learning opportunities that support them in providing such scaffolding" (IRA, 2012). In making these shifts, educators must be cognizant of how and whether diverse learners are achieving academically through changes in instructional practice aimed to meet the standards.

This program evaluation seeks to understand the effectiveness of the CTiP, one district's inquiry-driven professional learning program to support teachers in implementing the CCSS in reading. The evaluation is divided into two parts. The first section examines how the program impacted teachers' instructional planning and

practice, and self-efficacy in understanding and implementing the CCSS. The following research questions drive Part 1 of the study, perceived impact on teacher practice:

Research Question 1: How did participation in the CTiP influence instructional planning and practice?

Research Question 2: How did participating in the inquiry-based CTiP impact teachers' self-efficacy in implementing the CCSS?

The second part of the study examines how the program impacted student learning through teachers' anecdotal reflections and summative reading achievement data. Additionally, data are disaggregated to understand how special populations, particularly low-SES students, performed as a result of their teachers' participation in the CTiP. The following research questions guide Part 2 of the evaluation:

Research Question 3: How did teachers perceive the impact of CTiP learning and lesson implementation on student learning?

Research Question 4: How did student performance, as measured by student growth percentile, on the 2013 skills-based state CRT for students of Cohort 1 teachers compare to grade-level peers whose teachers did not participate in the training? Were there significant differences with special populations, specifically students designated with IEPs, low-income students, or English Language Learners?

Research Question 5: How did student performance, as measured by student growth percentile, on the 2014 skills-based state CRT for students of Year 2 Cohort 1 teachers compare to grade-level peers whose teachers did not participate in the training? Were there significant differences with special populations, specifically students designated with IEPs, low-income students, or English Language Learners?

Research Question 6: How did student performance, as measured by mean percentile rankings, on the 2016 CCSS-aligned Smarter Balanced Assessment (SBAC) for students of Cohort 1 teachers compare to grade-level peers whose teachers did not participate in the training? Were there differences with special populations, specifically students designated with IEPs, low-income students, or English Language Learners?

Logic Model Framework

This study is a program evaluation in that it evaluates the impact of the CTiP on teacher practice and student learning, of those teachers and participants directly impacted by the professional learning, rather than aiming to produce generalizable and theory-testing findings. However, like research, “both program evaluation and evaluation research bring an empirical perspective to bear on questions of policy and program effectiveness” (Patton, 2008, p. 41). To this end, this program evaluation uses a logic model as the overarching methodological frame, using qualitative and statistical analyses, to understand the program’s impact on teacher practice and student learning. The logic model of program evaluation is a way for programs and organizations to systematically collect information about the activities and results of programs to make judgments and ultimately improve or further develop program effectiveness.

A logic model is a visual representation of a theory of action or program logic that guides the design and implementation of a program and can be a tool for building an evaluation design (Shakman & Rodriguez, 2015; W. K. Kellogg Foundation, 2008). Logic models use pictures and words to reveal the relationships between the program or policy inputs such as resources, strategies, activities, and the desired outcomes of the program. They can also present a theory of action or change that drives the program or policy and makes explicit any assumptions about both the resources and rationale of the

program, sometimes referred to as a program theory (Cooksey, Gill, & Kelly, 2001). The term *logic model* has been used interchangeably with *program theory* because they both describe how a program works and to what end (W.K. Kellogg Foundation, 2008). As Shakman and Rodriguez (2015) explained,

A logic model is useful in designing program and policy evaluation, because a logic model helps clarify both what the program, initiative, or policy is and what it is not. This kind of clarification is helpful in building an evaluation design that can capture the program's or policy's influence and impact. (p. 11)

While program evaluation plays an important role in determining program effectiveness for stakeholders and investors, Kellogg (2008) and Patton (2008) identified an imbalance in human service evaluation work that overemphasizes proving a program works, with less attention aimed at improving programs. Research in the natural sciences is designed to explain what happened and to show causal relationships between certain outcomes and the intervention aimed at producing the outcomes. There are limitations in applying the deductive research paradigm of the natural sciences model of testing hypotheses about the impact of a social initiative using statistical analysis techniques. “When the balance is shifted too far to a focus on measuring statistically significant changes in quantifiable outcomes, we miss important parts of the picture. This ultimately hinders our ability to understand the richness and complexity of contemporary human-services programs” (Kellogg, 2008, p. 6). For example, evaluation may focus on implementation, program processes, or unanticipated consequences, which are all more than a research-focused statistical analysis may reveal though they are areas that may ultimately inform recommendations. While demonstrating effectiveness is a critical aspect of program evaluation, gathering and analyzing data to improve the initiative is equally important.

Using a logic model for program evaluation allows the researcher to more fully understand and depict the range of factors that may influence outcomes rather than reducing it to a single causal relationship. What follows is a flowchart that summarizes the steps of the logic model specifically developed for the CTiP, as well as the outcomes used to generate the research questions (Figure 2). While I gathered data addressing the short-term outcomes during and shortly after the program, the medium-level student achievement outcomes, or those outcomes that demonstrated a change in behavior, were a central aspect of this program evaluation.