2018

Collaborative video-aided coaching as a method of supporting teachers' implementation of highly effective literacy instruction

BOSTON UNIVERSITY

SCHOOL OF EDUCATION

Dissertation

COLLABORATIVE VIDEO-AIDED COACHING AS A METHOD OF SUPPORTING TEACHERS' IMPLEMENTATION OF HIGHLY-EFFECTIVE LITERACY INSTRUCTION

by

MICHELLE CARNEY

B.A., Roger Williams University, 2003
M.A., Roger Williams University, 2007

Submitted in partial fulfillment of the

requirements for the degree of

Doctor of Education

2018

Approved by

First Reader

Jeanne R. Paratore, Ed.D.
Professor of Language and Literacy Education

Second Reader

Evelyn L. Ford-Connors, Ed.D.
Senior Lecturer in Language and Literacy Education

Third Reader

Rachel L. McCormack, Ed.D.
Professor of Literacy Education
Chair of Elementary Education
Roger Williams University

DEDICATION

I dedicate this work to the teachers who gave of their time and efforts to make it possible.

ACKNOWLEDGMENTS

I want to thank my advisor, Jeanne Paratore, for her expert guidance and support as I engaged in this study. I am also thankful for the opportunities I had to work together with Jeanne and teachers in schools. These experiences have been invaluable in my educational journey and serve to inspire my continuing work. I am also grateful to Lee Indrisano for her wise and warm counsel and for our time together with the *Journal of Education*. I offer this dissertation as a contribution to the sum of knowledge generated in the service of practice. I want to thank committee member Evelyn Ford-Connors for her generosity of spirit and valuable insights. I also thank committee member Rachel McCormack for her research support and the important advice to breathe. I thank Susan Pasquarelli for providing the foundation on which I continue to build. I extend special thanks also to my school-based team for their support.

To my literacy ladies, Jamie, Susan, and Chu, your friendship and amazing minds have changed me. I am also grateful to the Clubhouse, who, through the finest of food and company sustained me through the process. I am especially grateful to Diane for her belief in me, and Rachael for being the better half of our PIC team.

I want to thank my family, for which there are few words to express my love and gratitude. I am endlessly grateful for the collective support systems that kept it all going through these years of long writing sessions. To my remarkable David, thank you for your unwavering support and love, you knew what I could do before I did. Lastly and with all my heart, I thank our magnificent, brilliant daughters, Abigail and Jane. You each inspired me each day.

COLLABORATIVE VIDEO-AIDED COACHING AS A METHOD OF SUPPORTING TEACHERS' IMPLEMENTATION OF HIGHLY-EFFECTIVE LITERACY INSTRUCTION

MICHELLE CARNEY

Boston University School of Education, 2018

Major Professor: Jeanne R. Paratore, Ed.D., Professor of Language and Literacy Education

ABSTRACT

This mixed-methods, multiple-case study examined changes in novice teachers' instruction in the context of a collaborative video-aided coaching model. The aim was to provide literacy coaching that leveraged the affordances of video viewing to increase teachers' knowledge and use of highly effective literacy instruction, and so increase their instructional efficacy. During six coaching cycles over a 5-month period, teachers recorded their instruction, co-viewed and co-analyzed instructional videos with a literacy coach, and then after receiving coaching, record subsequent videos. Subsequent videos were searched for evidence of teachers' implementation of the coaching suggestions that were introduced in the co-viewing sessions. Data sources included the teachers' lesson videos and the audio recordings of the co-viewing coaching sessions. Through frequency counts and implementation quality ratings, the study sought to examine the frequency to which teachers implemented the specific instructional suggestions made in the co-viewing sessions and to what level of effectiveness. While mean quality ratings over the six coaching cycles indicate teachers increased their instructional efficacy from initial to final lesson video, this growth was not linear and differed across instructional strategies.

For each case, quantitative findings are explained using qualitative data analysis derived from co-viewing and video transcripts. This study informs the field of a potential coaching model that employs synchronous and collaborative video viewing as means of raising teacher efficacy.

TABLE OF CONTENTS

LIST OF TABLES

List of Figures

CHAPTER ONE

Statement of the Problem

Results from the most recent national reading assessments show students from low-income, culturally diverse, urban communities continue to lag behind their peers from more economically advantaged communities (National Center for Educational Statistics [NCES], 2018). In 2015, students who were eligible for free or reduced lunch had an average score that was 58 points lower than those who were not eligible – a gap wider than in 2002 (25 points) (NCES, 2018).

Some researchers argue that the persistent achievement gap can be partly explained by the high percentage of novice teachers who make up the faculty in low performing, high-poverty schools (Darling-Hammond, 2000, Ingersoll & Merrill, 2010; Sailors & Price, 2010; Walpole, McKenna, Uribe-Zarain, & Lamitina, 2010) who may have yet to develop the expertise necessary to meet the sometimes complex learning needs of students from diverse backgrounds. Advancing teachers toward higher levels of expertise requires considerable time – upwards of 30 to 100 hours over a school year--to impact student achievement (Yoon, Duncan, Lee, Scarloss, & Shapely, 2007). Given the pressing need to provide students attending schools in high-poverty districts equitable access to highly effective instruction, it is critical to investigate innovative models that efficiently develop teachers' expertise.

Research Foundation

Research confirms that teachers' level of expertise matters in terms of student outcomes (Darling-Hammond, 2000; Ferguson, 1991; Sanders & Rivers, 1996; Virshup, 1997), with high-quality teaching outweighing the negative effects of low-income status and sociocultural diversity (Ferguson, 1991; Taylor, Pearson, Clark, & Walpole, 2000). Expert teachers develop through experience and effective professional development (Berliner, 1988; International Reading Association, 2010). They draw on well-developed funds of "pedagogical content knowledge" (Shulman, 1987, p. 8) and reflective practices to plan and respond to students' learning (Berliner, 1988; Schön, 1983).

Research supports literacy coaching as an effective professional development model that develops teachers' pedagogical content knowledge (Biancarosa, Bryk, & Dexter, 2010; Elish-Piper & L'Allier, 2010; Neuman & Wright, 2010; Poglinco, 2003; Teemant, Wink, & Tyra, 2011; Van Keer & Verhaeghe, 2005; Walpole et al., 2010), and critical reflection (Gelfuso & Dennis, 2014; Joyce & Showers, 2002). This pedagogical growth then leads to increased student achievement (Biancarosa et al., 2010; Kennedy & Shiel, 2010; Matsumura, Garnier, Correnti, Junker, DePrima, & Bickel, 2010; Sailors & Price, 2010).

These positive outcomes can, in part, be attributed to the ways in which literacy coaches enact the principles of effective PD, providing support that is contextualized in the local teaching context, sustained over time, and responsive to the needs of individual teachers and their students (Darling-Hammond & Richardson, 2009; Learning Forward, 2015; National Center for Staff Development, 2015). Effective coaching actively

engages teachers in their professional learning and promotes reflection and refinement of instruction with the support of a more knowledgeable other (Dillon, O'Brien, Sato, & Kelly, 2011; Neuman & Wright, 2010; Walpole & McKenna, 2010). However, despite teachers' access to coaching, the achievement gap remains.

Coaching for meaning-oriented instruction. Research confirms that students from low-income households, like all students, are best served by meaning-oriented instruction that develops strategic thinking and conceptual understanding (Knapp, 1995; Langer, 2001; Taylor, Pearson, Paterson, & Rodriquez, 2005). Meaning-oriented instruction strategies are complex, comprising multiple, interrelated components that work in synergy. For example, cognitive strategy instruction requires teachers to act on knowledge of the strategies readers use as well as how and when they carry out these strategies (Duffy, 1993). Similarly, dialogic approaches to text comprehension require knowledge of talk moves that facilitate productive student discussions, which, in turn, support text comprehension (Wilkinson et al., 2010).

Studies have investigated how coaches support teachers' implementation of these complex strategies in urban classrooms (Neuman & Wright, 2010; Pomerantz & Pierce, 2013; Sailors & Price, 2010; Teemant, et al., 2011; Wilkinson et al., 2010). Accumulating evidence suggests that teachers, even with intensive models of coaching (Sailors & Price, 2010; Teemant et al., 2011), find full implementation of meaning-oriented instructional strategies challenging. Across studies, teachers working with coaches to enact complex teaching strategies more readily implemented some dimensions of practice over others. For example, teachers more readily implemented changes related to (1) structural

characteristics of the classroom (e.g., book areas, writing centers) (Neuman & Wright, 2010); (2) collaborative learning opportunities (Pomerantz & Pierce, 2013; Sailors & Price, 2010; Teemant et al., 2011); and (3) explanations of useful comprehension strategies (Sailors & Price, 2010). In contrast, teachers implemented less often the qualities of teacher talk associated with language and literacy development such as open-ended questioning, formative feedback, and eliciting student participation and explanation (Neuman & Wright, 2010; Pomerantz & Pierce, 2013; Teemant et al., 2011). During comprehension instruction, teachers less frequently provided (1) explanations of procedural knowledge, (2) effective guided practice, (3) opportunities to develop conditional knowledge, and (4) facilitative feedback (Pomerantz & Pierce, 2013; Sailors & Price, 2010).

These findings underscore the complexity of achieving meaningful instructional change. That is, despite participation in coaching interactions such as demonstration, observation, and feedback, teachers do not successfully implement all the components that comprise complex instructional strategies, particularly the instructional language that undergirds effective comprehension instruction (Duffy, 1993; Pressley & Gaskins, 2006). For beginning teachers who are still developing metacognitive awareness and reflective habits that are associated with the development of teaching expertise, fully grasping and putting into practice complex instructional strategies is likely an even greater challenge (Roehrig, Bohn, Turner, & Pressley, 2008). Thus, it stands to reason that to close the achievement gap in school settings largely populated by novice teachers, modifications or additions to typical coaching models are needed to increase teachers' comprehensive

implementation of complex pedagogical strategies rather than "surface-level implementation" (Walpole et al., 2010, p. 16).

Video-aided coaching. A growing body of research points to the potential of video as a powerful learning tool for teachers (Marsh & Mitchell, 2014; Shanahan, Tochelli-Ward, & Rinker, 2015). Through video, teachers gain opportunities to *relive* their own instruction with a focus on *reflecting* and *refining* their practice (Sherin & van Es, 2005; Tripp & Rich, 2012). Whereas typical coaching models are based on *recollected* instructional episodes and rely to a great extent on teachers' and coaches' recall of the intentions, events, and outcomes of instruction, video-aided coaching is based on a shared *relived* experience. Through the rich audio-visual record afforded by video, teachers and coaches are each equal observers of instruction as it unfolds (Borko et al., 2008), so each has opportunities to notice teaching or learning behaviors that may have escaped attention during the "live" lesson (Tripp & Rich, 2012). My own experiences working as a research assistant supporting video-aided professional development initiatives in public schools also informed my decision to explore video as a potential amplifier of coaching efficacy (see Robertson, Ford-Connors, & Paratore, 2014)

Recent studies across various content areas have shown that when teachers are observers of their own instruction via video, they improve their "professional vision" (Sherin & Russ, 2015, p. 4), or their ability to notice salient features of instruction and apply knowledge-based reasoning to better understand these observations. Teachers improve their ability to make causal connections between instructional decisions and student learning outcomes, and so increase pedagogical knowledge (Borko et al., 2008;

Ermeling, 2010).

Although these findings are encouraging, they are limited in a number of ways. First, video-aided literacy coaching has been studied in a limited range of settings including preservice (Calandra, Gurvitch, & Lund, 2008; Gelfuso & Dennis, 2014; Rich & Hannafin, 2008); clinical (Roskos, Boehlen, & Walker, 2000); and in conjunction with university- based coursework (Wilkinson et al., 2010). Studies conducted in urban settings are limited to video-aided coaching of preschool teachers (Neuman & Wright, 2010; Pianta, Mashburn, Dower, Hamre, & Justice, 2009). Second, findings are limited in terms of the contexts in which videos are viewed. Researchers have examined outcomes of teachers and coaches independently viewing instructional videos, often with the aid of guides or rubrics, but absent are studies investigating outcomes of coach/teacher dyads co-viewing and co-analyzing video. Given the positive contributions of collaboration to adult and professional learning (Darling-Hammond & Richardson, 2009; Merriam, 2001), it is worthwhile to examine how co-viewing and co-analysis of video increases teacher growth. Moreover, co-viewing and co-analysis of recorded instruction may be especially important to novice teachers who may have yet to develop metacognitive awareness or the content knowledge and dispositions that undergird critical self-reflection to benefit from solitary viewing of their own videos (Berliner, 1988; Schön, 1983). It is this gap that this study set out to address.

Purpose of the Study

This multiple case study examined the effect of literacy coaching that occurred during coach-teacher dyads' collaborative viewing and analysis of teachers' video-

recorded lessons on subsequent instruction. The following questions informed the study's design, data collection, and analysis:

1. In a coaching context that includes co-viewing and co-analysis of teachers' video-recorded lessons, do novice teachers advance toward highly effective literacy teaching?
2. If so, does the development of highly effective literacy teaching vary by instructional strategy?

Description of Terms

Comprehension strategy is a systematic plan that is intentionally enacted to construct, monitor, and repair comprehension while reading text (Paris, Lipson, & Wixson, 1994).

Conditional knowledge is knowledge of when and why to apply various strategies (Paris et al., 1994)

Declarative knowledge is knowledge about a task (what the task is) and personal beliefs about a task that can be used to help individuals set goals and adjust actions in response to task conditions (Paris et al., 1994)

Highly effective literacy instruction for adolescents attends to students' affective dispositions about literacy, teaches strategies aimed at acquiring and communicating knowledge across the curriculum, is situated in meaningful collaborative and discursive contexts and leverages out-of-school literacies (Alvermann, 2002; Langer, 2000; Wade & Moje, 2000)

Literacy coach is an individual with expertise in literacy instruction that serves as a non-evaluative support to teachers in delivering effective instruction for all students (Bean, Draper, Hall, Vandermolen, & Zigmond, 2010; International Literacy Association, 2015; Neufeld & Roper, 2003a; Walpole & McKenna, 2010).

Meaning-oriented instruction is instruction that emphasizes meaning making during learning experiences such as reading, writing, problem solving, and projects (Knapp, 1995).

More knowledgeable other is a person who has more experience or knowledge acting in support of another's learning (Vygotsky, 1978).

Procedural knowledge is knowledge of how to carry out a task or strategy, "often acquired through direct instruction or induced from repeated experience" (Paris et al., 1994, p. 797)

Strategies are "actions selected deliberately to achieve particular goals" (Paris, Wasik, & Turner, 1996, p. 611)

Strategic teaching is when teachers demonstrate, guide, and offer independent practice of helpful strategies aimed at helping students achieving literacy goals (Duffy et al., 1987; Pressley et al., 1992).

Video-aided coaching is a coaching approach that uses video recordings of a teacher's own instruction to facilitate that teacher's professional growth (Marsh & Mitchell, 2014; Sherin & van Es, 2009; Tripp & Rich, 2012)

CHAPTER TWO

Review of the Literature

Literacy coaching is a common form of school-based professional development (Denton & Hasbrouck, 2009; Dole, 2004). Researchers have reported positive effects of literacy coaching on teachers' knowledge and use of evidence-based practices (Biancarosa, Bryk, & Dexter, 2010; Neuman & Wright, 2010; Sailors & Price, 2010; Walpole et al., 2010) and improvement in student achievement (Bean, Draper, Hall, Vandermolen, & Zigmond, 2010; Matsumura, Garnier, Correnti, Junker, & Bickel, 2010; Sailors & Price, 2010). However, despite access to literacy coaches, persistent trends of low achievement in schools that serve high-poverty communities continue (NCES, 2018).

This study was situated in this disparity. Given the positive findings associated with coaching, it seemed logical to question why a more robust achievement response to its use had yet to be seen in low-performing schools. At the outset, I hypothesized that teachers who serve in urban middle schools need more support than that offered by prevalent coaching models to effectively meet the diverse and complex needs of their students.

As technology has improved, researchers and teacher educators have looked to video-based professional learning opportunities to develop teachers' expertise. As a learning tool, video helps teachers "*notice what they do"* so they can reflect on "*what to do*" to advance their instructional practice toward expertise (Sherin & van Es, 2005, p. 476, emphasis added). Given the research that indicates expert teachers notice and reflect on consequential events in their instruction (Berliner, 1988), video has promise as a

coaching tool to increase reading teachers' expertise in implementing the type of complex, high-leverage literacy strategies that raise student achievement (Robertson et al., 2014; Sherin & Russ, 2015; Tripp & Rich, 2012). My own experiences working as a research assistant supporting video-aided professional development initiatives in public schools also informed my decision to explore video as a potential amplifier of coaching efficacy (see Robertson et al., 2014)

This study investigates a coaching model aimed at teachers' effective implementation of complex instruction strategies. The model is framed by two key components. First, teachers have opportunities to co-view video recordings of their own instructional episodes with the support and guidance of a literacy coach. Second, co-viewing and co-analysis will yield actionable suggestions aimed at improving teachers' instructional efficacy. Co-viewing of subsequent videos is expected to provide teacher and coach opportunities to discuss and refine the implementation attempts of the instructional suggestions. Through this cycle of recording, viewing, and coaching teachers will gain knowledge of effective practices that promote student learning (Ermeling, 2010; Marsh & Mitchell, 2014; Wilkinson et al., 2010), and foster habits of self-reflection as they refine their instructional practice (Berliner, 1988; Schön, 1983; Sherin & van Es, 2005).

In the next section, I present theoretical and empirical foundations for these components. First, I review research on the nature of expertise and of teacher expertise specifically to establish the defining characteristics and dispositions of those who are highly skilled in their field. Second, I provide the key principles of high-quality

professional development associated with advancing teacher expertise, and how literacy coaching enacts those principles. Third, I identify highly effective instructional practices in adolescent literacy instruction gleaned from the literature and studies of low-income, high achievement schools. Then, I review coaching studies aimed specifically at supporting teachers' implementation of these types of instructional approaches. Lastly, I report on studies of video-based professional development approaches that informed the development of a video aided literacy coaching model.

The Nature of Expertise

For those who support teachers in their development, it is useful to understand the nature of expertise itself. This section reviews first, the nature of expertise and then specifically, expertise in teaching.

Research shows that experts share a number of distinctive attributes that distinguish them from less experienced individuals within a domain (Chi, Glaser, & Farr, 1988). First, experts have well-structured, domain-specific knowledge gained through extensive experience and study (Chi, Glaser, & Farr, 1988; Schoenfeld, 1985). Experts apply this knowledge to decisions made within their domain through "… strong interactions between structures of knowledge and processes of reasoning and problem-solving" (Chi et al, 1988, p. xxi). Second, experts carry out the skills and tasks of their domain with a high level of automaticity, allowing them to shift cognitive attention from less consequential issues to those of more critical nature (Schoenfeld, 1985). As a result, experts notice meaningful patterns and attend to "higher level principle-based categories" (Chi et al., 1988, p. x) when solving problems rather than superficial details. As

described by educational theorist Donald Schön, (1983), "One of the hallmarks of the professional is the ability to take a convergent knowledge base and convert it into professional services that are tailored to the unique requirements of the client system" (p. 45). Third, experts frequently engage in critical self–reflection to identify errors, assumptions, levels of understanding, and to consider possible solutions (Schön, 1983). Fourth, experts excel mainly in their own domains, suggesting expertise is due to extensive domain specific knowledge and practices rather than innate cognitive abilities (Chi, Glaser, & Farr, 1988).

Teaching expertise. Like experts in general, expert teachers have well-developed bodies of domain and practical knowledge, effective problem-solving skills, and a reflective disposition toward their practice (Berliner, 1988; Shulman, 1986). To teach well, expert teachers must draw on their pedagogical content knowledge (PCK), a construct that includes "subject matter content knowledge, pedagogical knowledge, and curricular knowledge" (Shulman, 1986, p. 9). Moreover, expert teachers draw on their PCK to strategically "blend content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented, and adopted to the diverse interests and abilities of learners, and presented for instruction" (p. 8). They have many routinized strategies and are efficient in selecting the most productive methods to teach intended knowledge and to predict and respond effectively to likely misconceptions (Berliner, 1986; Leinhardt & Greeno, 1986).

Expert teachers also notice consequential events and interactions during instruction and display a disposition to analyze and reflect on these episodes (Berliner,

1988; Osterman & Kottkamp, 2004; Schön, 1983). Educational theorist John Dewey (1933) defined this as the ability "to look back over what has been done so as to extract the meanings which are the capital stock for intelligent dealing with future experiences" (p. 110). Shulman describes this reflective practice as when a teacher "looks back at the teaching and learning that has occurred and reconstructs, reenacts, and/or recaptures the events, emotions, and the accomplishments. It is that set of processes through which a professional learns from experiences" (p. 19). Schön adds to the construct of reflection by describing expert teachers' ability to notice consequential aspect of instruction during the instructional episode and respond in the moment. He termed this "reflection-in-action" (p. 83).

Moreover, when reflecting, expert teachers are more likely than less expert teachers to consider factors beyond the student for the source of unexpected learning difficulties (Berliner, 1988). Expert teachers respond to this dissonance (Dewey, 1933) with knowledge-based reasoning to determine the nature of the problem, the appropriateness of the current instruction, and possible adjustments (Goodwin, 1994; Leinhardt & Greeno, 1986).

These markers of expertise can be observed in studies of teachers whose students "beat the odds" despite socioeconomic based challenges (Taylor, Pearson, Clark, & Walpole, 2000; Langer, 2001). Although a review of the instructional choices made by effective teachers is provided in an upcoming section, it is worthwhile to note here that these studies describe professionals with well-developed content and pedagogical knowledge who make strategic decisions about how to teach specific content to specific

learners (Allington & Johnston, 2001; Langer, 2001; Pressley et al., 2001; Taylor et al., 2000); that is, the expertise described by Berliner (1988) and Schön (1983). Lastly, effective teachers who teach in urban contexts understand and use youth literacies in academic learning, have a strong commitment to providing their students meaningful access to education, and emphasize the development of students' democratic participation (Oakes, Franke, Quartz, & Rogers, 2002).

To review, teaching expertise is characterized by well-developed pedagogical content knowledge and effective problem-solving skills that are informed by comprehensive content knowledge. Additionally, like other experts across domains, expert teachers show a high degree of automaticity in carrying out tasks of the domain, an awareness of consequential aspects and events that occur, and the disposition to reflect on these with the goal of gaining insight and refining practice. They seek to understand causal relationships between teaching and learning outcomes.

Teaching expertise and student achievement. Researchers have described the positive contribution teacher expertise makes to student achievement (Cochran-Smith, 2003; Darling-Hammond, 2000; Hattie, 2009; Sanders & Rivers, 1996; Sanders, Wright, Horn, 1997). The following large-scale studies investigated the relationship between specific qualities of teachers and their students' achievement levels.

Ferguson (1991) conducted an investigation of a data set of 2.4 million students and 150,000 teachers to identify potential factors that contributed to student achievement. Ferguson correlated indices of teacher qualities including (1) teacher performance on a statewide recertification exam (TECAT), (2) years of teaching experience, and (3)

certification status as they related to student standardized test scores and demographic information. After controlling for family and community backgrounds, teachers' TECAT scores (a measure of content knowledge), and experience level made the greatest contribution to student achievement. Ferguson concluded that high-quality teaching - presumably a result of knowledge and experience - outweighed the effects of low-income status, level of maternal education, and sociocultural diversity.

Similarly, in a series of studies using the Tennessee Value Added Assessment System (TVASS), Sanders and colleagues investigated teachers' contributions to students' academic outcomes (Sanders, Wright, Horn, 1997). Like Ferguson, they found teachers to be the most substantial contributing factor to student learning. In a related study, Sanders and Rivers (1996) reported these effects to be additive and cumulative over grade levels, both in positive and negative trajectories. They explained that while students in classrooms with highly effective teachers do make progress, they often do not grow at a rate sufficient to compensate for the reduced rate of growth made in a previous year with a less effective teacher.

Darling-Hammond (2000) conducted a state-level analysis of policy, staffing, and student achievement to identify factors related to student standardized test achievement across grade levels. Similar to Sanders and Rivers (1996), Darling-Hammond found variables assessing teacher quality (certification status, experience level) to be more strongly correlated to student achievement than class size, overall spending levels, or teacher salaries. Moreover, teacher quality variables were also identified as stronger correlates of student achievement outcomes than student demographic indicators (e.g.,

income level, language status, maternal education status).

Taken together, these studies provide compelling evidence that what teachers know and how they act on that knowledge is consequential to student achievement. We also know that expert teachers develop through a combination of experience and high-quality professional development (Berliner, 1988; Darling-Hammond & Richardson, 2005; Ferguson, 1991; Wei, Darling-Hammond, & Adamson, 2010). In the next section, I review general principles of impactful professional development followed by the effectiveness of literacy coaching, in particular, as means of providing professional development to in-service reading teachers.

Principles of High-Quality Professional Development

Researchers have determined that traditional professional development models such as stand-alone workshops rarely contribute to substantive changes in teaching practices (Darling-Hammond & Richardson, 2005; Hawley & Valli, 1999; Learning Forward, 2015; Wei, et al., 2010). Rather, effective professional development (PD) is (a) contextualized in the local setting (Supovitz, Mayer, & Kahle, 2000); (b) focused on developing teachers' content and pedagogical knowledge (Joyce & Showers, 2002; Shulman, 1986; Walpole & McKenna, 2012); (c) aligned with school-wide reform efforts (Supovitz, Mayer, & Kahle, 2002); (d) designed to actively engage teachers through teaching, assessment, observation, and reflection (Darling-Hammond & Richardson, 2009; Wei et al., 2010); and (e) informed by the needs of teachers and students (Darling-Hammond & Richardson, 2009; Hawley & Valli, 1999).

In addition, effective PD is sustained for a sufficient length of time to allow

participants to learn, apply, and refine new knowledge (Yoon et al., 2007). Yoon et al. reviewed nine studies investigating the effect of teacher professional development that met evidence criteria (i.e., experimental or quasi-experimental designs, student achievement outcomes). They reported that studies that had more than 14 hours of PD showed positive and significant effects on student achievement. Those studies that provided teachers less than 14 hours showed no statistically different effects on student outcomes.

Wei et al. (2010) summarized the nature of high-quality professional development as "intensive, sustained, and continuous in a manner that promotes cumulative learning over time" (p. 4).

Literacy coaching. Unlike stand-alone workshop models, literacy coaching is "a strategy for implementing a professional support system for teachers, a system that includes research or theory, demonstration, practice, and feedback" (Walpole & McKenna, 2009, p. 1). Moreover, effective literacy coaching is highly situated in the context in which the new practices will be implemented, the classroom (Garet, Porter, Desimone, Birman, & Yoon, 2001). Several literature reviews (Dillon et al., 2011; Sailors & Shanklin, 2010; Walpole & McKenna, 2009) have found literacy coaching to be an effective model of professional development for in-service reading teachers. These reviewers concluded that when literacy coaching has positive effective effects, it is likely attributable to the manner in which coaching embodies the characteristics of effective professional development (L'Allier, Elish-Piper, & Bean, 2010; Shanklin, 2006; Walpole & McKenna, 2012).

Researchers describe typical coaching models as coach – teacher(s) partnerships working collaboratively to develop effective instruction and to address problems of practice (Bean et al., 2010; Neufeld & Roper, 2003a). Effective coaches develop teachers' knowledge of relevant and effective instructional strategies, and then through recursive cycles of demonstration, observation, and feedback, they assist teachers in the transfer of new strategies into daily instructional routines (Bean et al., 2010; L'Allier & Elish-Piper, 2006; Neufeld & Roper, 2003b; Walpole & McKenna, 2012). In this way, coaches support teachers in developing the what, why, how, and when of a given teaching approach or strategy (Bean et al., 2010). Just as importantly, effective coaches also develop teachers' reflective dispositions through analysis of possible causal relationships between teaching actions and student learning outcomes (Ermeling, 2010; Gelfuso & Dennis, 2014; Heineke, 2013).

Coaching studies also show correlations between the amounts of time teachers spend in coaching activities and student achievement gains. For example, in a study conducted in a Reading First school, researchers found that when coaches spent at least 30% of their time working with teachers, students made significant gains in reading (Elish-Piper & L'Allier, 2010). Other studies have found that coaching relationships that are sustained over eight to ten weeks are more likely to yield meaningful changes in teacher practices and student achievement (Joyce & Showers, 2002; Sailors & Price, 2010; Van Keer & Verhaeghe, 2005). As summarized by Dillon et al., (2011), the practice of literacy coaching:

> …rests on the assumptions that teachers can develop their instructional practices

> through observations of children's performance, seeing others model instructional practices with students in their own classrooms, through talking about their practice with someone viewed as more expert, and through reflection on their own practice. (p. 645)

Lastly, as described by the International Reading Association Standards for Reading Professionals (2010), effective literacy coaches have well-developed pedagogical content knowledge, and knowledge of adults as learners.

Outcomes of literacy coaching. Recent studies show that when coached, teachers experience growth in their professional knowledge (Blachowicz, Obrochta, & Fogelberg, 2005; Gersten, Morvant, & Brengelman, 1995; Neuman & Wright, 2010; Poglinco, 2003; Van Keer & Verhaeghe, 2005; Walpole et al., 2010; Vanderburg & Stephens, 2010; Zwart, Wubbels, Bolhuis, & Bergen, 2008) in ways that improve student achievement (Biancarosa et al., 2010; Elish-Piper & L'Allier, 2010; Kennedy & Shiel, 2010; Matsumura et al., 2010; Lockwood, McCombs, & Marsh, 2010; Sailors & Price, 2010; Walpole et al., 2010). Teachers in coaching relationships are more likely to try new practices and retain and refine these practices over time (Joyce & Showers, 2002).

Coaching as a socially-situated endeavor. However, even as these positive outcomes are reported, researchers acknowledge that literacy is a complex endeavor that is imbued with issues of social identity, self-efficacy, power, and positioning (Atteberry & Bryk, 2011; Rainville & Jones, 2008). Atteberry and Bryk (2011) posit that 'the link between instructional coaching and changes in student learning is predicated on a set of causal connections" referred to as a "causal cascade" (p. 358). This chain of events or

connections includes the establishment of a relationship between coach and teacher, regular coaching interactions, and successful uptake of the desired strategies suggested by the coach.

For that causal cascade to occur, Atteberry and Bryk (2011) suggest other factors must be met. Among these is the consideration of individual teacher agency. The coach might consider the teacher in relation to the target instructional strategy through the concept of zone of proximal development (Vygotsky, 1978) – what does the teacher already know? How far is this practice from their current praxis and knowledge? What might be an appropriate access point for starting? Additionally, Atteberry and Bryk conclude that a professional culture that positions teachers as able problem-solvers and agents of their own learning increases the likelihood of investment and uptake of literacy coaching

In examining individual teachers' interactions, Rainville and Jones (2008) suggested issues of power and positioning also affect teacher and student outcomes in response to coaching efforts. The role of literacy coach requires acknowledging and navigating power differentials as well as enacting various identities (e.g., knower, expert, friend, learner, colleague). Models of coaching that acknowledge issues of identity, power, and positioning and respond to the need for equalizing professional development relationships are ripe for development

Coaching outcomes in school settings. A number of seminal large-scale studies have documented the contribution of literacy coaching to changes in teaching practices in urban settings with high teacher and student mobility, inconsistent professional

development, and diverse student populations (Blachowicz et al., 2005; Knapp, 1995).

In the next section, I first review studies situated in secondary school settings. Second, because identified studies of coaching in the secondary setting relied largely on qualitative, largely descriptive, research designs (e.g., roles, routines, and qualifications) (Blamey, Meyer, & Walpole, 2008), I follow with a brief review of coaching studies in urban elementary and upper elementary settings that used correlational or quasi-experimental designs.

Coaching in secondary school settings. The limited research in secondary coaching suggests that coaches in middle and high schools may have more challenges in enacting their coaching roles due to the larger number of teachers, the highly departmentalized settings, and the need to support disciplinary literacy embodied in various content areas (Blamey et al., 2008; Smith, 2012; Snow, Ippolito, & Schwartz, 2006). Smith (2012) described three contexts for coaching in middle schools, each requiring different skills and bodies of knowledge: the range of literacy programs taught in English/language arts, content area, now understood as disciplinary literacy, and instruction that fosters higher-level thinking and reading comprehension strategies.

Neufeld and Roper (2003a) investigated the induction of literacy coaching in the elementary and middle schools of three urban districts. The researchers described both conditions that supported coaching (aligned with school goals, administratively supported, and sufficient in scope), and the roles coaches enacted (e.g., instructional, curricular, and professional development providers, scheduling and assessment coordinators, as well as bridges between principals and teachers).

Literacy coaches engaged teachers in the Collaborative Coaching and Learning model (CCL), a model that emphasized collaborative coaching, small groups of teachers working with a coach to demonstrate, observe, and debrief a workshop model of instruction. Initially coaches struggled to find and manage the time to meet with teachers, conduct small group PD sessions, and meeting the diverse needs of teachers. However, by year two of the coaching initiative (Neufeld & Roper, 2003b), the researchers reported qualitative findings that included teachers' (a) increased understanding of the role of the coach as a learning partner, (b) increased critical reflection on their own teaching, (c) increased investment and engagement in the collaboration, (d) increased observation of higher quality student work.

In reflecting on the second year of implementation, Neufeld and Roper (2003b) attributed these positive trends to opportunities embedded in the model that supported teachers' ownership, voice, and agency in the particular focus and content of each coaching cycle. Teachers reported that collaboration with coaches combined with the highly contextualized nature of the coaching model – situated in their own classrooms and responding to their own problems of practice - increased their investment in the work. Additionally, teachers "expressed the opinion that the fundamental work of reflecting on practice should be a part of every teachers' professional development" (p. 67).

In her review of secondary school literacy coaching, Sturtevant (2003) reported similar issues, challenges, and potential as Neufeld and Roper, (2003b). She concluded that literacy coaches could serve as a conduit for professional development that builds

collaboration and shared understandings about the application of literacy across the disciplines as liaison between teachers.

Studies of literacy coaching in elementary schools. Biancarosa, Bryk, and Dexter (2010) conducted a four-year, longitudinal study of the effects of Literacy Collaborative (LC), a school reform program partnered teachers with literacy coaches as a means of improving student literacy outcomes. Participants included 8,500 students, 250 teachers and 17 coaches in 17 elementary public schools in the Eastern United States. Coaches trained in the LC model divided their time between professional development sessions, coaching, and teaching students. Classroom teachers received a 40-hour "course" (p. 9) on the components of the LC model, followed by 10-12 hours of continued course work over the school year. Coaches engaged teachers in coaching cycles (e.g., demonstration, observations, guided practice, feedback) to facilitate the transfer of the knowledge gained in the PD coursework into classroom practice. Researchers used hierarchical, value-added-effect models to compare student literacy learning over three years of LC implementation against growth under baseline conditions. They found coaching had a value-added effect on student learning with increased improvements over time (mean effect size = .22, .37, and .43 in years 1, 2, and 3). While the coaching model appeared to be a primary factor responsible for increases in student achievement, the researchers did note the difficulty in isolating coaching's contribution from the addition multiple components of LC (e.g., interactive read-alouds, shared reading, guided reading, interactive reading, and writing workshop) to the schools' curriculum.

In a three-year, randomized study, Matsumura et al. (2010) examined the effects of a Content-Focused Coaching model (CFC) on teaching practices and student achievement in 29 urban, high-poverty, elementary schools. In the CFC model, coaches supported teachers in the implementation of a discussion-based comprehension strategy called *Questioning the Author* (see Beck, McKeown, Hamilton, & Kucan, 1997) through monthly lesson demonstrations, observations, and feedback sessions. Data collection included teacher surveys, coaching time logs, fall and spring classroom observations using the Instructional Quality Assessment (IQA) (see Crossen, Boston, Levison, Matsumura, Resnick, Wolf, & Junker, 2006), and fall and spring student reading achievement scores on the Texas Assessment of Knowledge and Skills (TAKS). Researchers used these data to compare the effects of CFC on teachers' participation in coaching, changes in instruction, and students' reading achievement to comparison schools. Researchers found CFC teachers scored higher on the spring IQA observations over those in the comparison group, and a self-reported increased use of the target strategy. Hierarchical linear model analysis indicated that the CFC program predicted significantly higher school-level gains on the state standardized test for ELL (*n=496, ES = .51*). However, no significant differences were found between overall student scores (non-ELL and ELL combined) in the CFC program schools and the comparison schools on the TAKS. The study provided evidence that intentional coaching advanced early-career teachers' practice in ways that improved students' literacy outcomes.

To more closely examine the relationship between coaching and changes in teaching practices, Walpole, McKenna, Uribe-Zarain, and Lamitina (2010) conducted a

mixed methods study of coaching behaviors and instructional practices in 116 high-poverty Kindergarten to third grade elementary schools. Using exploratory and confirmatory factor analyses, they identified three coaching behaviors: (1) collaboration, (2) focus on differentiation, and (3) leadership support for coaching, that had significant influence on specific aspects of teaching for specific grade levels. For example, collaboration with teachers was associated with increases in small-group work in third grade but not in first, second, or kindergarten classrooms. A coaching focus on differentiation was associated with effective reading instruction in first grade, but not in third, second, or kindergarten. Overall, their findings showed coaching to be an effective means of advancing the use of effective teaching practices, particularly when coaches differentiated their coaching strategies based on teachers' needs, grade level, and instructional objective (Walpole et al., 2010).

Taken together, these studies support literacy coaching as a professional development approach for in-service reading teachers teaching in urban schools. As summarized by Walpole and McKenna (2010), "coaching is a catalyst, with the potential to indirectly affect student learning by enhancing teacher knowledge and practice" (p. 56). While all effective coaches must provide teachers opportunities to develop instructional practices that respond to the needs of their students and to analyze and respond to student responses to these instructional practices, effective middle and high school coaches must also do so across disciplines and departmentalized communities (Bean & Eisenburg, 2009). Additionally evidence suggests that teachers experience increased ownership and investment in literacy coaching when they have voice, choice,

and agency in regards to coaching focus, goals, and activities (Duffy, 1993; Rainville & Jones, 2008).

Effective Literacy Instruction for Adolescents

To support teachers in their efforts to raise student achievement, literacy coaches must be knowledgeable of effective instructional practices in the contexts in which they work (Bean et al., 2010; Walpole & McKenna, 2010). In this next section, I review the literature to establish the evidence-based practices that comprise effective literacy instruction for middle and high school English/language arts students. First, I present Langer's (2001) study of the instructional practices observed in high-performing middle and high schools located in low-income communities. Then, I present the findings of a qualitative review (Alvermann, 2002) and two analyses of experimental studies (Kamil et al., 2008; Slavin, Cheung, Groff, & Lake, 2008) of the research regarding effective adolescent literacy instruction. Last, I include a meta-analysis of evidence-based practices in writing instruction (Graham & Perin, 2007). I conclude with a summative list served to inform the focus and content of the literacy coaching enacted in this study.

Langer (2001) investigated 25 high-performing middle and high schools. This sample included a high proportion of schools serving low income and culturally diverse populations whose students performed higher on standardized measures than demographically similar schools. Drawing on classroom observations, teacher interviews, and classroom artifacts, Langer identified "noteworthy features related to six issues" (p. 21) that characterized the instruction of the higher-performing schools. These included: (1) a balance of separated and integrated skills instruction, (2) integrated test preparations

into curriculum, (3) overt connections between concepts across curriculum and out-of-school applications, (4) explicit teaching of cognitive strategies, (5) extension of learning to deeper understandings, and (6) classrooms organized to foster collaboration and shared thinking. As Langer described, this study provides "a set of principles and an array of examples to use as guides in revisioning effective instruction" (p. 46).

Alvermann (2002) reviewed the available qualitative and quantitative research to determine factors that contributed to effective literacy instruction for adolescents. Alvermann emphasized the broader domain of adolescent literacy, to include the reading and writing, and acknowledged the range of formal, informal, digital, and out of school literacies used by adolescents across varied contexts. The review's findings were represented by five statements that aimed to "focus attention on the varied literacy interests and needs of older readers in relation to what is known about effective literacy instruction for adolescents" (p. 191). Alvermann stated effective adolescent instruction (1) supports adolescents' development of positive self-concepts and self-efficacy as these affective dimensions affect their motivation to engage in literacy tasks; (2) develops the competencies needed to meet the demands of academic literacy through comprehension strategy instruction, cooperative learning, asking and answering questions, using text structures and summarization; (3) addresses the needs of struggling readers through responsive and strengths-based instruction; (4) develops critical literacy across multiple text forms (e.g., print, digital, visual, graphic); (5) is situated in active learning approaches that leverage inquiry, discussion, collaboration, and workshop models and provides scaffolded support during learning.

In a study supported by the Institute of Educational Science (IES), Kamil, Borman, Dole, Kral, Salinger, and Torgesen (2008) reviewed empirical studies of adolescent reading instruction for the purpose of developing evidence-based recommendations for classroom instruction. To be included in the review, studies were evaluated against the IES levels of evidence for practice guidelines and categorized as having strong, moderate, or low levels of evidence. The analysis of the qualifying body of literature yielded five recommendations for practice.

The first recommendation directed teachers to provide explicit vocabulary instruction as part of reading classes and as a part of content area instruction (e.g., science, social studies). The evidence described direct instruction of words and instruction to develop independent vocabulary acquisition skills. Additionally, tiered methods of word selections (see Beck et al., 1982) were also supported by the research. This recommendation had a strong level of evidence based on the analysis of six randomized controlled experimental studies, three quasi-experiments, and six studies with weaker designs conducted in a range of geographical locations and socioeconomic statuses.

Second, researchers recommended teachers provide direct and explicit comprehension strategy instruction. This instruction should provide models, explanations, and scaffolded practice in the flexible use of multiple strategies across multiple text types and level of difficulty. Strong evidence for this recommendation was based on five experimental studies conducted with students from a range of socioeconomic status.

Third, adolescents benefit from opportunities to have extended discussions of text meaning and interpretations. Reviewed studies showed reading comprehension is supported and deepened when students consider debatable questions that prompt text interpretations, inferences, causal relationships, and intertextual connections. Students should be taught to provide textual evidence to support their assertions and claims. The researchers also included a recommendation for professional development to support teachers' facilitation of high quality discussions that strengthen students' interpretive and logical thinking.

The fourth recommendation called for an increase in instruction that increases student motivation and engagement in literacy learning. The moderate level of evidence for this recommendation was based on two experiments and one quasi experiment study. Three additional studies provided evidence to support the recommendation but had weaker study designs. Six experimental and quasi-experimental studies provided indirect evidence as these studies connected teachers' praise and students' motivation.

The fifth recommendation was to provide intensive and individualized interventions for struggling readers by knowledgeable specialists. The strong level of evidence was based on 12 experiments and one quasi-experiment conducted in mostly urban and suburban communities. The studies represented a wide range of intervention approaches and foci; the studies did not allow for the comparison of effectiveness among the different approaches.

Slavin, Cheung, Groff, and Lake (2008) conducted a "best-evidence synthesis", (see Slavin, 2008) of 33 qualifying experimental studies that investigated "research on

the achievement outcomes of four types of approaches to improve the reading of middle and high school students" (p. 290). Their aim was to identify approaches that had the greatest effect on student achievement.

To conduct their analysis, studies were first categorized by research design, then by program type (e.g., mixed-methods, computer assisted, instructional-process, and strategy instruction programs). Effect sizes were then combined across studies for each program and sub categories of programs. Using means weighted by final sample sizes, Slavin et al., accounted for the influence of larger and smaller empirical studies on the mean effect size. Then, based on the weighted mean effect sizes, instructional approaches and program types were then identified as having one of three effect sizes: strong evidence of effectiveness (e.g., two large studies and a weighted mean effect size of at least + .20 effect size), moderate (e.g., two studies of any design and a weighted mean effect size of at least + .20 effect size), or limited evidence (e.g., at least one study with a weighted mean effect size of at least + .10 effect size) or insufficient evidence of effectiveness or no qualifying studies.

Slavin and colleagues reported no programs qualified for the strong category of effectiveness. Four met the criteria for moderate evidence of effectiveness: two cooperative learning programs, a mixed-methods program, and a computer-assisted program. Overall, results also showed strong evidence of effectiveness of cooperative learning approaches (weighted mean effect size, + .28), and for programs that included professional development for teachers aimed at improving classroom instruction.

To establish best practices in adolescent writing instruction, I review Graham and

Perin's (2007) large-scale meta-analysis of quantitative writing research. The purposes of the analysis were to update prior analyses and provide the field a current understanding of effective practices in adolescent writing instruction. The meta-analysis included experimental and quasi-experimental studies conducted with students in grades four through twelve. Following the methods of prior analysis, studies were categorized in pre-identified groupings of learning-to-write or writing-to-learn. Learning-to-write was further categorized (explicit instruction, instructional supports, and mode of instruction).

The mean effect sizes for 11 categories or instructional elements were calculated. These are summarized in the bulleted list below with the positive mean effect size.

- Writing strategies (effect size = .82)
- Summarization (effect size = .82)
- Collaborative writing (effect size = .75)
- Specific product goals (effect size = .70)
- Word processing (effect size = .55)
- Sentence combining (effect size = .50)
- Pre-writing (effect size = .32)
- Inquiry activities (effect size = .32)
- Process writing approach (effect size = .32)
- Study of models (effect size = .25)
- Writing for content area learning (effect size = .23)

In discussing these findings, Graham and Perin emphasize that the efficacy of these instructional elements is likely found in the combined implementation rather than

the singular employment of one. They note how the elements are related and that the use of one invited the inclusion of another (e.g., teaching writing strategies lends itself to included collaborative writing during guided practice) to the use of another.

In sum, these reviews provide a comprehensive description of effective literacy instructional practices for adolescents. For this study, the common findings provide the content to inform the literacy coaching that is the focus of this study. The following is a summative list (Alvermann, 2002; Graham &Perin, 2007; Kamil et al., 2008; Slavin et al., 2008). Highly effective literacy instruction for adolescents

- helps students meet the demand of academic literacy, including content area reading: This includes direct and explicit comprehension strategy instruction, vocabulary instruction, and interventions for struggling adolescent reader
- develops critical literacy, including evaluating and critiquing texts in all its forms; interrogate texts for implicit and explicit perspectives and representations; and evaluate arguments and sources.
- provides opportunity for peer collaboration during literacy activities
- provides opportunity for text-based discussions that consider multiple perspectives, interpretations, and conclusions about texts; and reading and writing workshop models
- attends to students' positive self-concepts as readers and writers, and in during so, supports motivation and engagement in literacy activities. Additionally, effective adolescent instruction employs motivating instructional practices such as focusing on conceptual knowledge, offering choices about topic, tasks, or texts, providing

strategy instruction aimed at increasing autonomy and meaningful opportunities for collaboration.

- supports readers and writers who are not yet at grade level through intensive, strengths-based, data-informed interventions.

Effective Literacy Instruction in Elementary Settings

Other studies conducted in upper elementary grades report evidence of effective contexts and instructional strategies that align with those reported in the secondary school studies, providing further support for these collected findings. Research investigating the nature of instruction in schools in which students have exceeded expected achievement outcomes is highly consistent (Taylor, Pressley, & Pearson, 2000). Across multiple studies, teachers provided "scaffolded, balanced instruction, often in small groups, characterized by explicit instruction in skills and strategies as well as frequent opportunities for students to read, write, and talk about texts" (p. 15).

Duffy and Roehler and their co-researchers (Duffy et al., 1987) conducted an experimental study that focused on the effect of explicit instruction in urban schools. Data collection included lesson transcripts, student interviews, and informal (Graded Oral Reading Test [GORT]) and standardized achievement measures (Stanford Achievement Test [SAT]). Based on results of ANOVA and MANOVA analysis, they concluded when teachers provide explicit explanations of reading strategies students demonstrated increased awareness and use of these strategies and increased reading achievement (GORP, $p = <.005$; SAT, $p = <.05$).

In another example, Knapp and his co-researchers (1995) observed reading,

writing, and mathematics instruction in 140 classrooms across 15 high-poverty schools over a school year. Researchers analyzed a substantial data set that included classroom observations, teacher and student interviews, and curriculum analysis. They concluded that students made substantial progress when provided instruction that emphasized meaning making during learning activities over "skill and drill" routines. Applied specifically to reading, Knapp and associates defined teaching for meaning (p. x) as instruction that includes opportunities to read, cross-curricular connections, instruction in comprehension strategies, and opportunities to discuss reading (Adelman, 1995). Knapp et al. reported grades 1, 3, and 5 scored 5.5 national curve equivalents higher (NCEs) and grades 2, 4, and 6 scored 1.2 NCEs higher at the end of the school year than students in classrooms with little to no strategy-based instruction.

Taylor, Pearson, Clark, and Walpole (2000) conducted a yearlong investigation of 14 high-performing, high-poverty elementary schools. Their goal was to identify which classroom instructional practices led to increased student achievement. Two teachers were selected from each grade level, kindergarten (n = 22), first (n = 23), second (n= 25), and third (22). Data included five observations, weekly logs of reading activities for February and April, and interviews. In each classroom, four representative students (two low, two average) were assessed in reading accuracy, fluency, and comprehension in the fall and spring. Taylor et al reported that teachers whose students had the highest rates of achievement engaged students in small instructional groups more often than whole group instruction, coached students in using strategies for word recognition and comprehension, connected phonics instruction to authentic reading, and prompted productive discussions

and quality writing through the use of higher-level questions. They also engaged students in more independent reading time than did teachers whose students had lower rates of achievement.

In a follow up study, Taylor, Pearson, Peterson, and Rodriguez (2003) examined the student learning outcomes in relation to the instructional framework (with emphasis on cognitive engagement) informed by the original study. The study included 88 teachers, nine students per classroom, in nine high-poverty schools, including early to upper elementary grades (grades 2-5).

Using hierarchical linear analysis, the researchers were able to report positive or negative changes in students' achievement in relation to standard deviation increases in a code for a particular instructional practice. For grade 1, the analysis showed that students improved more in comprehension and fluency when their teachers asked more higher-level questions than other teachers. In grades 2 -5, the analysis showed that students had greater growth in comprehension when their teachers asked more higher-level questions, maintained high levels of on-tasks behaviors, and infrequently taught comprehension using "routine, practice-oriented" (in contrast to a strategic approach). These results reflect the characteristics of teaching for meaning identified by Knapp and associates in their 1995 study.

In yet another study, Allington, Johnston, and Pollack Day (2002) focused their investigation on the instructional practices of fourth-grade teachers identified as exemplary. Their sample included 30 teachers from five different states and primarily from schools with concentrations of children from low-income families. From this

sample, 12 teachers, ranging in experience from 5 to 25 years, were selected as case study candidates. Teachers were identified through snowball nomination from local college and university faculty, school-district supervisors, and in some cased, local professional organization. The nominee's school principal confirmed the nominee's identification as an exemplary teacher.

Data collection included at least 10 classroom observations, field notes, audio and video records, and multiple interview both structured and unstructured. They identified four consequential elements: the nature of classroom talk, curriculum materials, the nature of instruction, and the nature of evaluation. Although each focal element yielded unique attributes, the researchers focused in particular on the nature and complexity of the classroom talk.

The researchers noted the talk in the classroom was most often of an authentic and conversational nature. Students were more often the speakers, and often spoke to each other regarding learning topics. Additionally, the talk was process-oriented – about the strategies used to accomplish goals, solve a problem, or share an idea. The nature of instruction aligned with this authentic and rich talk, focusing more on inquiry and problem solving over interrogation and lecture. These outcomes related to the nature of classroom talk align with evidence from later studies that also found a relationship between talk characterized by authentic questions, high-order thinking questions, and elaborated responses and comprehension and reading achievement (Nystrand, Gamoran, Zeiser, & Long, 2008; Wilkinson et al., 2010). Notably, the nature of the talk related to higher levels of literacy achievement documented in each of these studies deviated from

the often predominant classroom talk pattern which a teacher *initiates* a question, a student *responds*, and the teacher *evaluates* the response (Cazden, 2001).

To conclude, researchers have noted the cumulative effect of multiple effective instructional practices working in concert (Guthrie, McRae, & Klauda, 2007; Pressley, 2000). As described by Guthrie et al. (2007), effective instruction is less about singular strategies put into place piecemeal; rather, it is the combined and intentional use of multiple highly-effective strategies that amplify the effect of each, and so, accelerate student achievement.

Coaching Implementation of Complex and Multidimensional Instructional Practices

Having established the complexity of highly-effective instruction, I next return to coaching models, this time with a particular focus on those that sought to lead inservice teachers to higher levels of expertise when the focus is on complex, multidimensional instruction with (e.g., implementing strategic teaching to develop metacognitive and strategic readers and writers, facilitating high-quality text-based discussions). To do so, I searched for coaching studies situated in urban, preschool, elementary, and middle school settings. Among these studies, I looked for reported teacher implementation outcomes for the focal instructional strategies.

Working with teachers of young children, Neuman and Wright (2010) examined the differences between two forms of professional development, coursework or coaching, and a control group on the improvement of early childhood teachers' knowledge and practices relating to language and literacy development. The study included data collected over a school year from 148 preschool teachers in low-income, urban schools

and home-based centers. In the coursework condition teachers participated in a three credit, ten-week course during which they read articles, discussed theory and practice, and analyzed audio-recordings of their own instructional episodes. In the coaching condition, teachers were provided on-site coaches who demonstrated effective teaching strategies, observed instruction, and offered individualized feedback. Coaches also made suggestions regarding resources and the structural components of the learning environment. The outcome measures included a pre and post assessment of teacher knowledge of language and literacy development, a post-intervention evaluation of teacher practices using the ELLCO, and interviews of 58 randomly selected teachers. Overall, coaching had a greater effect size over the control group (*Cohen's d* = .36) as compared to coursework (*d* = .45). However, there was variation among the instructional domains measured. There were no reported statistical differences between the treatment conditions on measures of teachers' knowledge of language and literacy development, AVCOVA analysis of ELLCO results coaching had showed a significant difference between groups on structural characteristics of the classroom environment (e.g., book areas, writing centers). There were no statistical differences between groups in the characteristics of language and literacy quality (e.g., interactions between teacher and student, supports for learning, questioning) and neither the coursework nor the school-based coaching significantly enhanced the teaching strategies enacted by the participant teachers. In their discussion, Neuman and Wright noted "to receive higher scores on these sections of the ELLCO [language and literacy characteristics], teachers needed to be able to intervene in writing activities and ask open-ended question in shared book activities –

more complicated pedagogical strategies than merely changing the provisions and access to resources" (p. 83).

In another example, Sailors and Price (2010) examined the effects of more and less intensive coaching models on teachers' implementation of cognitive reading strategy instruction as well as on the reading achievement of these teachers' students. Additionally, they searched for evidence that observed improvements in teachers' comprehension strategy instruction could be attributed to the coaching model.

In a quasi-experimental, yearlong comparative study, forty-four teachers (second through eighth grade) in high-poverty schools were assigned to one of two conditions. In the partial-implementation group teachers participated in a two-day workshop before the start of the school year. In the full-implementation group, teachers participated in the two-day workshop model and also received coaching once a month. The coaching included demonstration, co-teaching, reflective feedback, and discussions on implementing cognitive strategy instruction (CSI) aimed at improving students' comprehension. The researchers hypothesized that the addition of classroom-based coaching would better support teachers' implementation of this complex instructional strategy over the workshop only and that this instruction would have a positive effect on students' reading achievement.

Teachers' implementation of the target strategy was measured pre (Fall) and post intervention (Spring) using the *Comprehension Instruction Observation Protocol System* (CIOPS). Analysis showed those teachers who received coaching in addition to the workshop (full-implementation condition) scored significantly and substantially higher

on the CIOPS post intervention than those who participated only in the workshop (Cohen's *d* = .78).

The researchers then compared students' pre and post achievement levels on the *Group Reading Assessment and Diagnostic Evaluation* (GRADE). At posttest, students of teachers in the full implementation condition (with coaching) scored 11.27 points higher than students in the partial implementation condition. Using a multilevel/hierarchical modeling approach, the researchers determined this increase was statistically significant.

In terms of correlating aspects of observed positive uptake of comprehension strategy instruction with coaching, Sailors and Price (2010) found that "while duration (professional development over time) did make a difference in informing the instructional reading practices of teacher . . . contact time with coaches made a difference only in helping teachers engage in constructed explanations to students" (p. 317).

Like Neuman and Wright (2010), Sailors and Price found variations or patterns in teachers' implementation of strategy instruction. They reported teachers more readily demonstrated the ability to recognize opportunities to engage students in CSI (e.g., knowing when comprehension should occur and naming a likely strategy) than the ability to effectively explain how to enact a strategy or remember to engage students in explanations of strategies (e.g., procedural knowledge). Sailors and Price concluded that the addition of monthly coaching supported teachers' implementation of a complex teaching strategy that had positive effects on students' reading achievement

In a similar study, Pomerantz and Pierce (2013) examined the outcomes of a

professional development program based on knowledge-building sessions, co-teaching, and literacy coaching on teachers' intentional use of cognitive strategy instruction. Over two years, coaches provided two different groups of teachers (25 teachers in year one, 11 teachers in year two) with the following: (1) pre-coaching observation, (2) a 45 minute knowledge building session on principles of vocabulary and comprehension instruction, (3) a demonstration lesson, (4) a co-planning and co-teaching session, (4) a observation of the teacher's comprehension instruction with feedback, and (5) a post-coaching observation. Pre and post observations were scored on a 0-4 scale using the authors' "Classroom and Lesson Observation Checklist" (p. 105), which included instructional components of cognitive strategy instruction. Using descriptive statistics and thematic coding the researchers found this coaching model improved teachers' ability to engage in effective comprehension instruction. In pre-observations in year one, two of the twenty-five teachers demonstrated some aspects of comprehension strategy instruction. In post-observations from year two, 20 out of 36 teachers improved on all aspects of comprehension instruction. However, like Sailors and Price (2010), the researchers found uneven levels of implementation across the instructional components. The greatest number of teachers demonstrated proficiency in providing explanations and demonstrations of strategies. The least number of teachers reached proficiency in providing effective guided practice that was cohesively connected to the modeled strategy or that included sufficient scaffolding support.

In their yearlong, descriptive study, Teemant, Wink, and Tyra (2011) also found uneven implementation patterns in teachers' uptake of sociocultural instructional

practices aimed at supporting the learning of diverse student populations. Using the "Standards for Effective Pedagogy" (p. 683) framework, coaches guided 21 teachers in implementing the focal instructional strategies. These standards included connecting curriculum to students' out-of-school experiences and providing cognitively challenging instruction. To begin, coaches engaged teachers in a five-day workshop on the principles of sociocultural pedagogy. This was followed by seven coaching cycles during which coaches co-planned, observed, and debriefed with teachers using the "Standards Performance Continuum" (p. 686). Researchers investigated the frequency of use, the patterns of development, and the potential differences in mean performance across the coaching cycles for each of the Standards and the Total Score.

Researchers reported on three main findings. First, teachers implemented all Five Standards and this implementation increased from coaching cycle one to five. While there was noted variability in implementation frequencies across the individual Standards, a one-way repeated measure ANOVAs revealed that teacher growth was statistically significant. Additionally, least significant difference comparisons found significantly greater mean use of each standard at coaching cycle seven than at coaching cycle one.

Second, teachers demonstrated consistent growth in the use of the Standards over coaching cycles one through five. There was some decline or plateau in observed growth in cycles six and seven. Third, there were differences in growth patterns across the Standards. For example, the Instructional Conversation yielded the most growth yet remained the lowest implemented standard. In contrast, from cycle one to seven, teachers

used Joint Productivity (1.81 to 3.38) and Language/Literacy (2.05 to 3.38) at higher levels than the other standards, suggesting teachers may have found these the easiest to implement.

As in similar studies (Neuman & Wright, 2010; Sailors & Price, 2010; Pomerantz & Pierce, 2013), Teemant, Wink and Tyra observed some individual Standards for Effective Pedagogy were more or less difficult for teachers to implement. They reflected on the need to differentiate coaching methods to increase teacher uptake of the more complex standards.

Taken together, these studies reflect, to a degree, the positive effects of coaching on teacher practices found in the larger-scale studies reviewed in the previous section. These studies also provide evidence that although "standard" coaching models (i.e., observation, demonstration, feedback) have positive effects on teachers' knowledge and use of complex, meaning-oriented instructional strategies, the results do not show teachers reaching the full fidelity levels achieved with less complex instructional practices (e.g., structural changes to their classrooms, providing more collaborative learning opportunities, and explaining useful comprehension strategies). In particular, teachers demonstrated lower levels of expertise when attempting to implement high-quality instructional talk (e.g., open-ended questioning, formative feedback, eliciting student participation, extended explanations) (Neuman & Wright, 2010; Pomerantz & Pierce, 2013; Teemant et al., 2011); and when enacting cognitive strategy instruction (e.g., providing explanations of procedural knowledge, effective guided practice, and formative feedback) (Pomerantz & Pierce, 2013; Sailors & Price, 2010). This latter

finding is consistent with earlier studies of developing teachers' expertise in strategy instruction (Duffy, 1993).

These patterns prompt questions about the types of modifications or additions to typical coaching models that will yield more comprehensive uptake of complex teaching strategies. Foreshadowing these later studies, in 2002, Joyce and Showers posited that some coaching outcomes are easier to achieve than others because they are closer to teachers' existing practice – as was seen in the Teemant et al. (2011) study; and they also suggested that some desired outcomes or instructional strategies are more complex than others. They recommended that professional development providers consider the difficulty level of a desired outcome for a particular teacher, and use the analysis to plan the intensity and duration of the professional learning opportunity.

The notion of differentiated coaching is well represented in the literature. For example, Stover, Kissel, Haag, and Shoniker (2011) draw on Tomlinson and McTigue's (2006) approach to differentiated instruction and suggest coaches consider tailoring teachers' professional learning opportunities in much the same way teachers approach student learning: in terms of content, process, and product.

To this end, Robertson, Ford-Connors, and Paratore (2014) emphasized that the role of the coach "requires expertise in literacy development and effective instructional practices, but also, knowledge of adult learning and an awareness of the various approaches that foster teachers' professional growth" (p. 426). Reflecting Joyce and Showers' (2002) idea of adjusting the level of intensity of coaching to match both the objective and the teacher's current knowledge and practice, Robertson et al. offered a

"coaching continuum" (p. 419), with coaching approaches ranging from least intense– discussing lesson observations, to the most intense – co-viewing and co-analyzing lesson audio or video. That prompted me to turn next to evidence related to video-aided coaching.

Video-Aided Professional Development

Video-aided approaches shift the nature of coaching in a fundamental way. Whereas, typical coaching is based on *recollected* instructional episodes, often aided by coach's notes and teachers' recall, video-aided coaching is based on a shared *relived or revisited* experience. In this context, teacher and coach have equivalent perspectives. Moreover, teachers have opportunities to notice that which they did not or could not notice while in the midst of the instruction. As Kane (2015), the lead researcher of Harvard University's *Best Foot Forward Project* stated in a video introduction to the project, "It is neurologically impossible to get somebody to remember something they didn't notice in the first place." Without noticing, there isn't opportunity to reflect; and without reflection, there is little chance of teacher change (Schön, 1983; Shulman, 1987).

In this section, I review the unique affordance of video as a professional learning tool, followed by a review of video-based teacher education studies with the purpose of informing a literacy coaching model situated in a daily school environment.

Video as a professional learning tool. There are multiple contexts and collaborative configurations represented in the literature regarding video use in professional development (e.g., whose video, individual or collaborative reflection, professional development objective). In this section, I review studies in which video is

used to promote teacher expertise using their own video footage. I include studies in the context of preservice teacher preparation, mathematics, and science as well as in literacy instruction. I excluded studies focused on video cases (e.g., use of instructional videos outside teachers' local context) (see Copeland & Decker, 1996) and remote video models (see Pianta, Mashburn, Downer, Hamre, & Justice. 2008). Given technological advances and the likelihood of outdated methods of recording, I included studies conducted after 2000. Finally, I selected published studies that were peer reviewed.

Outcomes of video-aided coaching. Many researchers studying video use as a coaching tool have aimed their investigations at developing "professional vision" (Sherin & Russ, 2015, p. 4) described as the ability to notice salient features of instruction and apply knowledge-based reasoning to better understand these observations. Building on the notion that expert teachers notice and reflect on consequential features of their instructional practice, the following studies are examples of video used as a tool for developing reflective practices in preservice teachers.

***Video use in preservice contexts*.** Calandra and colleagues conducted a series of studies that investigated video use in the preparation of preservice teachers. Across the series of studies, the researchers sought to understand the nature of teacher's reflection in the context of video recording their lessons. In each study, the researchers considered how the nature of teachers' reflections changed when they were provided some or no guidance during the reflection (e.g., guiding questions, debriefing) (Calandra, 2014)

In an early study, Calandra, Brantley - Dias, and Dias (2006) conducted an exploratory case study in which a preservice teacher recorded her instruction, selected

clips of incidents she felt were meaningful, and then discussed the edited clips with her cooperating teacher. Data analysis of the video clips, the audio recordings of the conversations with the cooperating teacher, and participant interview yielded the following results. Video provided the participant opportunity to engage in reflective talk about instruction. In doing so, the participant had opportunity to develop her teacher identity, and identify and discuss effective practices.

In a following study, Calandra, Gurvitch & Lund (2008) used a multi-case study to study the reflections of seven pre-service physical education teachers in the context of video analysis and written reflection. Researchers analyzed the candidate's selected video clips and their written explanation of the clips. They found candidates were more likely to record from their own perspective (that of teacher's actions) than the student learning behaviors. While viewing instruction, teacher candidates were more likely to reflect on issues of management over instructional choices. Over the three-video cycle, the candidates' written reflections shifted from a literal reporting of the recorded instruction to explanations of what they saw based in pedagogical principles. Calandra and colleagues concluded that while producing video vignettes prompted teacher candidates to reach insights regarding instruction, a guiding tool (e.g., questions, rubrics) may be helpful in promoting more interpretation and reflection.

Calandra, Brantly-Dias, Lee and Fox (2009) explored the use of video and a guiding reflection tool in their qualitative study of novice teachers. Calandra et al. placed two groups of teachers in two guided reflection groups: group one debriefed with a teacher educator immediately after teaching and then wrote about "critical incidents" (p.

79) that occurred in their teaching. Group two did not debrief but rather recorded their instruction, prepared clips of critical incidents, and reflected using the same tool as group one. Differences in the reflections produced by the two groups were noted; the group that video recorded produced "longer and more pedagogically connected reflective pieces" (p. 81) than those in the non-video group. In discussing these results, Calandra et al., described teachers' ability, through video, to tap a multimodal source of information from which to review, replay, and reflect.

In a qualitative, phenomenological study, Yerrick, Ross, and Molebash (2005) asked preservice teachers in a semester-long science methods class to use video to investigate children's science knowledge and misconceptions, record their lessons, and then to reflect on those lesson and adjust their planning for subsequent instruction. In doing so, Yerrick et al. asserted the teacher candidates expanded their knowledge of effective teaching practices and developed reflective habits of mind in regards to their teaching.

These early studies of the use of video as a tool to develop pre-service teachers' pedagogical knowledge and habits of reflection show potential in its use. In each study, teachers' reflections over time shifted from literal reporting of what happened during instruction to emerging connection between what happened and pedagogical principles and theories. However, also notable is the need for some support for teacher candidates to develop their reflections. More knowledgeable others and reflection guides serve as important scaffolds as teacher view and reflect on their own instruction. While these studies reported on reflection and expanded pedagogical knowledge, changes in enacted

instruction were not reported.

In another study of three preservice teachers, Rosaen and colleagues (Rosaen, Lundeberg, Cooper, Fritzen, & Terpstr, 2008) also investigated video as a way to help preservice teachers "reflect on their discussion-based teaching in a more complex manner than memory-based written reflection" (p. 347). In comparing memory-based to video-aided reflections, researchers noted video-aided reflections included more specific observations, instructional features over behavioral, and more reflection on teachers' facilitation of the discussion and evidence of students' conceptual knowledge-building.

In another example, Sherin and van Es (2009) designed a quasi-experimental study to examine the outcomes of video viewing on the ability to notice and reflect on instruction. Six preservice teachers in science and mathematics courses used a video analysis support software tool (VAST) to view their instruction. The VAST program prompted preservice teachers to independently reflect on three aspects of the video, the teacher's role, student thinking, and the instructional discourse. Prior to and following participation with the VAST software, preservice teachers wrote narrative essays in which they discussed their own video. Data analyses indicated preservice teachers developed their ability to identify significant instructional interactions, an awareness of connections between teaching and learning outcomes, and to provide interpretive reflections about instruction. This study did not link these developments to changes in preservice teachers' instruction.

In a study that included a video analysis program (VAT), Rich and Hannafin (2008) developed four case studies of preservice teachers' learning outcomes. Grounded

in a scaffolded inquiry approach (see Rich, Recesso, Allexsaht-Snider, & Hannafin, 2007), researchers asked preservice teachers to develop a guiding inquiry statement, video record instruction, analyze video using the VAT software, and record discrepancies between state standards of best practices and their intended versus enacted teaching actions. The self-analysis was followed by discussions with cooperating teachers and professors. The findings indicated preservice and cooperating teachers alike did not meaningfully use the standards to guide analysis, favoring instead their initial self-selected goal. Findings also indicated novice teachers needed support to notice, name, and make adjustments to instruction. The researchers noted that preservice teachers made the most connections to practice when they discussed videos with a more knowledgeable other (Vygotsky, 1978).

In a final example, Gelfuso and Dennis (2014) used a formative experimental design to investigate the development of 13 preservice teachers' reflection about instruction in the context of video analysis and conversations with a literacy coach. Over three phases, pre-service teachers video recorded their instruction, self-analyzed the instruction in relation to self-generated hypothesis (e.g., "If I engage in a literate conversation with kindergarteners, they will comprehend text beyond the literal level (p. 4)), and engaged in reflective conversations with knowledgeable others (e.g., Literacy Content Coach). After the findings from phase 1, teacher were more likely to notice and discuss issues of management (time and student behavior), the researchers asked pre-service teachers to also evaluate their instruction against principles or pillars of effective literacy practice. The researchers also examined transcripts for evidence of effective

scaffolding during the reflection conversations by the literacy coaches.

The findings indicated that pre-service teachers needed the guidance of a more knowledgeable other to reflect on the more consequential aspects of their instruction (e.g., connections between teacher's questions and student learning) as well as to link instructional elements of their lessons with the appropriate pillar of practice.

Gelfuso and Dennis concluded that knowledgeable others served a critical supportive role in eliciting and supporting pre-service teachers' reflective practices. To effectively do so, literacy coaches and others who support pre-service teachers during their clinical practice likely need content knowledge (e.g., literacy) and knowledge of the phases and practices of reflection.

To review, video use as a professional learning tool provides unique affordances to teachers and coaches alike (Marsh & Mitchell, 2014; Shanahan, Tochelli-Ward, & Rinker, 2015; Tripp & Rich, 2012). First, unlike observation notes or verbal description, video captures "the richness and complexity of classrooms" (Borko et al., p. 418) including audio, visual, and non-verbal communication (Sherin & van Es, 2009; Tripp & Rich, 2012). As such, videos become a rich text that can be viewed and reviewed for different purposes and perspectives (Brophy, 2004; Marsh & Mitchell, 2014; Sherin & van Es, 2009; Zhang et al., 2011). Through video viewing, teachers have opportunities to notice and reflect on features of instruction that may have gone unnoticed during teaching (Borko et al., 2008; Sherin & van Es, 2009; Zhang et al., 2011), an affordance of particular significance to less experienced teachers who likely consume most of their cognitive attention facilitating student learning (Berliner, 1988).

Video's replication of classroom instruction also serves as an artifact that can "stimulate, support, and structure dialogue between educational theory and classroom practice" (Marsh & Mitchell, 2014, p. 405). Zhang, Lundeberg, Koehler, and Eberhardt (2011) compared the benefits of three different types of video viewing as part of a professional development program: a published video, a peer's video, or teacher's own video recorded instruction. Eighty-eight percent of teachers (23 out of 26) reported viewing their own video was useful or very useful for helping them reflect on their own practice. The primary reasons given for this rating emphasized otherwise missed observations or impressions were "seeing things you don't see" (p. 458) and "eye-opener" (p. 458). Perhaps because of the opportunity to collaboratively view and see instructional practices otherwise missed, video viewing has been found to reframe coaching conversations as discussions of a *shared* experience (gained from the teacher taking up an observer's perspective) in which each participant has equal opportunity to "see" and notice (Knight, 2012).

In the next section, I review video use as a coaching tool in various contexts and domains in which it has been studied.

Video use as coaching tool for in-service content area teachers. The following studies examine the use of video in professional learning opportunities for inservice teachers. I begin with studies situated in mathematics and science followed by those in service of literacy practice.

In a study situated in mathematics instruction, Sherin and Han (2004) examined teacher discussions during seven meetings of a video viewing club, during which four

inservice teachers watched and discussed video clips of their instruction. While limited by the small sample, researchers found four topics represented in the talk: student concepts, pedagogy, classroom discourse, and mathematics. Over time, researchers found video club participants shifted what they noticed and how they discussed these topics. Teachers shifted their focus from issues of classroom management toward how students were responding to their instruction (e.g., learning outcomes, engagement).

Like Sherin and Han (2004), Borko, Jacobs, Eiteljorg, and Pittman (2008) focused their two-year mixed methods study on the use of video as a tool for fostering productive discussions about math instruction. Sixteen middle-school teachers engaged in three rotations of a four-step cycle: collaboratively solve a mathematical problem and then plan a lesson, video record the lesson, view facilitator-selected clips in a small group with a focus first on the teacher's role and then student thinking. Researchers found group discussions of inservice teacher participants became more focused and analytical in terms of instructional choices and student thinking. They attributed the finding to the opportunity for teachers to analyze the detailed record and the "increasingly focused and challenging facilitation by coaches" (p. 432). In particular, they observed that analytical thinking about teaching and learning was extended through the coaches' reference to recorded models, scaffolded questioning, and established goals. Transfer data on possible shifts in teachers' classroom practices were not collected.

In another example, Ermeling (2010) used a multiple-case study design (n= four experienced, high school science teachers) to investigate the possible link between video use, asynchronous video viewing, discussion with an inquiry team, and teachers' changes

in practice. Facilitated by a researcher and framed by a model of collaborative teacher inquiry (see Cochran-Smith & Lytle, 1993), the process began with identifying of a focal problem of practice, brainstorming possible solutions, and planning lessons. Specifically, the group chose to implement a complex "struggle/scaffold" (p. 385) approach in which students were encouraged to use scientific inquiry to develop conceptual knowledge. Video recordings were made of the lessons and then viewed asynchronously by members of the inquiry team. Next, the team met to discuss the video, look at student work, and plan next steps. A video recording was made of the refined lesson and the analysis process was repeated. Data collection included the instructional videos, video recordings of the discussions, debriefing interviews, and field notes. Data analysis included identifying "tracers" or "clearly defined elements of the group's instructional plan" (p. 380) in lesson plans and subsequent video records. Findings included a connection between the teachers' collaborative teacher inquiry supported by co-analysis of video records of instruction, and observed changes in classroom practice. Participating teachers implemented a student inquiry task, and as decided in the PD group, allowed students to engage in productive struggle.

In a final example, Tripp and Rich (2012) sought to better understand how video influences the process of teacher change. They examined teacher discourse during a semester long video-viewing club during which teachers viewed and discussed one another's instruction. The seven participants include three special education teachers, two religious education teachers, and two English Language Learner (ELL) teachers.

Tripp and Rich used descriptive discourse analysis of teachers' talk and

reflections to identify ways video viewing with colleagues helped teachers change their instructional practices. These ways were categorized as (a) recognizing the need for change, (b) brainstorm ideas for change, (c) implement ideas, and (d) evaluate changes implemented (p. 732). In short, teachers reported that video viewing prompted them to make consequential changes to their instruction based on actually *seeing* the need for change (emphasis added).

Across these studies, a number of findings emerge that support video use in developing teacher expertise. First, video use in the context of content area instruction promotes teacher's awareness of instructional choices and student learning outcomes Second, discussions around their own instructional videos with a more knowledgeable other appeared to develop teachers' awareness of causal relationships between teaching and learning outcomes, a critical feature of professional growth (Shulman, 1986). Additionally, there is evidence that facilitators enriched discussions by providing models of analytic thinking and prompts to deepen teachers' reflections. However, among these studies, there were no direct measures of teacher changes in the context of the video-aided professional development in content area teaching.

Video use in in-service literacy contexts. While video-based professional learning has been a prominent area of study in preservice and disciplinary teacher education, fewer studies have been conducted with inservice reading teachers (Shanahan et al., 2015).

Roskos, Boehlen, and Walker (2000) used video recording as means to capture teachers' instructional talk during clinic-based, tutoring sessions, and so making the talk

available for analysis. Through the discourse analysis, researchers hoped to focus teachers on their instructional talk patterns for the purpose of shifting from recitation to responsive types of discourse. Nine graduate students teaching a reading clinic participated in the five-week study. Weekly, teachers recorded and transcribed 10-minute segments of instruction. Using a researcher-developed discourse analysis tool, the teachers analyzed their 'instructional conversations' (p. 229) for specific language strategies with conceptual functions (e.g., focusing, naming, elaborating) or sociocultural functions (e.g., overlapping, directing, and discussing). Then, teachers interpreted the results and wrote their reactions.

Data analysis consisted of three phases, examining the teachers' coding decisions, their self-assessment of their discourse using the analysis tool, and their interpretations of their observations. Researcher also analyzed how the self-assessment activity worked in a classroom. The researchers found discrepancies between their own and the teachers' categorization of their instructional talk. While the teachers' coding of their instructional talk did not grow more precise, their interpretations provided evidence of critical thinking about their talk as pedagogy. Teachers moved from literal descriptions of what happened to a "critical stance toward their discourse data" (p. 245). When transferred to the classroom setting, the teacher's analysis showed accuracy in the discourse analysis and developing awareness of her language strategy choices during instruction.

While video analysis per se was not part of the design of this study, Roskos et al.'s effectively used video as a means of capturing instructional language and making it available for repeated analysis.

Wilkinson, Reninger and Soter (2010) also studied the contribution of video in improving classroom talk around texts. Eight teachers (grades four, five, six, and seven) from schools of varying demographics and three "discourse coaches" participated in their action research study. Dyads of teachers and discourse coaches, aided by a Talk Assessment Tool for Teachers (TATT), viewed 10-minute segments of their own instruction. The coaches guided teacher's reflections on classroom talk with the aim of increasing the teachers' use of productive talk moves. Researchers reported that video viewing with a coach using the TATT increased teachers' knowledge about productive discourse. Additionally, they observed multiple instances of 'scaffolded thinking" (p, 145) or thinking about next steps to improve discussion practices. Although the researchers did not directly investigate changes in teacher practices, they perceived shifts in teachers' knowledge and beliefs based on discussions.

In another example, Osipova, Prichard, Boardman, Kiely, and Carroll (2011) investigated video use as a means of improving instruction, particularly in the area of reading fluency and comprehension, for students receiving special education services. As in many of the aforementioned preservice and content area studies, Osipova and colleagues were interested in what teachers noticed during video-aided self-reflection and how these reflections aligned to coaching suggestions. They also asked what changes were evident in teachers' ways of thinking over time. Fifteen upper-elementary special education teachers recorded six instructional episodes, self-reflected on each using a researcher-designed rubric, and then engaged in a discussion with a coach. Study protocol included a written self-reflection form that prompted teachers to indicate, "what

worked." Coaches also rated the videos and wrote reflection indicating 'what worked well" and "next steps." Data analysis of teachers' ratings indicated that teachers' and coaches' reflections increased in alignment over time. Teachers also began to think more critically about instruction, a result attributed to the "guided noticing" feature of the reflection rubric. Teachers reported that they were more motivated to change aspects of their teaching to PD goals over time as the video viewing allowed them to personally observe gaps in their enacted instruction in comparison to the PD goals.

In a final example, Christ, Arya, and Chiu (2012) conducted a mixed-methods study that explored the purposes for which 14 in-service teachers self-selected video clips of their own literacy instruction. In addition, these researchers asked if collaborative peer viewing and discussion of these video clips helped teachers generate new ideas and plans for future teaching. Data sources included the self-selected clips and descriptive data indicating purpose for sharing the clip. Collaborative discussions were also recorded, transcribed, and coded. Among the relevant findings was the observation that when post-viewing discussions were related to the problems of practice and methods, teachers were limited in their ability to generate new ideas or pedagogy. Instead, they relied mostly on their own background knowledge and experiences. Researchers reflected on the possible contribution a more knowledgeable facilitator would make in generating ideas to improve practice while balancing the peer-mediated nature of the video viewing group.

Conclusion

Taken together, these studies point to the potential for use of video as a literacy coaching tool. As these studies evidence, video, when part of a collaborative professional

learning context, has the potential to be highly engaging, relevant, problem-centered, and leverages experiences, past and present (Dewey, 1932) – key characteristics of instruction that promotes adult learning (Merriam, 2001; Schön, 1983). As framed by Sherin and van Es (2005), video helps teachers see *what they do* so they may reflect on and refine *what to do* to improve their instructional efficacy.

In sum, teacher expertise matters in terms of student achievement (Darling-Hammond, 2010; Ferguson, 1991; Sanders & Rivers, 1996). Expert teachers have well-developed content and pedagogical knowledge (PCK) (Berliner, 1988; Shulman, 1986), which they employ to analyze and reflect on their instruction. High-quality professional development programs, such as evidence-based literacy coaching, advance teachers toward higher levels of expertise (International Reading Association, 2010). Moreover, effective coaching differentiates approaches based on professional learning objectives and teachers' current levels of knowledge (Blachowicz et al., 2005; Stover et al., 2011). Studies of video-aided professional development programs show potential in developing teachers' awareness of their instruction and how it may be refined to align closer to evidence-based practice and better respond to their students' needs. However, there are few published studies of video use as a component of literacy coaching. Moreover, existing studies have primarily focused on teachers' reflections of practice, but not measured change in their daily instruction such as has been seen in studies of recollection-based coaching models (Sailors & Price, 2010; Pomerantz & Pierce, 2014; Teemant et al., 2011).

For these reasons, it is worthwhile to investigate video-aided literacy coaching as

a means of increasing teachers' implementation of high-leverage literacy instructional approaches for high-risk students.

CHAPTER THREE

Methods

In this multiple case, mixed-methods study (Creswell, 2014; Yin, 2014), teacher participants engaged in six cycles of video-aided coaching sessions with a literacy coach to answer the following questions:

1. In a coaching context that includes co-viewing and co-analysis of teachers' video-recorded lessons, do novice teachers advance toward highly effective literacy teaching?
2. If so, does the development of highly effective literacy teaching vary by the instructional strategy?

It was hypothesized that co-video viewing and co-analysis with a literacy coach over a six-cycle period would yield a positive change in teachers' use of highly-effective instructional practices as evidenced in videos of teachers' subsequent lessons. These predicted changes would be in relation to suggestions for instruction made by the literacy coach during the video co-viewing sessions and could potentially be explained by the teachers' opportunities to view their own instruction with the guidance of a more knowledgeable other (e.g., the literacy coach).

To answer these research questions, I used the following study design elements and approaches. First, a multiple-case study design (Creswell, 2014; Yin, 2014) was used to examine potential changes in instruction in the context of video-aided literacy coaching across individual study participants. Second, a sequential mixed-methods approach (Creswell, 2014) was used to allow for the initial collection and analysis of

qualitative data, in this study – coaching conversations, followed by an analysis of quantitative data, specifically a frequency count and quality ratings of uptake of instructional suggestions in subsequent recorded lessons. Additionally, an interpretive approach (Merriam, 2009) was used to describe how teachers' instruction changed as they engage in video-aided literacy coaching.

Theoretical Frame

This study of video-aided coaching positioned teachers as active and collaborative learners in their professional communities, and as such, was framed by key tenets of sociocultural theory (Vygotsky, 1978; Roloff, 2003; Wertsch, 1991).

Sociocultural theory holds that learning is a socially-mediated activity, influenced by the values and beliefs of the culture in which the activity occurs. During social interactions, language is recognized as a primary mediating tool in which ideas are described, questioned and clarified. Through the process of internalization, learning occurs on two planes, first as learners participate in social or intersubjective speech and second, as learners uptake speech as self-talk to guide newly acquired mental functions.

Vygotsky further explained that language is also the means by which individuals reflect and elaborate on experiences and in doing so, gain new understandings. Artifacts and tools – for example written messages, drawings, and in this study, videos - serve to extend learning, providing a language and visually-rich means of communicating understandings and a powerful catalyst for rich dialogic exchanges.

Sociocultural theory also describes the ideal learning conditions as including more knowledgeable others (e.g., teacher, peer, coach) supporting learners within their "zone

of proximal development" (Vygotsky, 1978, p. 84). This is described as the space between that which learners are able to do independently and that which they can do with the support of a scaffold or aide (Wood, Bruner, & Ross, 1976). In the context of this study, teachers are provided a collaborative context in which to view, reflect on, and analyze their recorded instruction with a more knowledgeable other (e.g., the literacy coach).

The video provides a rich artifact to prompt analytic and reflective talk (Ermeling, 2010; Tripp & Rich, 2012). Through discussion, the coach provides a model of the type of social speech they hoped teachers would internalize as their own private speech to guide instructional decisions and interpretations.

Setting and Participants

Setting. The setting was one middle school in a mid-sized city in the northeastern United States. The school is a charter school that, while nested within a public-school district, operates under its own charter and administrative leadership. As described in the school's handbook and informational materials, City Charter's (a pseudonym) mission is to provide a free, open-access, college preparatory education to students from the local city and surrounding area. This mission was developed by school founders in response to the demands of the 21st century global economy and the need for accessible college preparatory programming in the area. It was also in response to the community's low percentage of adults with college degrees, cited as 10% in a five-year estimate (American Community Survey data, 2016).

City Charter has an open enrollment policy based on a lottery system, and

enrollment is not restricted by tuition, entrance exams, or special education, medical, or language status. The school was selected for convenience; it is the school in which the researcher (this author) was employed as the Director of Curriculum and Instruction with responsibilities for curriculum development and professional development.

In 2016, City Charter had a faculty of 25 teachers and served 307 students in grades six through eight. Each grade had approximately 100 students heterogeneously grouped across four homerooms with an average of 24 students per homeroom. City Charter's student profiles were similar to the sending district and reflected the socioeconomic and sociocultural diversity of the community in which it is situated (Tables 1 and 2). The student population represented a range of academic achievement levels based on 2016 Massachusetts Comprehensive Assessment System [MCAS] (Table 3), as well as English language learners, and varying special education populations (Table 1). At the time of this study, the sending district was assigned a state accountability rating of Level 4, indicating a Needs Improvement status. City Charter had not yet been assigned an accountability rating at the time of the study.

Table 1*: Sending District and School Profile SY 2016-2017*

	Sending District	**School**
Total students enrolled	10,163	307
Graduation rate	71.7%	n/a
Performance rating	Level 4 – Needs Improvement	Insufficient data
Attendance rate	91%	94%
Economically disadvantaged	65.8%	49.5%
Participation in the National School Lunch Program	Pending data	100%
First language other than English	21.7%	17.6%
English Language learners	11%	15%
Students with disabilities	20%	23.1%

Table 2: *Student Profiles*

	Sending District	**School**
African American	7.5%	9.4%
Asian	4.2%	2.0%
Hispanic	24.9%	11.1%
Native American	.2%	.3%
White	55.6%	72.3%
Hawaiian, Pacific Islander	0.1%	0.7%
Multi-race, Non-Hispanic	7.4%	4.2%

Table 3: *Student ELA achievement profiles, SY 2015 - 2016*

Percent at or above proficient *	**Sending District**	**School**
Grade 6	50%	40%
Grade 7	57%	39%
Grade 8	58%	n/a
Total number of students reported	2260**	206

* Because of choices afforded by the state, the specific accountability assessment used to measure student achievement differed between the sending district and the charter school.
** Approximate number, not all enrolled were administered assessment

City Charter's academic schedules differed from the sending district. For the school year 2016 – 2017, City Charter's academic calendar included an extended school year (185 days) and extended school day (9.0 hours), in comparison to the sending district's length of school year (180 days) and school day (8.19 hours).

City Charter's daily schedule emphasized literacy and mathematics instruction. The morning schedule was divided into two 90-minute instructional blocks, one each for English language arts (ELA) and mathematics. During this block, a co-teaching or inclusion model was used to support students with disabilities. A general education and special education teacher co-taught to provide differentiated and individualized instruction, as appropriate. The remainder of the instructional day was divided into five 55-minute blocks for instruction in social studies, science, integrated arts, and an ELA and mathematics *support block* for all students. During these support blocks, students received additional, targeted instruction from general education teachers or specialized teachers (e.g., special education, English language learners) in smaller groups. The data used in this study were collected during the 90-minute core ELA block.

At the time of this study, 66% of teachers at City Charter had fewer than five years teaching experience. All teachers were provided an average of three monthly two-hour professional development sessions. These sessions included collaborative time to discuss student progress, data analysis, and instructional planning. Teachers also participated in a yearly Summer Institute held before the start of the school year. Among the topics presented in the 2016 Summer Institute were four two-hour sessions on instruction framed by the gradual release of responsibility model of instruction (Pearson & Gallagher, 1983). This researcher, as the Curriculum Director, led this portion of the professional development.

Lastly, during the 2016 – 2017 school year City Charter was developing a literacy curriculum framed by the Common Core State Standards (CCSS) (NGACP & CCSSO, 2010) and thematic units of study. Each unit of study was focused on an essential question(s), focal texts, supplementary reading materials, and writing across genres and purposes (e.g., narrative, information, and argumentative/persuasive).

Participants. A purposeful, voluntary sampling procedure was used to identify teachers as potential participants (Patton, 2002). All early career teachers (fewer than five years teaching experience) who provided reading instruction (seven teachers school wide) were invited to participate and were provided information regarding study rationale and tasks via an informational handout. Four ELA classroom teachers (four females) volunteered. Of these teachers, two taught eighth grade, one taught seventh grade, and one taught sixth grade. These teachers attended an informational session to learn of the study expectations and risks. Informed consent was obtained. Participants were informed

that professional development points and a $200 stipend would be provided as incentives for participating in professional development during their preparatory periods.

Each teacher held initial teaching certifications and both eighth-grade teachers were enrolled in a graduate program in literacy education. One eighth-grade teacher and the sixth-grade teacher were first-year classroom teachers; the other eighth-grade teacher was in her third year. After two sessions, the seventh-grade teacher withdrew from the study due to an unexpected class reassignment to mathematics. Her data are not included.

Each participating teacher, from this point referred to as "teacher" or the "teachers," taught two heterogeneous ELA classes with a balance of genders, a range of academic achievement levels, and with some students having Individual Learning Plans (IEPs), English Language Learner (ELL) status, and medical 504 plans. As previously noted, in each case, one of the teacher's two classes was co-taught with a special education teacher to provide inclusion support to students with IEPs.

As the research, I took up a participant-observer role (Yin, 2014). I acted as the literacy coach providing instructional support and feedback to the teachers. I hold a Master of Education (Literacy Specialization) degree, and at the time of the study, was an advanced student in a language and literacy doctoral program at a nearby university (This study was her doctoral dissertation.) Prior to my doctoral work, I had been a Title I reading teacher (four years), and at the time of the study had eight years of literacy coaching experience. In the reporting of the results, I refer to myself in the first person.

Data Sources

The following data sources were used to answer the research questions.

Video-recorded lessons. Teachers recorded six self-selected, instructional episodes that averaged 30 minutes in length; recorded lessons captured instruction as it occurred in everyday situations. The first video served as a teacher's baseline measure of instruction before coaching. Despite an initial plan to record and view videos weekly, routine school-based interruptions (e.g., meetings, assessments, teacher absences) and teachers' own instructional pacing resulted in intervals of one to three school weeks. To record lesson, teachers used researcher-supplied *iPads* or their school-issued smartphones held on tabletop tripods; or in a few recordings, handheld by the teacher as she moved around the classroom. Teachers mostly recorded their instruction without pausing or stopping the video.

Audio-recorded coaching sessions. Co-analysis and co-viewing-based coaching (CVBC) sessions were audio-recorded in their entirety using a digital recorder.

During CVBC sessions individual teachers and I, as the coach, co-viewed and discussed the most recently recorded teaching episode. The baseline video was viewed during the first CVBC session. Lesson Videos were not always viewed in their entirety. Time constrains or the focus on a specific segment resulted in partial viewing of the Lesson Video. Teachers were not asked to preview the recordings. During the co-viewing, the videos were freely paused or replayed by the teacher or myself for the purpose of clarification, analysis, questions, or discussion. These sessions were approximately 40 minutes in length and occurred in a quiet, private setting.

Videos and audio-recorded CVBC sessions were stored in a password protected digital storage site (*Google Drive*).

Researcher field notes and self-memoranda. During and following each co-viewing session, I, as the researcher, recorded field notes of impressions of the participants' responses to the video-aided coaching protocol and any comments teachers offered in relation to the study. I also recorded reflections of assumptions and noted possible alternative explanations for any changes.

Data Collection Procedures

The study used the following sequence of data collection: (1) recording of baseline video, (2) co-viewing of baseline video, (3) recording of subsequent video, (4) co-viewing new video. Steps 3 and 4 were repeated until six videos had been recorded.

Phase One

Baseline video. Data collection began with a baseline video recorded by each teacher. Teachers were asked to record an approximately thirty-minute segment of their instruction. To help guide teachers in selecting when and what to record, I (as the coach) suggested that they record something they felt comfortable sharing and on which they would like coaching. This video was then co-viewed and served as the impetus for the first instructional suggestions.

Phase Two

Video-aided coaching cycles. Within a week after the baseline video, individual teachers and I met during teachers' 55-minute preparatory period to co-view the recorded lesson. The videos were played on a laptop. The baseline video was used to set initial goals and as the basis for instructional suggestions to improve practice. After the initial CVBC session, teachers recorded another instructional segment or lesson that became the

focus of the next CVBC session. This recording-viewing routine continued through six cycles.

During CVBC sessions, I first asked the teacher to provide introductory information and context about the video, then used open prompts such as *What do you notice? What was your teaching objective? Why do you think that happened?* to elicit teacher impressions and thoughts about the instruction. In the subsequent discussion I offered suggestions to refine the instructional practice. The coaching session concluded with teacher and I summarizing observations, and suggestions for improving instruction.

Following each CVBC session, I recorded self-memoranda including impressions of the video-recorded instruction and the teachers' responses to the video co-viewing. Also noted were teachers' reflective statements (e.g., *I think they didn't understand because my example wasn't about that.*) or critical self-reflections prompted by the video viewing (e.g., *I would not have realized that if I didn't see it in the video.*). I also made note of conversations about the CVBC cycles that occurred outside the CVBC sessions and any correspondence regarding the video-aided coaching. However, these were infrequent and referred mostly to scheduling and technology. These procedures were followed until each teacher, Angela, Beth, and Corrie, (all names are pseudonyms) had completed six cycles of video-aided coaching (Table 4).

Table 4: *Timeline of video-aided coaching cycles.*

Participant	**Baseline video**	**Final video**

Angela	November 28, 2016	April 27, 2017
Beth	December 06, 2016	March 22, 2017
Corrie	December 12, 2016	May 20, 2017

Data Analysis

Using a sequential exploratory approach (Creswell, 2013), qualitative analyses preceded the quantitative analyses. The next section provides information about each step of the analytic plan.

Co-viewing based coaching sessions (CVBC sessions). The audio recordings of the CVBC sessions were examined to identify specific suggestions for instruction made in each session. The recordings were transcribed, removing speech fillers such as uh's and um's and segments not related to classroom instruction (e.g., schedules, school events, logistics of video recording). This resulted in 18 final transcripts. As the CVBC transcripts were read and reread, annotations were made to mark discussions around instructional suggestions. An iterative process was then used to develop descriptive codes from these annotated segments. As the coding process continued across each of the transcripts, repeated or additional information related to an existing code was noted. This provided a record of how the instructional suggestion developed across CVBC sessions or how often it was referenced during subsequent CVBC sessions.

After the codes were identified they were categorized by instructional domain. For example, SI codes in relation to guided practice were categorized as part of the procedural knowledge instruction domain. For identification of when and with whom a

given code emerged, codes were labeled with the first initial of the teacher's pseudonym, the number of the CVBC session, the category, and the sub-code. For example, an instructional suggestion to provide students scaffolded practice of newly learned strategies was introduced Angela's second co-viewing session; it was coded A2 Procedural knowledge: Guided practice, or as abbreviated, A2 PK: GP.

For each teacher, a Suggestion for Instruction Codes table was prepared. This table contains each code's label, a description, and an example (see Appendix B).

Video-recorded lessons. Using the Suggestion for Instruction Code Tables, teachers' instructional videos were searched in their entirety for evidence of implementation of each SI code. Lesson Videos were first segmented into units of analysis as defined by instructional episodes. An episode was defined as instruction bound by a specific instructional focus or topic (e.g., writing, comprehension instruction). Video segments of non-instructional activities (e.g., schedule clarification, unexpected classroom visitor) were disregarded. This analysis strategy is based on Sailors' and Price's (2010) method in their investigation of the various components of cognitive strategy instruction, in which each reading strategy observed (e.g., questioning, drawing conclusions) formed the unit of analysis.

Once episodes were identified, they were viewed for evidence of implementation of the SIs discussed up to the date of the recorded lesson. For example, after the CVBC session during which the suggestion was introduced that the teacher provide more explicit procedural knowledge instruction, recorded evidence of explanation and modeling of strategy use in subsequent videos was counted as an implemented attempt of that SI code.

Each identified SI implementation was tallied in an Implementation Frequency Table. If an opportunity to implement a given code was identified but not acted on, a zero rating was assigned. Instructional episodes that did not present opportunity to enact a specific code were coded as not applicable (n/a).

After identification, each implementation was assigned a quality score using the Implementation Rating Scale (Appendix C). Implementation Rating Scale was developed to measure effectiveness of the enactment of the instructional suggestion based on a) evidence-based practice, as represented in published studies; and b) the "scope" of the particular SI (i.e., what was discussed as "next steps"). The three-point rating scale identified implementation as effective (2 points), developing effectiveness (1 point), or missing (0 points).

The Lesson Videos were numbered after the baseline video. The co-viewing sessions were also numbered. The first Lesson Video was labeled Baseline Lesson Video. It was co-viewed and co-analyzed in CVBC Session #1. Evidence of uptake of SIs that emerged in CVBC Session #1 were searched for in the subsequent Lesson Video (Lesson Video #1). Lesson Video #1 was viewed in CVBC Session #2. SIs that emerged in CVBC Session #2 were searched for in Lesson Video #2. This pattern continued until Lesson Video #6 was co-viewed in CVBC Session #7, the end of the coaching cycles.

Cross-case comparisons. Once the individual cases were analyzed, two cross-cases comparisons were conducted. The first analysis compared teachers' mean implementation ratings and growth patterns across the six videos. The second cross-case analysis examined teachers' implementation patterns across instructional strategy

domains. The total frequencies and mean quality ratings of the SIs within a domain were calculated. These totals and means were then compared to determine differences between the domains and between sub-codes of a domain.

Reliability of coding. To ensure reliability in coding, a second rater was trained during one two-hour session. This rater was an experienced coach and held a graduate degree in Literacy. Each instructional video was assigned a number, and a computer-based random number generator was used to select a subset of instructional videos (n = 6, 30%). The second rater rated the videos in order in which they were selected (Table 2). Interrater reliability procedures were as follows. The researcher and the second rater viewed and rated the first selected video together. The researcher answered the rater's questions and provided clarification for specific codes. The rater then coded the next selected video. This resulted in an 85% agreement. The researcher and the second rater resolved discrepancies through questioning and clarification to reach 100% agreement. The second rater then independently coded the remaining four videos (Table 5). The fifth video was first rated at 60% agreement. After the researcher revised a number of select codes, the second rater recoded video five. The result was 80% agreement Overall agreement was 82%.

Table 5: *Instructional videos selected for second rater analysis.*

Selection order	Selected videos	Agreement percentage
1	Corrie Video 1	100%
2	Angela Video 5	100%
3	Beth Video 4	70%
4	Corrie Video 5	60%
5	Beth Video 6	80%
6	Angela Video 3	85%
	Overall agreement	75%

In sum, this study was designed around six cycles of 1) teachers recorded their instruction; 2) teacher-coach co-viewed and co-analyzed the Lesson Video; 3) and subsequent video recordings of instruction. Analysis was framed by the specific instructional suggestions made in teachers' individual co-viewing sessions. Each video was searched for implementation evidence of all instructional suggestions introduced up to the date of that video. Implementation attempts were counted and rated for effectiveness.

Summary

Using these procedures, I looked to how suggestions to improve instruction developed over the co-viewing sessions and if these suggestions were traceable to teaching actions in subsequent videos. I also looked for evidence of how video viewing may have prompted teachers to make instructional changes or to reflect on their practice. Lastly, I considered teachers' existing knowledge, beliefs, and goals related to instruction

as I analyzed their uptake of instructional suggestions. In doing so, I hoped to more fully understand each teacher's development as they engaged in the video aided coaching. Results of these analyses are presented in the next chapter.

CHAPTER FOUR

Results

This study examined a video-aided coaching model that is predicated on the co-viewing and co-analysis of teachers' instructional videos. I hypothesized that if literacy coaches and teachers routinely engaged in co-viewing of teachers' own instructional videos, teachers would implement with coach's suggested instructional strategies with increasing efficacy. This, in turn, would lead to teachers' advancement toward instructional expertise.

In this chapter I report the findings of the three teachers' instructional changes in the context of video-aided coaching. First, I present case descriptions of the three participating teachers with the aim of understanding teachers' instructional changes in relation to the co-viewing sessions. Then, I provide a cross-comparison of instructional effectiveness ratings across the participants, followed by a cross-comparison of the differences in implementation across instructional strategy domains. I conclude with a summary of the major findings.

Angela

> When you are new at teaching it is hard to focus on your teaching, what you are saying. You are focused on students' behavior; who is not paying attention, who is getting up (debrief transcript, May 31, 2017).

Teacher profile. At the time of the study recruitment, Angela was a first-year teacher in the first half of the school year. She held an initial teaching license. During the information session Angela said that she was excited to participate in coaching focused

on her reading instruction and that she wanted "to be more effective, more interesting for students" (field notes, November 28, 2016).

Angela actively participated during the entire study. She was engaged in the coaching sessions, questioning and commenting on the videos and suggested next steps (field notes, January 18, 2016). Angela recorded six instructional videos and attended seven co-viewing coaching sessions over five months. (Angela recorded a seventh video but we were unable to view it because of technical difficulties.) During an informal conversation, Angela asked if the recording and co-viewing of video could continue after the study (field notes, January 4, 1017).

Instructional focus. From the start, Angela shared her concern about her students' comprehension of "challenging texts" (field notes, December 14, 2016). She saw as her goal teaching her students how to "break it [text] down" (CVBC transcript, December 14, 2016). She explained that she wasn't sure she was teaching effectively and wanted to do it right. When asked about her reading instruction, Angela referred to an earlier professional development (facilitated by this author in her role as instructional leader at the school) during which information and modeling of cognitive strategy instruction was provided. Angela said she wanted to develop her use of this instructional strategy (field notes, November 28, 2016).

Implementation of suggestions for instruction. Table 6 summarizes data related to implementation of Suggestions for Instruction (SIs) offered during Angela's coaching sessions and Angela's response to each. The SIs are presented in the order in which each emerged over the co-viewing sessions. The table displays the frequency of

occurrence of each SI, opportunities to implement the SI, percentage of opportunities acted upon, and the mean quality rating for each. In the next sections, I present these quantitative data. Then, to explain quantitative findings, I present results of qualitative data analyses derived from co-viewing and video transcripts.

New SIs were introduced in coaching sessions 1, 2, and 4 (with none introduced in session 3, 5 or 6). The SIs show an emphasis on developing Angela's expertise in strategic teaching, beginning with instructional suggestions aimed at developing students' knowledge of what they will learn (e.g., Declarative knowledge: Lesson organization, Declarative knowledge: Literacy goals, Declarative Knowledge: Knowledge goals) and explication of how to carry out specific strategies (e.g., Procedural Knowledge, Procedural Knowledge: Guided practice). Angela's video recordings included five lessons focused on reading comprehension and one (video 5) focused on writing.

Table 6: *Angela's Suggestions for Instruction: Occurrences, Opportunities, and Effectiveness*

		Implementation		
		Frequency		**Effectiveness**
Suggestion for Instruction	**Occurrences**	**Opportunities**	**Percent**	**Mean Rating (0-2 Scale)**
Declarative Knowledge: Lesson organization	4	7	57%	.85
Declarative Knowledge: Literacy goal	10	13	76%	.92
Procedural Knowledge: Model	9	11	81%	.83
Procedural Knowledge: Guided Practice	11	15	73%	.80
Declarative Knowledge: Knowledge Goal	2	13	15%	.15

Implementation frequency. Overall, data show that Angela implemented each of the instructional suggestions in her recorded instruction. However, the extent to which she acted on opportunities to use an SI varied quite widely. For example, SIs with a comparatively high rate of implementation (Procedural knowledge: Model/81%; Procedural knowledge: Guided practice/73%; Declarative knowledge: Literacy goals/76%) represent foundational components of strategic teaching; and each of these practices aligns with Angela's self-identified pedagogical goal of improving students' comprehension. These practices were repeatedly discussed in CVBC sessions, addressed in a conversation about instruction that promotes students' understanding of declarative and conditional knowledge in session one through three, and procedural knowledge in sessions two through six.

In contrast, instructional strategies with a comparatively low rate of implementation included Declarative knowledge: Knowledge goals/15%; and Declarative knowledge: Lesson organization/57%. Providing students with an organizational frame (e.g., review of a class agenda) was discussed in sessions one, five, and six. Promoting students' understanding of the content knowledge to be gained through their reading and writing was discussed in session two.

There was also variability in immediate and sustained uptake following the first introduction of an SI. For example, the SI, Procedural knowledge: Model was first introduced during CVBC session two; uptake was immediate with occurrences observed in the next recorded lesson (lesson 2); and it was sustained in the subsequent recorded

lessons (lessons 3, 4, and 5). Uptake then decreased to 50% in Lesson Video #6 (figure 1).

Figure 1: *Angela: Percentage of opportunities acted upon*

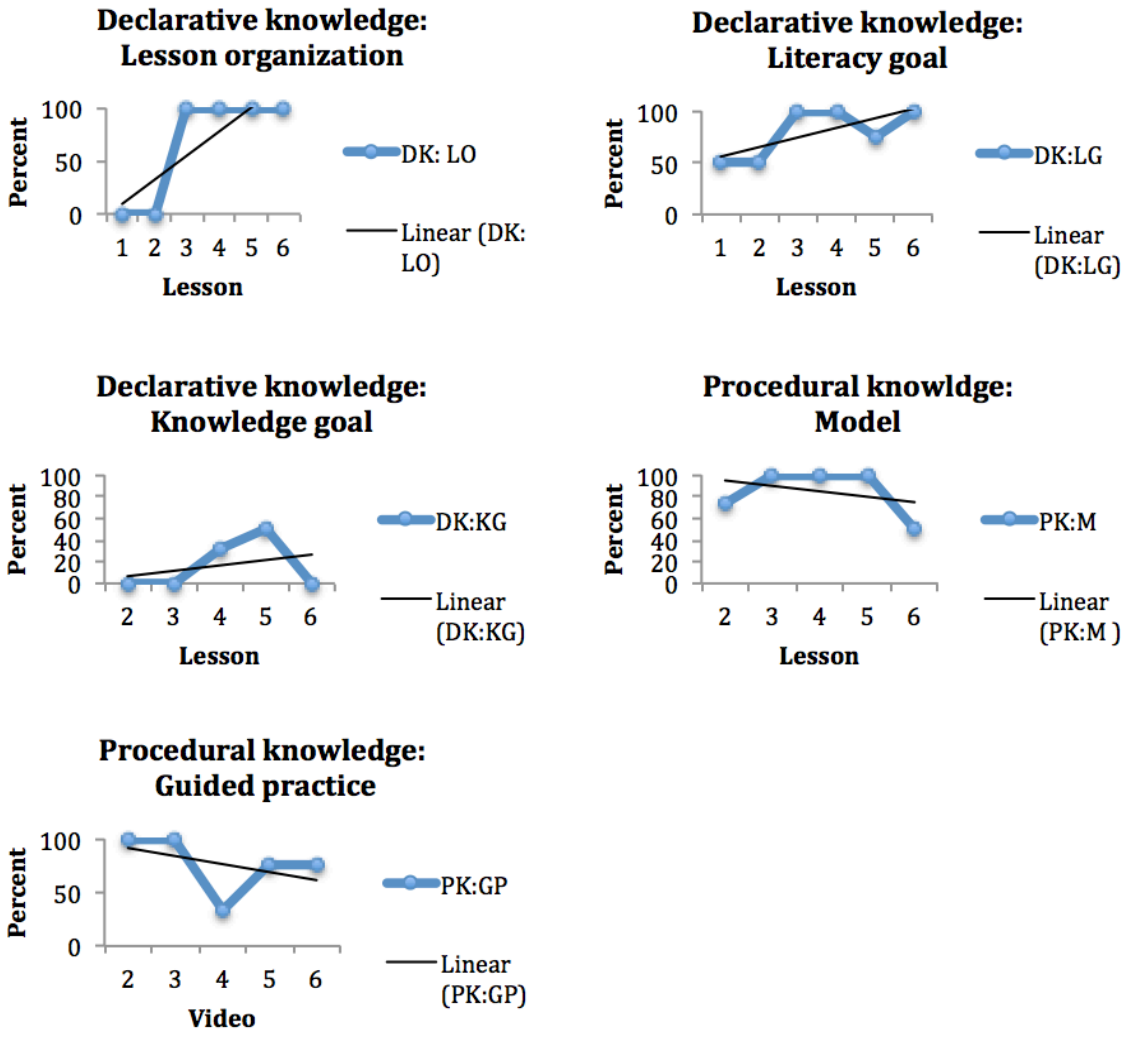
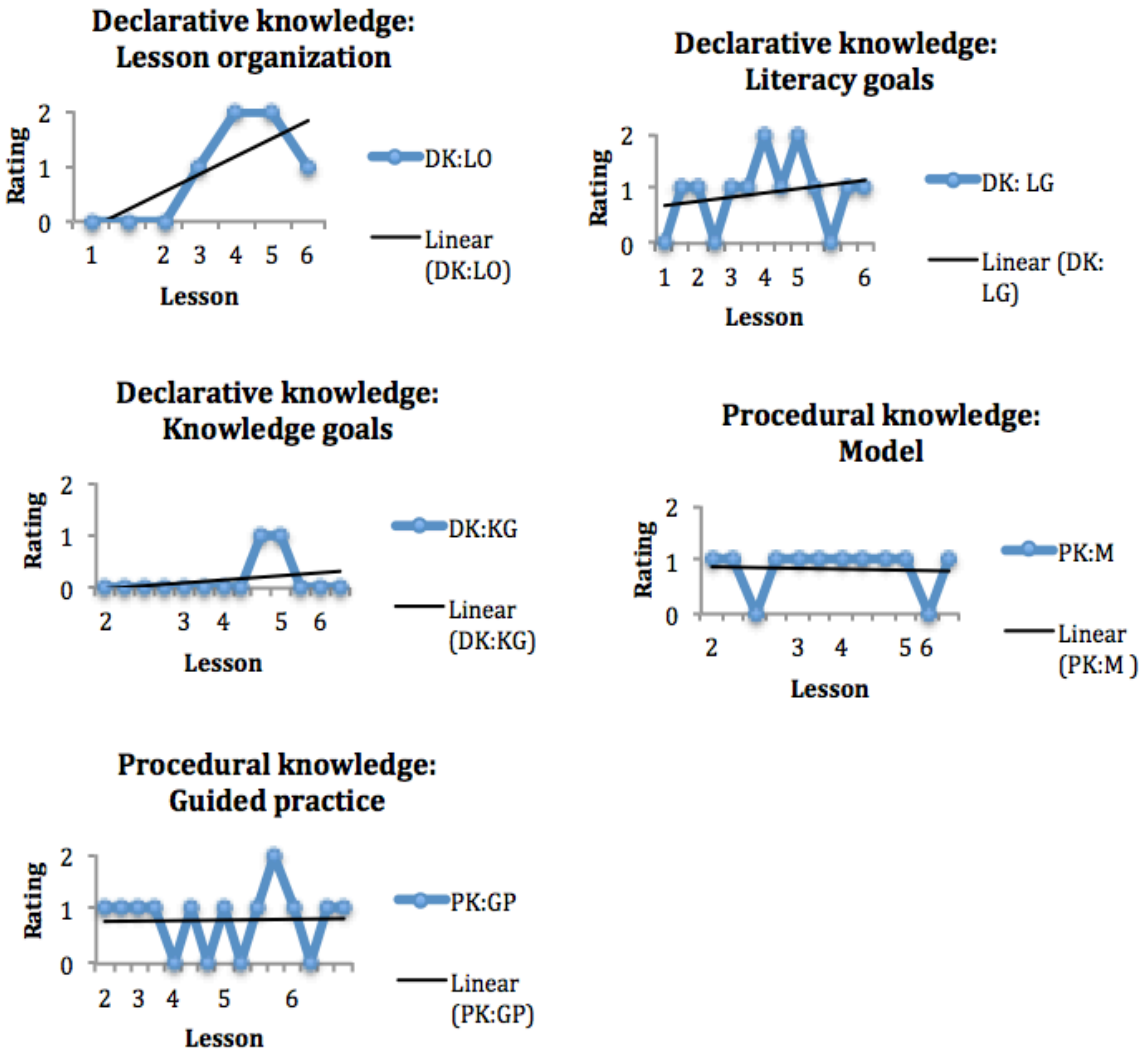


Figure 2: Angela: *Quality rating for suggestions for instruction*



Other SIs did not show the same immediate and sustained uptake. For Declarative knowledge: Lesson organization, and Declarative knowledge: Knowledge goals, uptake was not observed in the lesson immediately following the co-viewing session; but Angela did eventually take up each SI in a later lesson. For example, Declarative knowledge: Lesson organization was first discussed in the first co-viewing session; despite opportunities to provide clear lesson objects in lessons one and two, Angela did not do so. Although specific SI of articulating lesson organization was not discussed again until co-viewing session five, a related SI (Declarative knowledge: Knowledge goals) was presented and discussion in session two. Angela then articulated lesson objectives in each subsequent lesson, with varying degrees of effectiveness. Angela's articulation of knowledge goals was observed in lessons four and five.

Implementation quality. The quality analysis assigned a rating (on a scale of 0-2) to each implementation attempt. The most frequently implemented SIs were also those with the highest mean quality ratings: Procedural knowledge: Model (.83), Procedural knowledge: Guided practice (.80), and Declarative knowledge: Literacy goals (.92). As was the pattern for implementation frequency, these higher-rated SIs were also discussed in the greatest number of co-viewing sessions. Similarly, the SI with the lowest mean quality rating was also implemented less frequently: Declarative knowledge: Knowledge goals was implemented only 15% of available implementation opportunities and achieved a quality rating of only .15. This instructional practice was also addressed in the fewest co-viewing sessions (session two).

Figure 2 displays the growth in implementation quality of each instructional

practice over the weeks of the study. Examination indicates that although there is evident unevenness in instructional quality, in all but two of the instructional practices (Procedural Knowledge: Model, Procedural knowledge: Guided practice), trend lines indicate that implementation quality increases from initial to final implementation. These indicate Angela's continued improvement in her instruction over time. In the declarative knowledge domain, there is at least one implementation attempt in two of the three sub-codes rated as effective (lesson objectives and literacy goals), indicating that although she apparently lacked firm control over the practices, she had capacity for effective implementation of the target strategies. Similarly, implementation of SIs related to procedural knowledge showed one instance rated effective, again showing development of capacity but not yet automaticity in high-quality implementation of this instructional practice. Overall, the trend lines for the two sub-codes in procedural knowledge indicate implementation quality did not substantially increase from initial to final implementation.

In sum, Angela implemented each instructional suggestion, although not always in the lesson immediately following the first discussion of the target strategy. Based on the content of subsequent co-viewing sessions and Angela's later uptake of the target strategy, it may be that she required more explanation and discussion before trying a new strategy. Moreover, analyses indicate that Angela more readily implemented instruction focused on the procedural ("how-to") part of comprehension strategy instruction and less readily incorporated strategies focused on explaining what they were setting out to accomplish (i.e., literacy goals and knowledge goals).

Instructional change over time. To better understand Angela's instructional changes, I used transcript excerpts from the co-viewing sessions and lesson videos to describe Angela's uptake of the instructional suggestions. I grouped individual codes into two larger categories: declarative knowledge and procedural knowledge (instruction associated with strategic teaching).

Figure 3: Angela's declarative knowledge instruction: *Percentage of opportunities acted on*

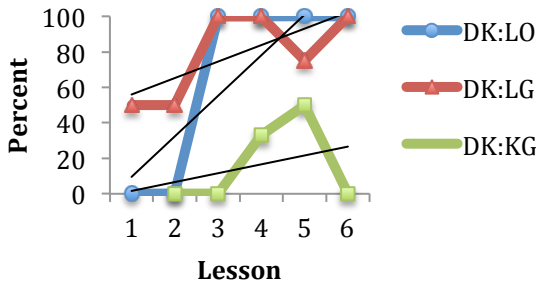
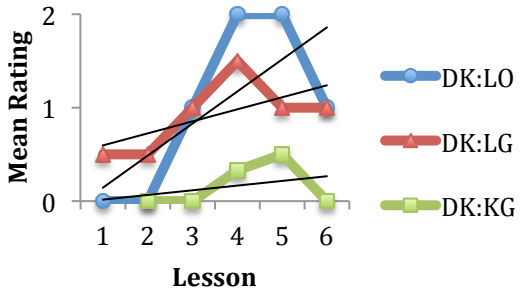


Figure 4: Angela's declarative knowledge instruction: *Mean quality ratings*



Angela's declarative knowledge instruction. The declarative knowledge domain comprises suggestions for instruction focused on developing students' understanding of what they will learn as readers and writers (e.g., literacy goals) and what they would learn

about the world (e.g., knowledge goals). SI codes included within this domain include Declarative knowledge: Lesson organization, Declarative knowledge: Literacy goals and Declarative knowledge: Knowledge goals. Figure 3 shows the percentage of implementation opportunities acted upon for SIs in the declarative knowledge domain per lesson. Figure 4 shows the mean quality rating for each declarative knowledge SI per lesson. The mean was calculated by averaging each SI code's rating in a single video.

Angela engaged in little instruction of declarative knowledge in the early lesson videos (figures 3 and 4). The following excerpt provides an example of Angela's prereading instruction at baseline (Baseline Lesson Video). The video began with a student reading worksheet directions to the class (approximately 24 students).

> S: [Reading aloud] Poems help people think about common experiences in a different way. Read the poem and answer the questions that follow.
>
> T: Thank you. So everyone is annotating with me. This is the title. Notice the quotation marks. Poem titles go in quotes. Do you remember ...That was the title of a book, you underline it. This is the title of a poem. You put it in quotes.
>
> T: We will read it [the poem] out loud together and then we will do a little bit of partner reading. Who can read the first stanza? What is a stanza?
>
> S: Sections
>
> T: Yes, sections of a poem. They look like paragraphs. This is a stanza (pointing to text). (Baseline Transcript, lines 2 – 8)

During the co-viewing of the baseline lesson, I commented on the absence of declarative knowledge instruction and, in particular, the absence of information about a

learning objective (CVBC Session #1, transcript lines 46 – 51). As we co-viewed, Angela noted she could have spent more time building background on poems as a genre and how and why authors use figurative language to express ideas about the world. This provided the basis for the instructional suggestion to provide students with a cognitive or literacy goal for the class (e.g., understanding figurative language) and why the goal will be helpful (e.g., to better understand poems). Additionally, we agreed that Angela would provide students with an agenda outlining the goals and learning activities for the class.

In the subsequent lesson (Lesson Video #1), Angela recorded her pre-reading instruction. Angela explained that her intention was to have students "close read" to determine the tone of the text. The following is an excerpt from this instruction.

> T: Today we are going to learn to understand a text a little bit better. Once everyone is settled we will start reading it again. My copy is blank but yours is already annotated. We already read this as a class together, and we already read it in partners. We already read it individually. We are reading it for a final time. Who can read the first section for me? (Lesson Video #1 Transcript, lines 1 - 4)

Although Angela recapped previous experiences with the text, she did not provide declarative knowledge to develop students' awareness of the target strategy. As we co-viewed this part of lesson one, the following discussion about declarative knowledge and knowledge goals ensued:

> C: . . . Your goal for, if I can clarify, is for them to understand or to show them how to read this and annotate for [a new purpose]?
>
> T: Exactly, and answer the question, how do opinions on Emancipation change

from 1861 to 1863? I really wanted them to cite from the text, but if they really didn't know what words or phrases might be negative or positive, how would they cite? They would just be pulling random quotes. I was really trying to teach them to close read with a partner on this. Their purpose was to look for negativity. I did really guide them using document A because it is the foundation of the other documents. On the other ones, I let them work [independently]. I mean it was fairly obvious . . . But on this one it was less clear. I wanted to teach them how to find specific words that set the tone.

C: You were modeling that . . . I'm wondering if we played it back - I'm not sure I heard you articulate it like that. Do you think they knew what you were trying to do? What are you thinking on that?

T: No, I think you're right. I could have restated that with every word that I linked. I could have brought it back to the negativity (CVBC Session #2 Transcript, lines 73 - 90).

Later in the same co-viewing session discussion, I offered an SI, explaining that Angela might use a knowledge goal as a form of declarative knowledge.

C: Thinking before you teach about the knowledge goal, the what. We are interested in finding out about perspectives about slavery across time periods. In order to do that I am going to share with you how I read documents for perspective or tone or mood.

T: Right, because that is really what I am doing when I do these annotations, with the poetry, with this, that is really what I do. I'm just not good at sharing that with

them . . . (CVBC Session #2 Transcript, lines 152 - 159).

This excerpt suggests Angela had pre-established what she wanted to teach in her lesson, but she did not know how best to communicate this information to the students. As we co-viewed the lesson, Angela was able to notice this lack of explicitness and hear some model language demonstrating how to implement the focal strategy (CVBC Session #3 Transcript, lines 116- 124; 283 -285). This topic was discussed again in co-viewing session 3 during which I explained the importance of declarative knowledge (knowing what strategy would be learned) to the development of strategic readers (CVBC Session #3 Transcript, lines, 60 and 65).

Angela began to provide Declarative knowledge: Literacy goals with greater consistency at Lesson Video 3, in particular as it related to general information and specific learning objectives (figure 3). The percentage of opportunities acted upon increased from 50% (Lesson Video #2) to 100% implementation (Lesson Videos #3 and #4, and #6). Implementation quality improved, changing from "developing" ratings in Lesson Videos 2 and 3 an "effective" rating in Lesson Video 4 (figure 4). Angela's development of expertise related to this SI is evident in this example in which she first established a clear learning objective (developing effective interview protocols for a project). Angela guided students to identify the elements of informal interviews, first through an example interview video and then through analysis and discussion of the interview transcript:

T: A lot of you are asking about your trimester three projects and forming those interview questions. Our content objective today, what are we going to be

learning and why. [Name] would you read it?

S: [Reading aloud]: Content objective. Discover what successful interview questions are and how to form them for our trimester three project.

T. That is what we are doing today. We are doing deadline three today. We completed our journal. We are going to watch a video and read an interview and talk about why it was successful or unsuccessful.

T: [Name], please read the directions on the paper.

S: [reads directions, but is difficult to hear]

T: Yes, we are going to view a short portion of the interview first. And what we are looking for is, please write with me, our purpose for viewing is, why we are watching: to discover how an interview should sound. The reason you are watching an interview and not just reading it on paper is that we are actually listening and looking for how formal the interviewer is and how the questions are posed so it is not a yes or no answer.

T: As we watch, guys, this is where you are going to write down those things [referring to a note taking form]. Answer these questions as you watch; are they being formal or are they informal? Does the interviewer just ask a question and then the interviewee gives an answer and the interview asks the next question or does he respond to what the interviewee said? What is an interviewee?

S: The person being interviewed.

T: The person who is being interviewed [turning on the video and reminding students to remain quiet]. So again, you are looking things that the interviewer

does and what he says.

Students viewed a video featuring Former President Obama being interviewed. Then we debriefed the attributes of the interview:

T: I noticed the interviewer was formal. His questions and how he spoke them was formal. Did anyone notice anything about his body language? [Name]?

S1 He was always touching his chin like he was thinking.

T: Yup. I like that. And how was he sitting, was he relaxed or stiff? [Name]?

S2: Stiff.

S3: He was relaxed. He was leaning back.

T: Relaxed. I thought he was pretty relaxed. He was lounging back, which is fine because you don't want your interviewee to be super uptight or uncomfortable, be relaxed, but make sure it is pretty formal. We are not just having a conversation. [students are writing notes]

T: Again, you want to make whoever you are interviewing comfortable, but still tied back, I'll wait, still keep it tied back to some type of formality. We will add to this when we have more…[Name]?

S1: I have one that said the interviewer asked the interviewee questions that had long answers, which were informational and had really long answers. Not just, oh yeah, this is why.

T: I love that. We were going to get to that next but we can add this in this box [writing on worksheet that is projected on screen]. The questions, so what you are saying is the questions weren't yes or no answers. They were good questions that

had the potential for a lot of depth and a long answer. That was exactly what we were going to get to next. I'll give you a few minutes to get these notes.

(Lesson Video #4 Transcript, lines 1 - 24)

This transcript excerpt, rated effective implementation of the SI on providing declarative knowledge, shows Angela created an opportunity for students to understand the elements of an interview before the students were to develop their own interview protocols.

In Lesson Video 6, Angela's attempt to provide declarative knowledge was less effective, achieving a rating of "developing." She provided incomplete information about what the focal strategy was that students were learning and that using it would help them use visual information to determine the changing mood in a text. I noted that in the co-viewing session (#6) that immediately preceded this lesson, no references were made to declarative knowledge instruction.

To review, for SIs related to providing declarative knowledge, Angela provided declarative knowledge in 16 out of 23 (69%) observed opportunities. Instructional quality achieved a mean quality rating of .64. While low, given the complete absence of provision of declarative knowledge in the baseline lesson video, the accelerating trend line noted in the implementation quality ratings indicates gradual improvement in Angela's SI implementation (figure 4). Moreover, the achievement of "effective" literacy goal ratings in Lesson Videos 4 and 5 point to Angela's capacity for expert practice, though it is not yet consistently realized.

During CVBC Session 6, Angela remarked that her students, themselves, noticed

her attention to providing declarative knowledge, and that their awareness helped her maintain the practice of this SI: "I used to always forget. But now that we started doing this thing [video aided coaching] they will ask for it. I'll say, here is a text, please annotate it. They will say, what are we annotating for?" (CVBC Session #6 Transcript, Lines 20-23)

Figure 5: Angela's procedural knowledge instruction*: Percentage of opportunities acted upon*

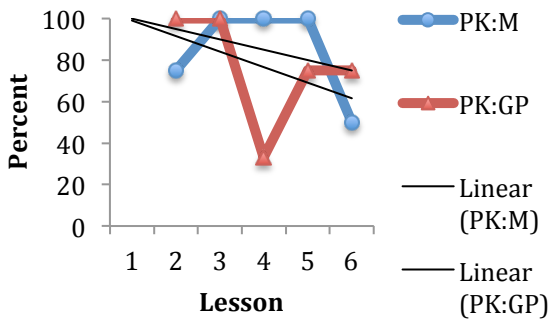
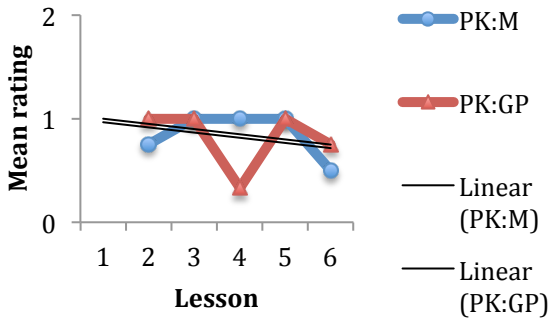


Figure 6: Angela's procedural knowledge: *Mean quality ratings*



Angela's procedural knowledge instruction. The procedural knowledge domain contains SI codes related to instruction that develops students' understanding of how to carry out a specific strategy to meet a goal through explicit explanations and modeling,

including the use of think-alouds and guiding students' implementation of the target strategy. This category includes Procedural knowledge: Model and Procedural knowledge: Guided practice. Figures 5 and 6 show the gradual development of Angela's instruction of procedural knowledge across coaching sessions.

At baseline, Angela's attempts to develop procedural knowledge relative to annotating a poem as a meaning-construction strategy were largely focused on providing an explanation. In this example drawn from the baseline lesson video, she displayed the text, read the text with students, asked questions, and wrote her annotations while students watched. She then directed students to follow her lead in annotating the next stanza with a partner:

> T: Yes, like a section of a poem. They look like a paragraph. This is a stanza. Who can read the first stanza?
>
> S: [reads aloud]
>
> T: So that first sentence, *Two executioners stalk along over the knolls.* What is an executioner?
>
> S: A killer.
>
> T: [writing notes on the displayed text] Someone who kills, right. And because I wouldn't be giving you an inappropriate poem, that's why we need to look to the fourth line [student voices are heard]. I'll wait [reads the next stanza]. Please highlight tree trunks. [Teacher reads on].
>
> T: What does that mean *bears the death mark on its side?* What does that mean?
>
> S: It has ax mark on its side, its trunk.

T: So, if the tree has the markings from the ax, these executioners are executioners of what? [Student?].

S: Trees.

T: Trees. [waits while students copy her notes on their text copies].

T: Now, read this next stanza with your partner and try to make meaning of it. Try to annotate like I did, like we have been learning how to do.

In this lesson segment, Angela asked questions about the text but she did not explain how she determined what to annotate or how the annotation helped her comprehend the poem. When asked for her impression of the lesson, Angela said, "I feel like it's dry, boring" (CVBC Session #1 Transcript, line 10).

During the baseline co-viewing session, our discussion focused on establishing lesson organization and developing declarative knowledge. Angela's teaching actions in Lesson Video #1 were largely similar to those at baseline. Angela followed through with the SI on providing declarative knowledge, as she explained what she was doing, but she did not then explain what her students should do when working on their own. I picked up on this opportunity to provide an SI related to procedural knowledge.

C: I think what you did really well here, . . .is *showing* them what you are thinking. Your visuals of how you are highlighting, note-taking – your annotations are easy to follow. I wonder if you could add to this the thinking you do in your head that helps you get there, know what to annotate.

T: Yes, I notice there is a lot of me writing. I have worked so hard on classroom management, especially with this class, and this is how it goes most of the time.

C: They look great.

T: They do, but I think I've had to keep that tone.

C: Like you are all business?

T: Yes, all business. And I would like to start to grow on it. I would like to make it more interesting, more exciting. Sometimes when I do that they are going to erupt and not be as on task. How can we incorporate some of that with instruction? I just got the classroom management and I feel like I need to build here. When I have watched you teach the Summer Academy, I feel like you think out loud. I don't think I am doing that. So the silent periods could be when I am thinking while I am writing? (CVBC Session #2 Transcript, lines 85 - 109)

A few minutes later, as we continued co-viewing lesson, I again prompted Angela to think about her teaching actions as they related to procedural knowledge:

C: You are doing all this expert thinking in your head. You're keeping the question in your mind. You have a knowledge goal about the world - my knowledge goal is the attitudes then - or in this document. If we think about it like this: you are teaching kids about the world - a knowledge goal. What were the attitudes about slavery in this time period? How are we going to know that? You selected a reading strategy - a literacy goal - a way for them to be better readers by teaching them how to close read for bias, for language choice.

T: yes, for language choice

C: because ignorant, unequal . . .

T: uncivilized

C: You were picking them out, the visuals [on the document camera]. You were naming that content. Now, add it to your direct instruction. How are you thinking? Tell them. As I read this word *uncivilized*, it is making me think, this is a very negative view. People who are civilized are people who go to the library and who work and do these certain things. But uncivilized people are kind of like a term for people who cannot conduct themselves appropriately. It's a negative term. You see, doing that thinking over and over again, doing that will help them learn how you are doing that.

T: Yes [nodding].

C: First you read a little bit. Then when you reached a word or phrase, you asked yourself, is this giving me a negative - is this a negative word choice or a positive word choice? I would underline it and label it as negative or positive word choices. After I read this whole paragraph or piece, I realize all the word choices are negative so I am concluding that this perspective is negative. Ok - what did I do? I read a sentence, I asked about the word choice, labeled it, read on. By giving them that I am wondering if that might help what happens when you release them. Because you can't get to everyone - but you could have that posted and tell them - if you are having trouble, look at these steps from my model. That will give them a scaffold. (Lines, 116 – 148)

And later in the conversation, Angela acknowledged and conveyed her understanding of the missing element:

T: I wouldn't think about not thinking out loud, or sharing my thinking strategies

with them unless I had seen this video. And I wouldn't have known that is what's missing here (CVBC Session #2, Transcript, lines 272 - 274).

A little later in the conversation, I noted Angela's practice of having students' work as partners, and I encouraged Angela to have students try new strategies together as a scaffold.

Also notable in the discourse during this co-viewing session is my apparent dominance of the conversation (as the coach). At this early point in the coaching cycle, I did much of the talking as I analyzed and commented on the Angela's actions, while Angela listened. As Angela's pedagogical knowledge developed, her contributions during co-viewing increased.

In the next lesson video (Lesson Video #2), Angela recorded a lesson in which she demonstrated how she reads to comprehend a complex text. The lesson indicated that Angela was still developing skillful use of 'think-alouds' and explicit explanations of how she constructed meaning. However, one segment provided evidence of Angela's growing capacity to identify opportunities to demonstrate problem solving while reading. In this brief exchange with her students, she shared her thinking when confronted with a challenging sentence in a text.

T: Let's think about this word because it really impacts the tone of this speech. When I read this speech and I saw this sentence, I was like, whoa! That is one confusing sentence. So then I broke it down and I came to this conclusion. It's a question, right? But is he really asking a question or is he trying to make a point?

S: He is trying to make a point.

T: I agree [Name]. He is trying to make a point. (Lesson Video #2 Transcript, lines 24- 28)

Evident is her attempt to share her thinking with her students; and yet, she stops short of closing the segment by explaining the procedural steps (e.g., "when I find that I'm confused by a sentence or an idea I stop, reread, and try to sort out exactly what the author is trying to do").

As Angela and I co-viewed the lesson (CVBC Session #3), Angela commented that her students didn't seem to be getting it, and she wondered if her demonstration had been insufficient; she also said that her scaffolding of partner work was not as effective as she had hoped.

T: What is happening now, they had the speech. It was broken down with each paragraph on each page. But they were not getting it. It was too separated, too set apart. I almost wish I had annotated with them on the document that had the whole speech together. I thought I had a great thing, but it wasn't, you'll see. It didn't connect.

C: Right, so in this effort to scaffold, it sort of backfired on you a little bit. (CVBC Session #3 Transcript, lines 11- 18)

Later, Angela commented,

T: That's where you incorporate – watch me while I think or listen to me think? Is that what you are talking about? I never do that. I think that is the step I'm missing. I always start with the *I do* in which I ask them questions and so we are kind of doing it together. (CVBC Session #3, Transcript, lines 77- 80)

In subsequent lessons, Angela continued to practice modeling and explaining comprehension strategies she believed her students needed. She shifted from a focus on students taking notes as she modeled to asking them to observe and think about her modeling. In Lesson Video #3, Angela included more teacher-student practice before asking students to try the target strategy on their own. The following excerpt documents her developing expertise in sharing her thinking.

T: So I think to myself, what does it mean when it says the sea is a hungry dog? What does that mean? I ask myself...

T: I don't know yet, so I reread that, I know that the sea is being compared to a hungry dog. And I know this because it says *the sea is a hungry dog*. Like Ms. X is a fish, you are comparing two things, me and a fish. I don't know what that means yet because I haven't analyzed the rest of the stanzas, but I know two things are being compared. Now it is my job to figure out why they are comparing the sea and a hungry dog.

T: [reading] *He rolls on the beach all day with his clashing teeth and his shaggy jaws, hour-by-hour he gnaws*. What does it mean to gnaw?

S1. [Pantomimes yawn sound]

T: Nope, it means to ...when a dog has a bone and he really chews it. So, if he is rolling and he is gnawing, I am writing, 'the dog jumps all over the beach and tries to eat everything.' Now, we know that we are comparing the sea and the dog, and the dog is rolling around trying to eat everything, does that sound like a very calm dog or a wild dog?

Ss: [choral response] – wild dog!

T: Yes, we are comparing a wild dog on the beach to the sea. What do we think the author is trying to say the sea is?

S2: Wild, because the waves

S3: rough

S4: Wavy

T: [writing] So, I think to myself, this metaphor might be saying that the sea is not calm, because it's being compared to a wild animal. Where is the actual metaphor in the poem?

S5: In the first line.

T: Right, it compares the sea and the dog without using like or as. (Lesson Video #3, Transcript, lines 1 - 19)

This example of developing procedural knowledge was rated as "developing effectiveness." Angela thought aloud as she demonstrated the strategy. She communicated a transferrable strategy for understanding figurative language as used in poetry. However, Angela did not explain this strategy as generalizable to other occasions when students are reading poems. Students were left to make this generalization on their own.

In Lesson Video #4, Angela demonstrated an awareness of the need to model what it was that she wanted students to learn – in this lesson, to teach students how to analyze an interview transcript for the purpose of developing their own. She began instruction with the statement "Watch me first and then you guys will get a shot at it"

(Lesson Video #4, Transcript, line 42).

Although Angela was aware of the need to model, her demonstration did not provide students an explicit explanation of how to evaluate the interview. Rather, as in Lesson Video 4, Angela used questioning to prompt students to analyze the interview transcript: "Do you think that the interviewer had that question prior to the interview? Why or why not?" (Lesson Video #4, Transcript, lines 57-58). While co-viewing the video, I noted that Angela could be more explicit in her demonstration and explain how students could use the types of questions she asked them to continue to analyze the text (CVBC Session, Transcript Lines 50 - 55). Angela shared her challenge in talking about procedural knowledge with students:

> T: It was hard for me to articulate what I wanted to say to them in a way they could listen and access. It was trying to get through to them like the way I was saying it was, chunking and slower than it should have been. But I was trying to process, how can I say this in a way they are going to understand. (CVBC Session #5, Transcript, lines 123- 127)

In Lesson Video #5, Angela responded to the suggestion to be more explicit by increasing the explicitness of lesson directions. She presented each step of the writing lesson on power point slides. Angela also presented the questions students would use to evaluate their prepared questions and protocols they had written for an interview project. Angela reviewed these questions with the class:

> T: We are going to talk about the questions first and then you'll read your questions using this list. Then, you will swap papers and read someone else's

questions using this list.

T: [reading from slide] Is the question respectful? All right? Is the question open-ended? It is not a yes or no answer. Is it on task? Is it related to culture, tradition or heritage?

T: Take the next three minutes to just look at your own questions and edit them as needed. (Lesson Video #5 Transcript, lines 10-15)

During co-viewing Lesson Video #4, I suggested that Angela identify questions she was asking herself to evaluate interview protocol so she may share that thinking with her students (CVBC Session #5 Transcript, lines 107-110, 133 -140). In Lesson Video #5, Angela shared these questions with her students. However, Angela did not provide a demonstration or model of the application of these evaluation questions, and so the lesson lacked explicit explication of the "how." I commented on this missing component,

C: You see the mini think-aloud you did there? She asked, is that respectful to ask if you like Portugal or America better? And you said, here is what I am thinking . . . Now, [tell the students] you go back and try that kind of thinking. Am I asking an opinion question? Am I asking a yes or no question? Am I asking the why?

T: Right, I didn't notice that. (CVBC Session #5 Transcript, lines 115 -124).

Later, Angela summarized her observations,

T: I think that the main things I missed were the debrief of the [exemplar interview example] video with the class, or at least narrating the thoughts I had heard [and] having the physical checklist that they could use when looking at their peers work or their own, both I guess.

C: Some of the things you noticed you could keep doing, those mini think alouds… (lines, 163 -177)

Angela's reflection shows an increasing awareness of ways to facilitate students' procedural knowledge (e.g., debriefing models and providing scaffolds such as checklists); for example, she does not include demonstrations or think-alouds of the procedural knowledge associated with the models and scaffolds.

In final lesson video (Lesson Video #6), the development of procedural knowledge was less explicit than it had been in Lesson Videos #3 and #4. In Lesson Video 6, Angela assumed students' background knowledge on comparisons and did not explicitly describe or model procedural information. Instead, she elicited students' existing procedural knowledge through questioning.

T: [Our question is to] compare and contrast the family's dining room table setting in chapter six versus chapter one. What is the mood in each and how can you tell? If you have your Venn diagram paper from yesterday, you can flip it over and use it to draw another one. I will give you two minutes to look at the two pictures with your partner and talk about the differences and then we will write the answers on our own.

T: Because I am confident in your ability to pick up the literal differences in the tables, I won't review those but the differences in the mood is kind of challenging. [Name]?

S1: In the first chapter they are looking mopey and weepy because the man is leaving.

T: How do you know they are sad?

S1: I know that they are sad because they are not smiling, they do not have direct eye contact.

S2: Body language

T: Wonderful. [Name]?

S3: I think it's because they are touching hands, that they miss each other.

T: Yup, I agree.

S3: and they just look depressed. And the color of the pages, you can tell because chapter one is a grey color, and all the pages in chapter six are a golden color.

T: Yes, and we talked about how the shift in color is meaning . . .

S4: Flashbacks

T: Flashbacks were dark and lighter pages...

S4: Those were . . .

T: like this one...

S5: Better flashbacks.

T: What does sunlight mean?

Ss: [choral response] Freedom, happy

T: Freedom and happiness, exactly. And the pages are progressively getting lighter, right?

T: So, what I want you to do on right now is work on answering this question.

(Lesson Video #6 Transcript, lines 16- 20)

During the co-viewing session, Angela reported that her students were not

successful in completing this task. She identified her lack of modeling and explanation of the focal strategy as the reason for students' difficulty.

> T: [When I looked at their writing] They have the mood, the tone of the pages, but they only stated what was on the table and not in relation to the mood. And I think that the students did that because I skipped the modeling. My question was what do you notice about the tables that are different, turn and talk. Okay now I am setting you free to work independently. I didn't link the two. I think I said I'm confident in your ability to notice the details, let's talk about mood and meaning. Then I said, go ahead and work. So, that was lost. (CVBC Session #7, Transcript lines 60 - 67)

A few minutes later, Angela added:

> T: I think that it would have been more effective if I had said think to yourselves, notice the changes between the two pages. Turn and talk to your partner. What does that mean for the mood of these pages?
>
> C: And you feel comfortable that they know the term mood?
>
> T: Yes, we have been working on that. I think, I feel confident that they know what they term mood is, but it would have been helpful to quick, give an example, to model. (CVBC Session #7 Transcript, lines 73-75)

Although the quality of this implementation was rated as "developing" effectiveness, Angela's critical self-assessment is, itself, a notable step forward in developing teaching expertise. In comparison to the coach-dominated conversation noted previously in CVBC Session #2, Angela took the lead her on identifying an instructional

problem and figuring out a potential solution.

To review, in the Baseline Video, Angela demonstrated no awareness or use of procedural knowledge to support her students' text comprehension. Over the course of her recorded lessons, she addressed procedural knowledge 20 out of the 26 identified opportunities, showing excellent awareness of the need to attend to this instructional practice. Relative to implementation quality, she showed some capacity for effective implementation (i.e., Lesson Videos #3 and #4), but she had not yet reached consistency as her practice declined in quality in Lesson Video 6. Her mean quality rating was .82, placing her midway on the scale of 0-2.

Case Summary. Angela entered the study with limited knowledge of how to achieve her goal of helping her students comprehend complex texts. After co-viewing and engaging in discussions of her instruction, Angela gradually increased her knowledge and implementation of strategic teaching aimed at developing her students' comprehension. During collaborative co-viewing, she observed that her instruction lacked explicit information about the strategies she wanted her students to use. In particular, she noticed her instruction did not explicitly inform students of what they were going to learn to do, why and when it was useful, or a how she as a skilled reader carried out a strategy. Although Angela was able to see the need for more explicit instruction, she struggled to consistently use the instructional language discussed in our coaching sessions. She shared her challenge in shifting attention from managing the classroom to monitoring and reflecting on her instructional decisions in the moment. In the final coaching session, she explained:

> Especially as a first-year teacher, I feel like it is always so focused on managing the classroom, making sure everything goes smoothly. When I was able to watch these videos back, I was doing that and I was mastering that [classroom management], but I was not putting as much thought into how I can best deliver this information and how I can do this in the best way. Until we did this, and I was like, oh, I have to do more. (CVBC Session #6 Transcript, lines 239 - 245)

Angela gradually improved her instruction in response to the various instructional suggestions and concluded the study at the developing level of expertise relative to most instructional suggestions. At the end of the study, she commented on the use of video and she expressed pride in the progress she had made:

> I think the apprehension behind that is that I am a first-year teacher and my development and my mistakes are being captured. I think it took a lot of risk-taking on my comfort zone, but the progress from the first video to the second, you can literally see it via our coaching, your coaching, it was continuous. (Reflection conversation, May 30, 2017)

In sum, Angela demonstrated advancement toward teaching expertise in implementing the focal complex instructional strategies over the course of the video-aided coaching cycles. For three out of five SI codes, Angela achieved an effective rating for at least one implementation attempt. This suggests her capacity for effective instruction, if not the consistency grounded in a well-developed understanding of when and how to implement these various complex instructional strategies.

Beth

> I think it is also coming down to me remembering and being aware of it. It shouldn't be me and one student, me and another student debriefing things. So, just trying to incorporate more and more the student talk. (CVBC Session #4)

Teacher profile. Beth shared her enthusiasm to participate as soon as she received the informational handout. At the time of the study, Beth was a third-year teacher of English who had joined the school at the beginning of the school year. She had previously taught high school English classes at another urban school. She held an undergraduate degree in secondary education and was enrolled in a Master's of Literacy program at a nearby university. During the information session, Beth said she was interested in continuing to grow as a teacher (Field notes, November 28, 2016)

Beth exhibited a positive and relaxed disposition in and out of the classroom. She appeared to enjoy teaching and interacting with her students (Field notes, November 28, 2016). During the study, she showed this disposition in positive statements about her growth potential. For example, after CVBC session four, Beth stated, "I feel really good about it. I feel like I have set things that I need to focus on. It is concrete and stuff that is something I can easily fix." (CVBC Session #4, transcript lines 133 -137)

Instructional focus. Beth came to the study with prior knowledge of cognitive strategy instruction (Rosenshine & Meister, 1997; Paris, Lipson, & Wixson, 1983) and the gradual release of responsibility model for instruction (Pearson & Gallagher, 1983). At the onset of the study, Beth shared her hope that video-aided literacy coaching would improve her use of these instructional methods (Field notes, November 28, 2016).

Implementation of suggestions for instruction. Table 7 summarizes data related to the implementation of Suggestions for Instruction (SI) offered during Beth's coaching sessions and Beth's response to each. The SIs are presented in the order in which each emerged over the co-viewing sessions. The table displays the frequency of observed occurrence of each SI, opportunities to implement the SI, percentage of opportunities acted upon, and the mean quality rating for each SI. As in the previous case, I first present this quantitative data. Then, to explain quantitative findings, I present results of qualitative data analysis derived from co-viewing and video transcripts.

Suggestions for Instruction were introduced in coaching sessions 1, 2, and 5. No new SIs were introduced in sessions 3, 4, or 6. Beth's focus on cognitive strategy instruction is represented by the SIs: Declarative knowledge: Literacy goal, Procedural knowledge: Model, and Procedural knowledge: Guided practice. Conditional knowledge (e.g., when a strategy could be used again), while an equally important part of strategic teaching was not directly discussed during the co-viewing strategies.

While the SIs described above were directed at the content of the instruction, the SI codes for pacing (Declarative knowledge: Pacing, Procedural knowledge: Pacing) were aimed at the pace of that instruction (e.g., appropriate use of instructional time, routines, and/or activities) to promote student engagement and understanding. Beth's video recordings included two lessons focused on reading comprehension (lessons 2 and 3) and four (lessons 3, 4, 5, and 6) focused on writing.

Table 7: *Beth's Suggestions for Instruction: Occurrences, Opportunities, and Effectiveness*

	Implementation			
	Frequency			Effectiveness
Suggestion for Instruction	**Occurrences**	**Opportunities**	**Percent**	**Mean Rating (0-2 Scale)**
Declarative Knowledge: Pacing	7	7	100%	1.57
Procedural Knowledge: Pacing	15	16	93%	1.56
Declarative Knowledge: Literacy goal	12	12	100%	1.58
Procedural Knowledge: Model	12	13	92%	1.23
Procedural Knowledge: Guided practice	8	10	85%	1.55

***Implementation frequency*.** Beth implemented each of the instructional strategies consistently, with each SI code implemented in 85% or more of the opportunities to do so (figure 7). These instructional practices were repeatedly discussed in CVBC sessions in conversations about pacing (sessions one though seven); instruction that provides understanding of declarative (sessions two, and four through seven) and procedural knowledge (sessions two through four), and that provides scaffolded practice opportunities as students apply new strategies (sessions five through seven).

Beth was also consistent in her uptake of instructional suggestions. Each SI was implemented at least once in the lesson following its introduction. As presented in Figure

9, Pacing and Literacy goals strategies were implemented in each of the Lesson Videos following the initial suggestion. Procedural knowledge: Model was observed in each Lesson Video following its introduction except Lesson Video 5 (rated not applicable).

Figure 7: Beth: *Percentage of opportunities acted upon*

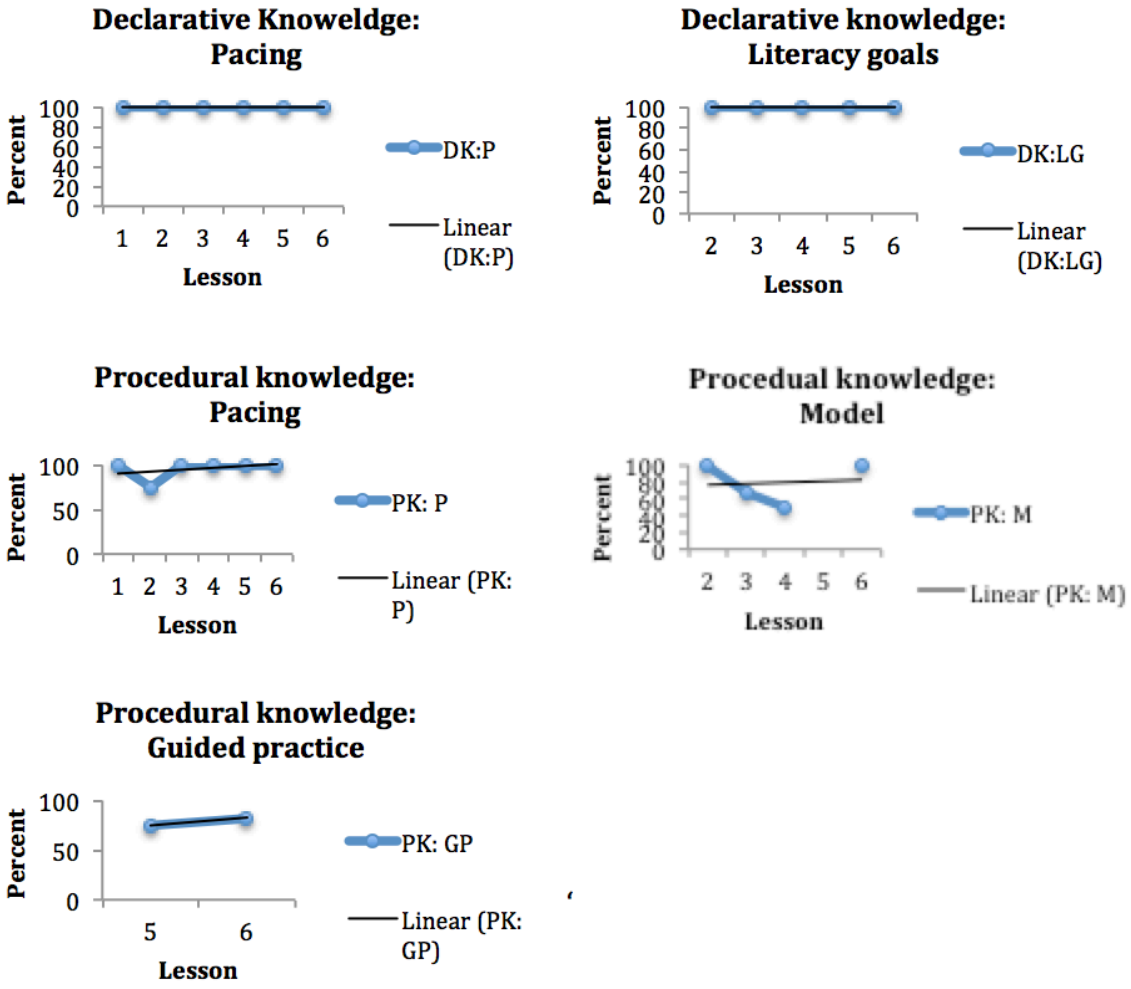
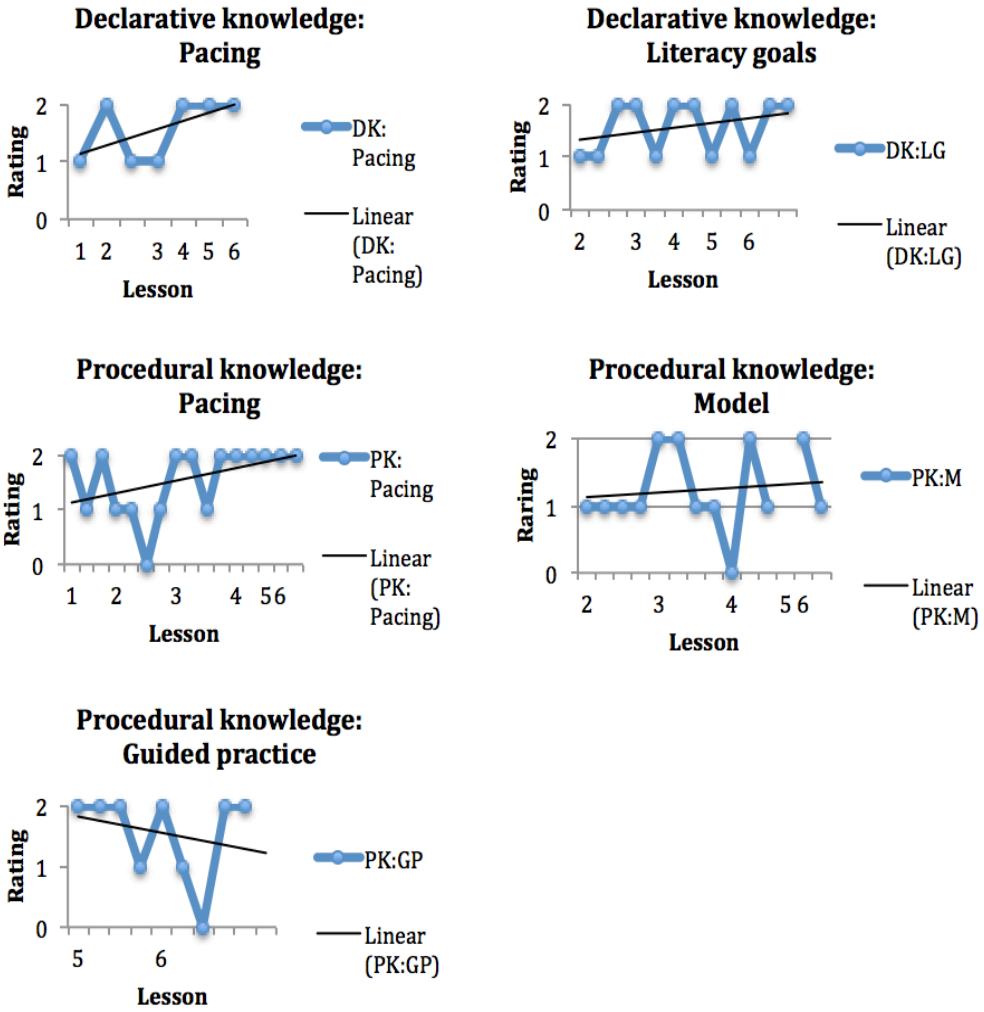


Figure 8: Beth: *Quality rating for suggestions for instruction*



Implementation quality. The most frequently implemented SIs (100% implementation) were also those with the highest mean quality ratings: Declarative knowledge: Literacy goals (1.58) and Declarative knowledge: Pacing (1.57). As with the implementation frequency, these higher-rated SI these instructional strategies were also discussed in the greatest number of co-viewing sessions.

Similar, the SIs with the lowest mean quality rating were also those with the lowest implementation ratings: Procedural knowledge: Model (92%/1.23) and Procedural

knowledge: Guided practice (85%/1.55). These lower rated SI were also discussed in the fewest number of CVBC sessions, (PK: M was discussed in three sessions, PK: GP discussed in two sessions).

Figure 8 displays the growth in implementation quality of each instructional implementation over the weeks of the study. Although the quality ratings fluctuate for each code, the trend lines for four of five codes indicate instructional quality increased from initial to final implementation. In the fifth SI, Procedural knowledge: Guided practice, the trend line shows a decelerating trend. This indicates that while these instructional practices had yet to reach routine implementation, the instances of "effective" ratings show Beth's capacity for instructional efficacy, a necessary first step toward effective routine instruction.

In sum, Beth implemented each of the instructional strategies in the lessons following the introduction of the SIs. Beth also maintained consistent implementation of the instructional strategies across the study weeks, indicating her awareness of when implementation of an instructional suggestion was appropriate. Overall, Beth demonstrated consistent refinement of her pacing in both declarative and procedural knowledge domains. In terms of the instructional content, Beth more readily incorporated strategies that provide for students' understanding of what focal strategy was to be learned (declarative knowledge of literacy goals). Beth less readily incorporated instruction that taught students helpful strategies or supported students' practice of newly learned strategies (e.g., procedural knowledge modeling and guided practice).

Instructional change over time. In the next sections, I present qualitative data to describe Beth's instruction during the video aided coaching. As in the previous case, I use transcript excerpts from co-viewing sessions and lesson videos to trace the uptake of the instructional suggestions. Again, I group the individual codes into the two larger instructional domain categories, declarative knowledge and procedural knowledge.

Figure 9: Beth's declarative knowledge instruction*: Percentage of opportunities acted on*

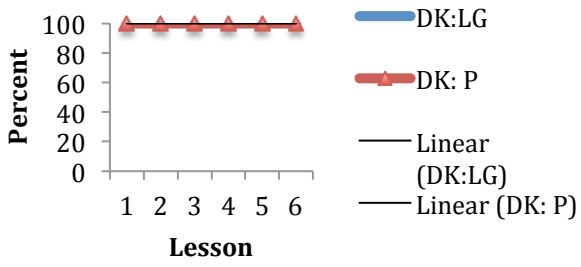
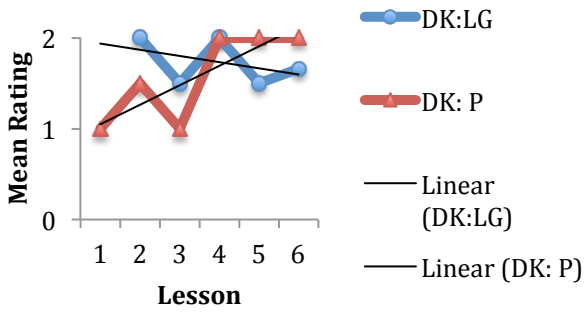


Figure 10: Beth's declarative knowledge instruction*: Mean quality ratings*



Beth's declarative knowledge instruction. In Beth's coaching case, the declarative knowledge domain represented instructional suggestions aimed at developing students' knowledge of what they will learn as readers and writers (e.g., Literacy goals). We also

examined Beth's pacing during declarative knowledge instruction.

As our discussions about declarative knowledge instruction evolved, an additional focus on students' active involvement also developed. Figure 9 shows Beth's consistent implementation of the SIs. Figure 10 shows the mean quality ratings for the declarative sub-codes over the six lessons. The following section describes this growth trajectory.

Beth's Baseline Lesson Video and Lesson Video #1 provide evidence of Beth's declarative knowledge instruction at the onset of the study. At Baseline, Beth articulates a lesson objective (e.g., We are going to be learning about the correct use of the different types of the words *there*, *their*, and *they're* (Baseline Lesson Video Transcript, line, 8)), and provides some declarative knowledge information about the focal grammar feature during a review of a "pretest" students used to self- assess at the start of class. Beth does not provide an explication of the nature of homophones or why knowing how to use the correct form is important to writers (e.g., effective written communication). The following is an excerpt from this instruction.

T: All right. Question 1, what do we got? [Name]

S2: I checked off the second one, because like [Name] said, I was thinking about *there are* and *there is*. I checked off two because they were talking about place.

T: Yes. *There* as in a place. So *there* is referring to a location or a place. You were right about that. Question 2? [Name]?

S3: I chose the third box.

T: Okay, why?

S3: Because they were talking about two people, *they* and *they're* means they are. (Lesson Video Baseline Transcript, lines, 27 -31)

During the baseline video co-viewing session, discussion focused on Beth's initial reactions to viewing her class from the new perspective ("I wouldn't have focused on how positive it was overall. I would have thought, all right, there are a few talking in the back. But, this is great" (lines, 28-20)) and on the instructional pacing. Instructional suggestions related to declarative knowledge did not emerge until the co-viewing of the next lesson, Lesson Video #1.

In Lesson Video #1, Beth's lesson objective was to teach students to identify, and in doing so, better comprehend a nonfiction text structure (e.g., classification). Here, Beth attended to declarative knowledge more directly than in the Baseline Lesson, indicating her awareness of the need to provide for students' declarative knowledge. The following excerpt shows Beth's articulation of this awareness.

T: Yesterday, and the day before that a little bit, we learned about a brand new text structure, an expository text structure. The one we first started with was sequence text structure. Who can remind us about sequence text structure? What are we looking for when a text is structured using this type of text structure? [Waiting for a response]

T: What is sequence text structure? [Waiting for a response] Think back to what we did yesterday. What kind of graphic organizer did we fill out yesterday?

S1: [Reading from notes] Identifying sequence text structure?

T: So, that is one of the first out of five nonfiction text structures. Today, we are

going to be learning about the second one. Today, we are learning about classification text structure. Okay, briefly, what does the word classification make you think of? [Name]?

S2: Classification means, I don't know.

T: Do you want us to get back to you?

S2: Is this a strategy? Do you want us to write this down?

T: This is a brand new strategy, yes.

S3: Organize ideas.

T: Organize ideas, awesome. It is how certain ideas are organized (starting notes on white board around word classification).

S4: Things in order!

T: That is more sequence. That is where we were yesterday. [Name]?

S5: In a James Bond movie, he picked up a pile of papers and it said they were classified.

T: Okay, maybe a file of papers, so did you remember?

S2: It is when you simplify something.

T: When you simplifying something? You break it down? [Name], what do you think?

S6: Types of stuff – like classification of animal: herbivores, carnivores, omnivores, stuff like that.

T: There you go. Types or really what we are going to be focused on, categories of a subject or topic. I love the example you gave us. So the types of animals or

S7: Elements, fire, water.

T: Elements.

S6: It would be like animal, plants, and then more specifically, flowers, trees and for animals, dogs, cats, and for cats, lions.

T: Today, we are going to be learning how to identify classification text structure. This is super important because this is not only going to allow us to understand or break down what we are reading a lot more but when we need to learn about the Holocaust, which is what we are going to be during all this week, this is going to let us understand different types of categories within the Holocaust. So, now you have a little bit of background knowledge on classification. (Lesson Video #1Transcript, lines, 11 – 42)

Beth's choice to begin by asking students to recall the previous lesson (sequence text structure) and to share what the word classification made them think did not appear to efficiently or effectively provide students' declarative knowledge. Rather, students' under-developed understanding of the prior lesson (sequence text structure) confounded Beth's development of students' declarative knowledge of classification text structure and slowed the pacing. Additionally, Beth's explanation at the end of the lesson excerpt did not make an explicit connection between a students' contribution of scientific classification and nonfiction classification text structure. Analysis of the segment of the lesson focused on declarative knowledge revealed not only the absence of sufficient explicitness, but also a tendency to slow the pace and spend too much time on this aspect of instruction.

During the co-viewing of this lesson, I first offered a suggestion to support students' recall of the previous lesson on sequence text structure.

> C: That introduction is "What is sequence [text structure]? And you are not getting a whole lot, right? So, what you might do instead, "I want everyone to take two minutes, go back to your strategy notebook, read the strategy and then..." Given that the person who volunteered gave you such a minimal response, that would be a way to get everyone to review and have a response. Then, turn to your partner and tell them what a sequence text structure means. You could cold call. You could ask, what did your partner say? (CVBC Session #2 Transcript, lines 14 - 20)

Then, I prompted Beth to reflect on her declarative knowledge instruction,

> C: Before we get into all that, what is some of your thinking?
>
> T: I think there is a lot of me talking, especially with the declarative knowledge. They are sitting through a lot of me talking, they are talking to me about questions, and then they are going to sit through more of me talking when I am modeling. I don't know. I am almost thinking with declarative knowledge in this case, [I could include] probably more think-pair-share or some kind of inquiry type thing where they are doing the heavy lifting. I could even give them one paragraph talking about classification text structure – that type of thing.
>
> C: That could be good, yes.
>
> T: And then they pull the main ideas out of it [paragraph], talk with each other, and then, somebody comes up to the board and webs it out.

> C: Great! I am hearing you say, what if you gave them a blurb about classification as a text structure and you tell them that their job is to define classification and give them something to discover and then share out. (CVBC Session #2 Transcript, lines 22-35)

Together, Beth and I analyzed a consequential episode in Beth's instruction. Beth's contribution to the analysis was evidence of her capacity to reflect on and generate ideas to refine her instruction. Subsequent lessons (Lesson Videos #2 and #3) show shifts in Beth's declarative knowledge instruction that increased pacing, explicitness, and student participation.

In Lesson Video #2, Beth asked students to brainstorm together the various ways they "pull evidence" from a text. This talk opportunity engaged students, allowed them to consider and share what they already knew about the strategy, and prepared them for Beth's explanation. She listed students' ideas on the board (e.g., highlighting text, taking notes) and then provided some explanation of the strategy she wanted them to know.

> T: All right, these are all really good writing strategies for really good writers that we are becoming. Here is what we are doing today. I am going to be teaching you how to pull evidence to support a research plan. Our argument paper is later in the year, but right now, our purpose is to just inform our audience of who, where, when why, why and how of our chosen genocide. In order to do that, writing research papers using credible sources and becoming credible writers ourselves, what we need to do is pull evidence. What we need to do is pull evidence. We need to actually use evidence and put it into our paper, So that way if [Name] is

> reading my paper and he notices that I am not citing anything or I don't have a works cited page, [he may say] she needs to add in some research. This doesn't look credible, this doesn't look believable. With me so far? Thumbs up, to the side? (Lesson Video #2 Transcript, lines 10 – 17)

Beth provided a brisk lesson opening that asked students to share on their own experiences about a reading strategy, first through peer talk and then to generate a list. However, this instructional approach relied on students having prior knowledge of the strategy. Without an explicit explanation and/or examples of "pulling evidence," students without this prior knowledge may not have gained sufficient declarative knowledge of the strategy. While Beth effectively shared explicit reasons for using evidence, but less so in terms of what "pulling evidence" means.

Our discussion during the co-viewing of this lesson (CVBC Session 3) focused primarily on the aspects of procedural knowledge instruction rather than the declarative knowledge. Still, subsequent lesson videos showed that Beth continued to attend to the explicitness of explanations, student engagement, and pacing of declarative knowledge instruction. For example, in Lesson Video #3, Beth asked students to self - evaluate their own prior knowledge on key vocabulary related to the lesson's topic using a 'rate your knowledge' form before providing opportunity for students to learn more about the components and purpose of thesis statements:

> T: Let go through these terms. Thesis statement, how many of you put, I know it, I can totally write one of those? Okay, we have a few shaky hands. How many have said, I've heard of it? How many are not so sure?

T: Okay, it looks like for the most part, we have heard of it and some even know what it is. Fantastic. (Lesson Video #3 Transcript, lines, 2-4)

Beth continued to review and clarify students' prior knowledge on the key vocabulary and then moved to explaining a thesis statement.

T: That starts us off in a really good spot. We are going to be learning about thesis statements today and all four of those vocabulary words will come into play. We are going to learn what a thesis statement is, what its purpose is and what a claim is all in the context of the thesis statement, which is going to be really important because what are we writing now?

S1: A paper.

T: What kind of paper?

S2: A research paper.

T: Right, a research paper. And a research paper and an argumentative paper always need to have a thesis statement. We are going to learn that first. We are going to write one today, which is so fun. I am excited. I have a little video for us to watch, really just a minute. This is what a thesis statement is, folks.

The video plays. It provides an explanation of a thesis statement and uses the vocabulary featured in the rate your knowledge activity. It also shows the components of thesis statements.

T: What is a thesis statement? [Pause] What does it [the video] say about the components of a thesis statement? [Pause] According to that video, what are the main parts of a thesis statement?

S3: A topic.

T: Yes, your topic, but more specifics about your topic. What is the topic in your thesis statement?

S4: What you are writing about.

T: What you are writing about, that is exactly right [lists responses on board]. If I am writing a paper on genocides, which I am, my topic is going to be the Syrian genocide, the Syrian refugee crisis. What is the next thing that you need in a thesis statement?

S5: Your claim.

T: Your claim. All right, what is your claim?

S6: Is the hook and the claim the same thing?

T: No, two different things, although I like how we are thinking. The hook is typically that first sentence of your introduction paragraph that is literally supposed to hook your reader in. We want something like fishing; we hook the reader in and get their interest, the thesis statement, not so much. The thesis statement pops in at the end of the introduction paragraph [records on board, students are note-taking]. But what did the video tell us about that claim?

S6: The main points?

T: Okay, so the main points that will be discussed.

S7: and the attitude.

T: Yes, it's the attitude or stance toward to the topic. It may be your opinion. Those are the main elements of a thesis statement. We are going to be writing

one and I am excited. (Lesson Video #3 Transcript, lines 1 - 13)

Beth used a combination of self-rating of prior knowledge and a teaching video to develop students' declarative knowledge around thesis statements. Still, Beth's explanations and responses to student questions lacked explicit statements of the defining purpose of thesis statements. This may explain the limited student responses to Beth's post-video question. I pointed out this exchange during the co-viewing.

> C: If we pause it right here, I was wondering too, you asked what is a thesis statement. After watching that, what is a thesis statement question, and then what happened?
>
> T: I think right after that it was kind of silent. I was like wait, what are the parts that go into a thesis statement? That [question] is really getting into what a thesis statement is. Like that was an on the fly revising the questions that I am giving them.
>
> C: You did.
>
> T: Being more purposeful in, what goes into a thesis statement, oh that is what I want.
>
> C: That is skillful scaffolding when you question.
>
> T: These are things I don't really notice as I am doing them.
>
> C: And then, what we noticed was did you get a lot of hands?
>
> T: Not a lot and honestly, with re-watching that, a think-pair-share or turn and talk might have been a good thing. I have been doing that, but at this point, I thought this was going to be quick. (CVBC Session #4 Transcript, lines 26 - 42)

Later in same co-viewing discussion, we reflected on the use of a "teaching video" to build declarative knowledge and how Beth fit this into her strategic teaching framework and her goal of engaging students:

> C: I really noticed you added something new, you added the technology. You almost invited another person into the classroom. What happened as a result? You kept the same structure of *I'm going to tell what I want to teach you, why it is important and then watch the how.* By switching to [a video] you are shaking it up a little.
>
> T: You're not just listening to my voice. Here is another voice for a minute.
>
> C: You didn't just [add] in a video. It worked within the sequence of your instruction, gradual release model.
>
> T: That worked with one of my goals, to make that declarative knowledge more engaging . . . (CVBC Session #4 Transcript, lines 86 – 99)

Although, this coaching conversation does not explicitly point to the need to increase the explicitness of what it is students are learning, Beth's next lessons showed increased explicitness while attending to declarative knowledge. In Lesson Video 4, Beth facilitated an effective review of the previous day's lesson on the components and purpose of an introductory paragraph before students returned to their writing. She also provided students an example introductory paragraph that featured these components in connected text. In Lesson Video #5, Beth again asked students to first talk to a partner to share their prior knowledge of the focal concept (transition words). Beth gathered their ideas and then provided a summative statement that included examples of and reasons for

transition words in writing.

[Students are discussing existing knowledge of transition in writing]

T: All right, let's bring it back. I heard a lot of awesome conversations about what you already know about transitions. [Name], what did you and your partner group discuss about transitions?

S1: It makes for smooth changes when you are writing.

T: Smooth change, I like it! Reminds me of a Michael Jackson thing here [sings]. You have been hit by a smooth transition. No? Okay! So like [Student] said, a smooth transition from one sentence to another.

S2: It can help order the way that your text is.

T: [Name] can you repeat that thought?

S2: It helps you order or organize your text [T. begins to record responses in a web on the board].

S3: It can let your reader know about change in your writing. It can show a change in your writing.

T: What about some words or transition phrases that you are all familiar with already? I have already heard a few from over here. [Name, Name], what did you guys say?

S4: First, next, second, later, then, on the other hand [Teacher records transition words in groups based on word function]

S5: In addition.

T: In addition, one of my favorites! [Name]?

S6: I am thinking about past. I was trying to work on showing the past, then, before.

T: So, you might have categories of transition words, awesome. There are tons of different transition categories that help our writing become more collegiate.

S7: In conclusion.

T: I love it! It is so clear and simple and lets your reader know we are wrapping things up. And, last but not least, [Name]?

S8: In summary!

T: Love it!

Multiple students: Sizzle!

T: Ladies and gentleman, two main reasons why we are going to be learning about adding transitions to our writing. First, it is going to, like [Name] mentioned, it is going to organize our writing and really make it make more sense to our readers, but the other thing is that it is going to sound better instead of choppy. Choppy short sentences can become beautiful, flowing sentences with the addition of transitions. If they are appropriate and if they help your text make sense.

S9: But I mean like first, next, then...they are so . . .

T: They are very simple. However, we have tons of other transition words that, if you aren't feeling first, second, next, that can help you out quite a bit.

S9: They can?

T: They can quite a bit. We are going to learn about those today and I am going to

do a think aloud, model a revision strategy. (Lesson Video #5 Transcript, lines 1-49)

Beth provided for students' declarative knowledge of the focal strategy (adding transitions to writing). As in Lesson Video #2, Beth framed her declarative knowledge instruction on what students already knew and did not provide concrete examples to ensure all students had a full understanding.

However, these observations were not part of the co-viewing discussion of Lesson Video # 5. Rather, the talk focused on the evidence of increased student involvement during declarative knowledge development. Beth noticed that every student was talking or actively listening to a partner. She remarked that in first providing students time to talk about the focal strategy, they appeared more ready to focus on the procedural knowledge.

C: What are they talking about?

T: What they already know about transitions. What is a transition, words and phrases. "Oh like transitions in the hall?" Yes, why would we call that a transition? We had a semantic web going on the white board and we started defining what is a transition and what is the purpose. "Oh change!" Yes, and what else? Ultimately, it makes your writing better.

C: That was declarative knowledge building off…

T: their prior knowledge, all that knowledge getting built!

C: What a nice snippet of time.

T: I gave them about 30 seconds and all right, let's wrap it up.

C: Did you notice in the moment . . .?

T: Every person in the moment was talking or actively listening, which was good. So that was the 100% participation in whichever way it worked for them.

T: And right now they are just sharing what they talked about in their partner/small groups. At this point I could almost start calling on them. [Name] tell me something! Their eyes are right there . . . Everyone is listening.

C: So, what could we attribute that to?

T: I think it's that they have had a chance to talk, so they got it out of their systems, what their ideas were. (CVBC Session #6 Transcript, lines 5-34)

In Lesson Video #6 Beth effectively facilitated an opportunity for students to recall declarative knowledge for a focal strategy (the "rules" for providing critique on a peer's writing). Beth asked students to recall a previous lesson on providing critical feedback. As students began to answer one at a time, Beth decided to ask students to talk to each other instead. During that time, Beth joined a conversation with two students, one of whom was an English language learner.

T: We all know that standing in front of a crowd can be really nerve wracking. I stand up in front of you every day and it still gets a little nerve wracking. Remember Austin's Butterfly?

Students: Yes

T: Can someone remind us of the three rules of Austin's critique?

S1: I don't remember the exact, but for me – constructive criticism.

T: Constructive criticism. So solution-minded. [Name]?

S2: [inaudible] that somebody is better than you. Like somebody says that a sports

team sucks but they couldn't beat that sports team if they went up against them

T: Okay,

S2: like they're better than you or something

T: I can kind of see that. Here is what we are going to do. To the person sitting next to you, try to remind each other about Austin's Butterfly and the three rules of critique.

The students talk in pairs while Beth joins a pair of students.

T: What do we think?

S3: If you are going to disagree, you have to be truthful about it.

T: Okay.

S4: I don't know how to say, but respectfully disagree.

T: Alright.

S3: I don't know the word for it, but don't be too blatant.

T: If you were critiquing my writing,

S3: I would suggest.

T: You aren't going to write on my writing because you know that is my art.

S3: Maybe

S4: You could say I respectfully disagree with the statement because blah, blah, blah.

After a few more talk turns, Beth regrouped the class to debrief the critique rules. While identifying the rules, Beth elicited and provided examples on what the rules might sound like during critiques (e.g., procedural knowledge)

T: [speaking to class] I heard a lot of good conversation. Listening to you, I have to remind us of what the three rules of respectful critique are, totally fine. We should do that before we jump into [Name's] share.

T: [Name and Name] can you actually share out to the class what you just talked about. What does being kind look like when you are being critiqued? Let's share out to the class what you talked about. The first rule and probably the most important rule is to be kind. What does being kind look like when you are sharing a critique?

S3: I think your writing was really good at the start, but I really don't agree with this statement.

T: Really good, up to that last part! [Students laugh] That would be starting off with something positive, pointing out the strengths of the writing. What does the writing do well?

S4: Glows and grows

T: [Name], in your example, you hinted at something else as well and that is being specific. That brings us to the specifics, being specific.

T: What does that tell if I say, great sentence? Do you know what you need to do?

S: Change the sentence.

T: Yes, but how?

S3: You have to be honest about it

T: Okay, yes. Don't sugar coat it. If this is your BFF and you say, your writing is fantastic and you don't need to change anything, that is not helpful. You need to

be specific (recording ends). (Lesson Video #6 Transcript, lines 1 – 37)

During the co-viewing, the coach asked Beth about her in the moment decision to ask student to talk together.

C: What prompted you to do that?

T: I thought it would be helpful. We were almost there. A lot of us were "I can't remember it." Others of us were "I think I got this." [I thought] instead of me calling on each of you [students], turn and talk to each other and we will poll it. Everybody is chatting. [After the talk] here is what I heard …I am going to give it to you now [an explanation of the focal concept]. (CVBC Session #7 Transcript, lines 30 - 42)

Evident in this lesson and in this co-viewing discussion excerpt is Beth's developing capacity to evaluate her declarative knowledge instruction during instruction and adjust based on student responses. Beth's decision to move to a collaborative talk approach improved the declarative knowledge instruction. This episode can be compared to the declarative knowledge instruction Lesson Video #1. In that episode, Beth did not shift from calling on students one at a time as they experienced difficulty describing nonfiction text structures. Additionally, Beth attended to pacing by maximizing student talk rather than nominating one at a time to share.

To review, for SIs related to providing declarative knowledge, Beth provided declarative knowledge related to literacy goals in 12 out of 12 (100%) opportunities. Instructional quality achieved a mean quality rating of 1.58, and for pacing during declarative knowledge, 1.57. This relative high rating may reflect Beth's prior knowledge

of declarative knowledge instruction at the onset of the study. To refine her existing practice, Beth focused on increasing her explicit explanations and increasing student involvement in the instruction.

Figure 11: Beth's procedural knowledge instruction: *Percentage of opportunities acted upon*

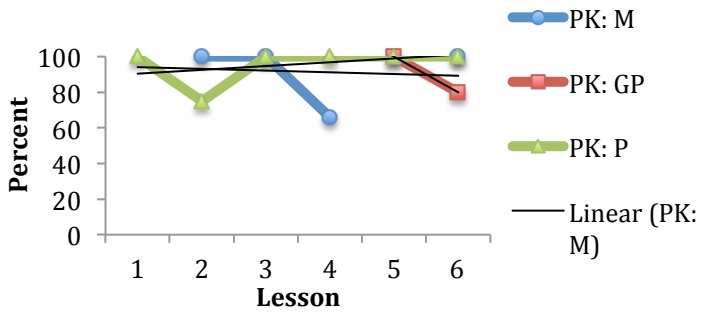
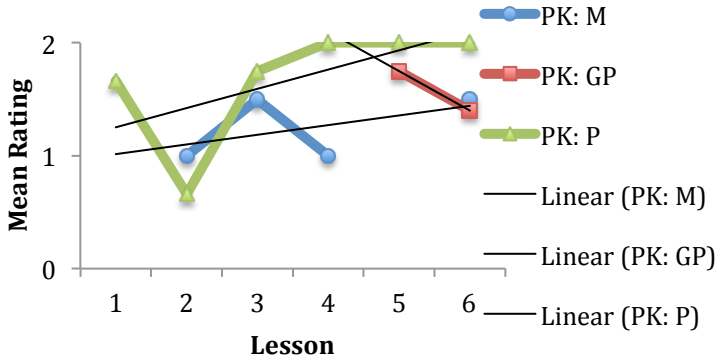


Figure 12: Beth's procedural knowledge*: Mean quality ratings*



Beth's procedural knowledge instruction. The procedural knowledge domain refers to the development of students' knowledge of how to carry out a strategy through demonstrations, think alouds, and scaffolded practice opportunities. Three sub-codes Model, Pacing, and Guided Practice are included in this domain category. Beth's consistent implementation of procedural knowledge instruction and her growth patterns

across her implementation attempts are shown in figures 11 and 12.

As in declarative knowledge, Beth's prior knowledge of the procedural knowledge skilled readers and writers recruit that helps them meet their goals was evident in her Baseline Video and Lesson Video #1. In the Baseline Video, Beth's instructional intent was to teach an editing strategy to ensure the correct usage of the homophones *there*, *their*, and *they're*. While Beth's procedural knowledge included an explicit demonstration and co-construction of a strategy heuristic, additional and less impactful activities (e.g., debriefing a pretest, confirming the correct form of the homophone in sections of published texts) took an hour and 20 minutes of instructional time. As a result, students had limited time left to apply this editing strategy to their own writing. Due to the length of the video, we did not watch it in its entirety during the CVBC session. Still, a partial viewing prompted me to ask Beth to consider the number and length of procedural knowledge oriented activities:

> C: Before they did this [next activity], I was writing down some of the things they [already] did. You read it [the passage] to them. They read it. Then they reread it to highlight the *theres*. Then, there was the questioning about which *there* and who's *there*...and then debriefing each one, and then going on to this [note-taking and modeling]. Of all of these, which one could you change to get to this faster?
>
> T: Maybe, with those [homophones] in the text, we could have brought it down. Instead of that and then this type of thing [referring to the different declarative knowledge activities]. The third there wasn't in the text, we could do it here.
>
> C: I think that's good. And the reason why I am asking that is you can almost feel

them getting a bit [bored]. I was thinking, because they had already read it, they know *Stargirl*, read this passage, you don't need to read it to them first. And, it is already highlighted. There is no need to go searching for them. Asking yourself, how can I get right to that objective as quick as I can because attention is finite? Direct instruction is a finite amount of time. But this is good inquiry work [co-constructing definitions for each homophone] with grammar. Deducing definitions versus telling. (CVBC Session 1 Transcript, lines 110 – 135)

And in that same conversation we considered the effect of the pacing on the students:

C: They have been sitting for a long time. They have been watching direct instruction for 30 minutes. Do you see how it can be fatiguing?

T: So, before the think aloud, sit up, stretch, or something like that?

C: Turn and talk to tell your neighbor what you already know about the objective? Some share out opportunity.

T: That makes sense; they are starting to break down. It's hard to watch for more than 15 minutes.

C: You really want them with you. This is the meat [of the lesson]. This is the big idea. Now, that question [I asked] before, you know what the big pieces of the lesson are, the objective, How can I highlight this, how can I focus my instruction on this objective? (Lines 170 -184)

These baseline observations led to the first suggestion for instruction; to attend to instructional pacing by planning and instructing so students move efficiently to the application of the focal learning goal or strategy to their reading or writing. In addition,

we discussed strategies for material management that could decrease transition time between learning activities. We did not, however, co-analyze the lesson's procedural knowledge instruction specifically in this first co-viewing session. This topic emerged during the co-viewing of Beth's next lesson, Lesson Video # 1.

Lesson Video #1 included a recording of Beth's modeling of a nonfiction comprehension strategy (identifying classification text structure). Beth selected a text that was related to the research project students were beginning, and she displayed it via a document camera. As presented in the following excerpt, Beth shared her thinking as she applied the focal strategy to identify the text structure and understand the main ideas and details:

> T: We have this header right here that says early camps. I think that is going to be one of our categories because that is talking about camps from the very beginning [reads on].
>
> T: Okay, rise to power, that is making me think about early camps, so what I am going to do is write what those camps were in 1933 [records ideas]. Basically in my own words, they imprisoned anyone who spoke out against the Nazis. What are some other important details here that I should include?
>
> T: Even though I am looking at my classification word bank right now, we don't have *types of*, *classified by, parts of*. It almost seems like this could be a key word, *were*, because we are talking multiple different types of people. I am going to include those here [shows graphic]. [Reads text] *were German communists, socialists*, I might paraphrase this a bit because it is a very long list, people of

different religions, sexual orientations, and possibly, also social relationships.

T: [reads on] . . . *Facilities were called concentration camps*. Okay, that is definitely important, we are going to be talking about that a lot. That is a term that is used in everything Holocaust related. So concentration camps terminology, we'll put that there. All right, so I have my main topic for the most part. We have one category talking about early camps and really how concentration camps came into being. I've got some key details from my text to really support that category. (Lesson Video #1 Transcript, lines 53 - 83)

Beth then discussed her demonstration with students, guiding the student to notice the thinking and actions she had demonstrated. As they transitioned to practice, Beth asked students to signal how comfortable they felt trying the strategy (e.g., thumbs up, down, or to the side).

T: Let's get your thumbs [teacher positions her raised thumb under her chin]. How many of you feel you could do this on your own? Let me go with this article. Let me free! Thumbs to the side if you need more guidance with it, thumbs down if you need a lot more guidance with it. (Lesson Video #1 Transcript, lines 85 - 108)

Beth's modeling of the focal strategy was explicit in that she shared her thinking while reading a selection. Beth's debrief provided students opportunity to explicitly name the thinking and actions she modeled. Additionally, Beth reduced her procedural knowledge instruction to 20 minutes, considerably less than in the Baseline Lesson Video (one hour and 20 minutes).

While the pacing was improved, I prompted Beth to consider the length of the modeling and students' response. We discussed how Beth might "chunk" modeling into shorter demonstrations to improve students' observations during modeling.

C: Yes, You have just modeled a whole lot and I know you're not done yet. That is why I have been writing down what you have done. You previewed, you read a chunk, then you asked yourself, of the text structures I know, which is this most like? It doesn't seem like sequence because it is not in order. I think classification. Here is how I know. Then stop. Ask, OK, what did I just do? Now, let me go on.

B: That is going to prevent a lot of that zoning out, too. Do the strategy as we go. Take a pause, write ideas down, and then keep going.

C: Chunk up the modeling - and it helps keep you on track and measuring them. Do you know what I am doing? Right now you don't know if they know what you are doing. Understanding comes out in the debrief.

(omitted lines about student teaching)

C: …Already we talked about introducing a strategy in a more student-centered way, or with some inquiry, but then when you ask them to watch your model, give them a purpose, I am going to stop at three points - and I want you to share - what did I do? What did I say, what thinking questions did I ask? Then give them some stopping points to do that.

T: I try to push them - why do you think I did that?

C: As we finish watching this, what do you think about for next - what do you want to move on to next?

T: I think chunking the modeling so that way it is not such a giant session of me talking at them. And I have had student write the steps before - they act as scribes afterwards. Then, I think really focusing on declarative knowledge that way it is more engaging and not so much okay- this is what it is and why it is, now you are going to listen to me talk.

C: And debrief it then and jump back in! (CVBC Session #2 Transcript, lines, 71-79, 83 - 93)

In the next two videos, Beth recorded more of her procedural knowledge instruction and her implementation attempts of the SIs. In Lesson Video #2, Beth attempted to "chunk" her modeling into smaller units; however, the attempt was not successful in reducing the amount of modeling or increase opportunities for students to respond to the modeling. Beth provided two cycles of modeling and debriefing, lasting 21 minutes and nearly 10 minutes respectfully (e.g., identifying relevant evidence for a claim, evaluating source credibility, evaluating quotes, and fixing comprehension) and needed revision to be effective.

During the co-viewing, I initiated a discussion of the modeling.

C: you modeled, . . .all the components. Is this source credible, what part of this source answers my *who*, *where*, *what* questions, and selecting a quote that supports it.

T: Those are three different strategies in one.

C: Yes! If you had to divide them into two, which two would go together? T: I think credible needs to be its own and the last two [together].

C: Right, as you're gathering your sources you are asking yourself, are they credible? Then you have established credibility before you even…

T: I think I was trying to remind them of credibility, but it turned into one whole strategy. All in one!

C: I think you have big strategy here.

T: And I tried to put them in four steps!

C: I agree, and I think you are noticing, too.

T: Overambitious! (CVBC Session #3 Transcript, lines 82 - 99)

In the following lesson (Lesson Video #3), Beth recorded another demonstration during an informational writing lesson. Here, Beth's demonstration was focused on one strategy – writing a thesis statement. Beth used the document camera to display a graphic organizer and thesis statement word bank while students referred to their own copies.

T: The very first thing I need to do when I start a thesis statement is to think about what my topic is. What am I going to be writing about in my research paper? I know it is going to be about genocide and I know, based on my topic selection, I am writing about the Syrian genocide and refugee crisis. Step one all set.

T: My assertion or my claim, I need to figure out or ask myself, what am I trying to argue or prove about my topic? What am I trying to argue or prove about the Syrian refugee crisis topic? Um, well it is still going on today, and it's important for us to know about or be aware of it because it is still occurring today and because millions of people are being killed because they spoke out against the government. Wow, that is a lot so I am going to write that idea down.

T: It is still happening today, and people should be aware of it, because of its importance. Okay, I have my topic; I've got my assertion. Now, I need to write my thesis statement. I could say, The Syrian genocide and refugee crisis is still happening today, but blah, that doesn't sound so good. What I think I am going to use are some sentence frames or sentence starters that I have right in front of me. (Lesson Video #3 Transcript, lines, 16 -25)

Beth's demonstration was explicit and well paced, including sufficient procedural information for a concept new to students without over-modeling. While the model itself was effective, Beth did not engage students in her typical debrief of her modeling. Instead, in the interest of pacing, Beth decided to provide a prepared list of thesis writing 'steps.' In the co-viewing session of the video, Beth reflected on her instructional choice and its effect.

T: So I tried this out, passing out strategy already written instead of the scribe typing it up [notes from a discussion of the modeling], which worked phenomenally. Let's try something new. Here is your strategy already printed out.

C: It didn't work out as well?

T: I think I am debriefing as I am passing out [the handout]. Looking at this right now, I am *so* not at all.

T: Honestly, having a set of kind of class scribes . . .I think that would be more beneficial because everyone was much more engaged in the steps. I noticed with this, they had the steps in front of them already. I thought that would cut out the middleman. The middleman is needed because they weren't thinking of the

steps...they were just reiterating what was on the page. Not what I want!

Later in the conversation, I asked,

C: What do you think are some next steps for you?

T: Next, super obvious, don't print the strategy steps out again, but just go back to having one scribe. I think it is also coming down to me remembering and being aware of it; it shouldn't be just me and one student, me and another student debriefing things. Just try to incorporate more and more student talk and think, pair, share, that type of thing. (CVBC Session #4 Transcript, lines 63 -73)

In Lesson Videos # 4 and #5, prompted by the my request to view her guided practice, Beth recorded her students' writing time and her support of students as they applied the strategies to draft their research papers. After quickly reviewing the goal for the class (writing the introduction), Beth conferred individually with students who indicated they needed support. The following is an example of her assistance:

T: You have your thesis statement right here. What's tripping you up?

S: Getting started.

T: How are we going to hook your reader in? Here is what we can do. Let's [look at the model]. Remind me, what is your genocide?

S: Syria

T: Here's what we can do. If we look [at the model it says] *The sound of laughter permeates the classroom from the students playing a game*. Well, what sort of sounds might be heard in Syria in the moment? Probably not the sound of laughter.

S: Gunshots?

T: Okay, maybe we could even mirror this. You have got a pretty okay sentence frame with the one we came up with yesterday, not the sound of laughter . . .

S: So you mean the sound of violence? Like not specific but general?

T: Right, super general.

S: And then like a [unintelligible].

T: That could totally work.

S: That's it?

T: That's what you want for a hook. You want it just vague enough, your audience has an idea of what you are going to be talking about but they don't know that the author is going to be talking about Syria and the genocide that is going on there. (Lesson Video #4 Transcript, lines 25 -40)

Later in that same writing session, Beth skillfully called the class together to ask them to consider a question asked by a student. In doing so, she prompted talk about a writing strategy.

T: [Name] just asked an awesome question that I want to pose for the rest of you to consider. [Name] just asked, could the hook be a question? Can you just start off with a question? What do you think? [Multiple students talk together]

T: I am hearing yes. Why? [Students talk]

T: [Name], do we have some real life connections here?

S1: Yes, I read things like that, but not really in books but in articles and texts that

are trying to persuade you. Even commercials! Have you ever had this or that? Well, try these.

T: Ah! If you are struggling to come up with a hook, that could be an awesome strategy to try. We want to get our readers interested but also to start thinking.

S1: Have you ever had this happen to you and your reader will think, yes, yes it has.

T: Well, wait. How would this work with the topic of genocide? Have you ever been part of genocide?

S: Well, no - but you could say, have you ever heard of the Rwandan genocide? (Lesson Video #4 Transcript, lines 42-56)

During guided practice, Beth conferred individually with students to support their application of the strategies. Beth asked guiding questions but did not consistently refer students back to the model or strategy heuristic. This observation led to an instructional suggestion for Beth to use reinforcing statements that prompt students to refer back to the modeled thinking for support they practice newly learned strategies (e.g., Procedural knowledge: Guided practice) (CVBC Session #5).

Beth responded to the guided practice suggestion by increasing the scaffolds for students. In Lesson Video #5 Beth reminded students of the resources they could use including a 'split screen' that displayed Beth's example and a heuristic, or thinking steps the students co-constructed during a debrief of Beth's modeling. During the student writing time, Beth again conferred with students, however, poor audio quality made these interactions difficult to hear.

During the co-viewing of Lesson Video #5, Beth shared her thinking around the scaffolds while lesson's co-viewing session.

> T: Right now, what I am doing is putting up the exemplar on the screen. I am putting the strategy right next to it. The copier was broken.
>
> C: That is almost better. Look at that.
>
> T: They still have access to it and they have access to the transition revision strategy they did yesterday with the paragraph on which we highlighted each transition word so it stuck out. (CVBC Session #6 Transcript, lines, 67-74)

Later in CVBC Session #6, we also reflected on student engagement in the context of procedural knowledge. I recalled the student talk in Lesson Video #4 and we discussed how Beth might provide more opportunities for students to share their own procedural knowledge and writing processes. Beth was excited at the prospect of sharing the floor with scholars. She tried a new idea and recorded it in her sixth video.

In Lesson Video #6, Beth asked two students to share their writing and the processes they used to revise their drafts, specifically how they incorporated transition words in their writing pieces. The students were invited to use the document camera as they shared their drafts with the class. Beth encouraged the students to talk about their procedural knowledge by modeling questions such as, "If you could take us through your process, did you have all these transitions when you started" (Lesson Video #6 Transcript, line 43)? Although Beth asked process-oriented questions to facilitate the share, she also missed an opportunity to provide feedback that would prompt students' process-oriented talk (e.g., "Nice analogy, [Name]" (line, 46).

After sharing, Beth engaged students in scaffolded practice – working with writing partners to talk about their own processes and to share their drafts for feedback. This instructional decision not only provided students' opportunity to share procedural knowledge, it effectively positioned students as sources of procedural knowledge and in doing so, fostered a supportive, student-oriented writing community. Beth's effective pacing maximized class time even with multiple transitions and student groupings.

During CVBC Session #7, Beth focused our analysis on a segment of the student-led sharing:

> T: I need to pause this here because she starting literally teaching the class again about transition. She said: the purpose of transition is to… I didn't prompt her to do that.
>
> C: Right, but to what can we attribute that?
>
> T: Could be the strategy notebook? But also the fact that I have been drilling in their heads the what and the why.
>
> C: In doing that kind of instruction, you have helped them see it as a process and strategies that lead to a goal. If you want to organize your writing better, here is one way, use transition words.
>
> T: Process questions! (CVBC Session #7 Transcript, lines 92 – 105)

As the Lesson Video continued, I asked Beth to comment on possible scaffolding during the lesson:

> C: Do you think you need to do anything different to help others do it or to give feedback [to those that are sharing]?

> T: I was just noticing [Name] because he was getting a little bit antsy. I think some of my students who are having a difficult time focusing – giving them a purpose for viewing. Maybe I could have given him a critique sheet and have him physically write down strengths he noticed in [Name's] writing. What could they have done better or improved? (Lines, 165 -173)

Although Beth implemented more scaffolds during guided practice, missing in the Lesson Videos was Beth's implementation of the suggested use of small-group instruction. Beth shared what she saw as challenges to teaching small groups (e.g., space, furniture, and how to ensure the rest of the class was working productively while she worked with a small group). In a seventh video recorded after the study, Beth shared her attempt to reteach a strategy to a small group. In this video, Beth balanced her focus between the small group and the rest of the class. Given more time in the coaching cycles, guided practice and flexible grouping would likely remain a coaching focus.

To review, in the Baseline Video Beth demonstrated her prior knowledge of procedural knowledge instruction at the onset of the study. However, Beth was interested in refining her strategic teaching practices. Beth implemented models of strategy use 12 out of the 13 opportunities to do so, and guided practice 6 out of the 7 opportunities, showing a high degree of awareness of the need to show students how to carry out useful strategies. Beth increased her explicitness and pacing when teaching procedural knowledge. Additionally, Beth explored ways to open opportunities for others to share their processes and strategy application with the classroom writing community. Further, Beth came to some consequential conclusions regarding the need to cognitively engage

her students in all phases of the learning, including procedural knowledge development.

Beth achieved a 1.23 mean quality rating for her procedural knowledge modeling, just over the midpoint on the 0 -2 scale. Her procedural knowledge pacing mean quality rating was 1.56.

Case Summary. Beth brought her existing, but still developing knowledge of strategic teaching as a means of helping students develop as strategic readers and writers. After co-viewing and discussing her instruction, Beth increased the effectiveness of her strategy instruction. During co-viewing, Beth noticed and acted on the need to improve the pacing of her instruction to ensure students moved efficiently to the application of strategies. Within the context of co-viewing, Beth also noticed and acted on the need to employ instructional approaches to increase students' active engagement in the learning activities. Although Beth demonstrated her capacity to reflect on her instruction, she was less able to notice when she was not explicit or focused. Having a coach to scaffold her observation seemed to support her ability to notice and respond to her recorded practice.

In one of the later CVBC Sessions, Beth explained some of the change she felt she had experienced participating in the co-viewing video coaching:

> I just feel like it is getting so much better. My teaching and my awareness of what they need from me has gotten 10 times better with these conversations because I am, "All right, no, they do need peer talk, okay talk to each other- don't talk to me - do that! Talk to each other. All right, one person from this group, share out, what did you talk about. Then everyone has a voice through that one person. (CVBC Session #5 Transcript, lines 351 – 358)

Corrie

> It is really helpful to be able to go and look back on a lesson and I was able to observe things and come up with ideas that I didn't notice when it was happening in the moment. It was a little bit different than what I actually see in the classroom in the moment. (Reflection conversation)

Teacher profile. Like Beth, Corrie had transferred to a middle school after holding a high school English Language Arts position in another district. This was her third year teaching and her first full year classroom assignment. Corrie earned her undergraduate degree from the same university as Beth and was also enrolled in the same literacy education graduate program. She held an initial license in secondary education.

Corrie volunteered readily for the study. She watched the videos intently and contributed many observations and insights during co-analysis of her instruction. Corrie recorded six videos and participated in seven co-viewing sessions over five months.

Instructional focus. As an educator, Corrie was interested in providing students opportunities to develop their literacy skills in the context of exploring current social justice issues (field notes, November 22, 2016). To accomplish this, Corrie often paired core texts with supplemental multi-media texts and planned seminar-style discussions. She was interested in knowing and leveraging what students were interested in and would often reference popular culture in her instruction. Corrie also shared that she saw herself as a life-long student of the literacy literature and sought opportunities to increase her knowledge of effective instruction and the supporting theories (personal conversation, October, 2016), hence, her interest in the study.

Implementation of suggestions for instruction. Table 8 summarizes data related to the implementation of Suggestions for Instruction (SI) offered during Corrie's coaching sessions. The SIs are presented in the order in which they emerged in the co-viewing sessions. As with the previous cases, the table displays the frequency of occurrences of each SI, opportunities to implement the SI, the percentage of opportunities acted upon, and the mean quality rating for each. In the next sections, I present quantitative data. Then, to explain these findings, I present the results of qualitative data analysis derived from co-viewing and Lesson Video transcripts.

New SIs were introduced in coaching sessions 1, 3, 4, and 5 (with none introduced in session 3 or 6). The SIs reflect an emphasis on developing Corrie's expertise in facilitating student-led discussions. The first two SI codes, Pacing and Procedural knowledge: Model, were introduced during Corrie's initial focus on direct instruction of cognitive strategies. Because these SI continued to be discussed after the Lesson Videos shifted focus to student-led discussions, they remained part of the analysis.

Table 8: *Corrie's Suggestions for Instruction: Occurrence, Opportunities, and Effectiveness*

	Implementation			
	Frequency			Effectiveness
Suggestion for Instruction Codes	**Occurrences**	**Opportunities**	**Percent**	**Rating**
Pacing	11	11	100%	1.36
Procedural Knowledge: Model	6	8	75%	1.12
Procedural Knowledge: Guided Practice	4	5	80%	1.20
Discussion: Structures	2	4	50%	.80
Procedural Knowledge: Teacher Facilitation	1	4	25%	.25

Implementation frequency. Data presented in Figure 17 show that Corrie implemented each of the SIs in her video recorded lessons. However, the extent to which she acted on opportunities varied across the SIs. Two SI with the highest rates of implementation (Procedural knowledge: Guided practice/80%; Procedural knowledge: Model/75%) represented the strategic reading components recruited to support students' productive participation in student-led discussions: Corrie's self-identified pedagogical goal. These SIs were discussed in co-viewing sessions in conversations about modeling (session 1, 2, 3, and 4), and guided practice (session 3, 4, 5, and 6). Pacing (100%) was first discussed in the context of direct instruction (sessions 1 and 2), and then in relation to discussions (session 3, 5, and 6).

The two SIs with the lowest rate of implementation (Discussion: Structure/50%; Procedural knowledge: Teacher Facilitation/25%) were also instructional strategies intended to improve student-led discussions. Employing effective discussion structures (e.g., smaller groups) was discussed in co-viewing sessions four, five and six. Using facilitative talk to prompt the use of text evidence was discussed in co-viewing session five.

Some of the variability in implementation frequency may be partly explained by the shift from direct strategy instruction to discussion models of comprehension development. For example, there was immediate implementation of Procedural knowledge: Model after the SI was introduced during the Baseline co-viewing session (Lesson Video #1). In Lesson Video #2, the first of the discussion-focused recordings, Procedural Knowledge: Model was scored a zero (no implementation). Corrie did not immediately transfer the SI to the new context. After coaching discussions about how modeling could be used to teach students strategies for productive talk, Corrie implemented Procedural Knowledge: Model again (Lesson Video #4).

The variability in the SIs Discussion: Structure and the low implementation of Teacher Facilitation may relate to Corrie's expectations for her students' discussions. Content from the co-viewing session indicate that Corrie intended for students to engage in text-based discussions as a class with autonomy, that is, with limited teacher support (CVBC Session #3). As the coaching cycles continued, Corrie made changes to the discussion groups (e.g., structure), but did not increase her implementation of facilitative talk moves during student discussions.

Figure 13: Corrie: *Percentage of opportunities acted upon*

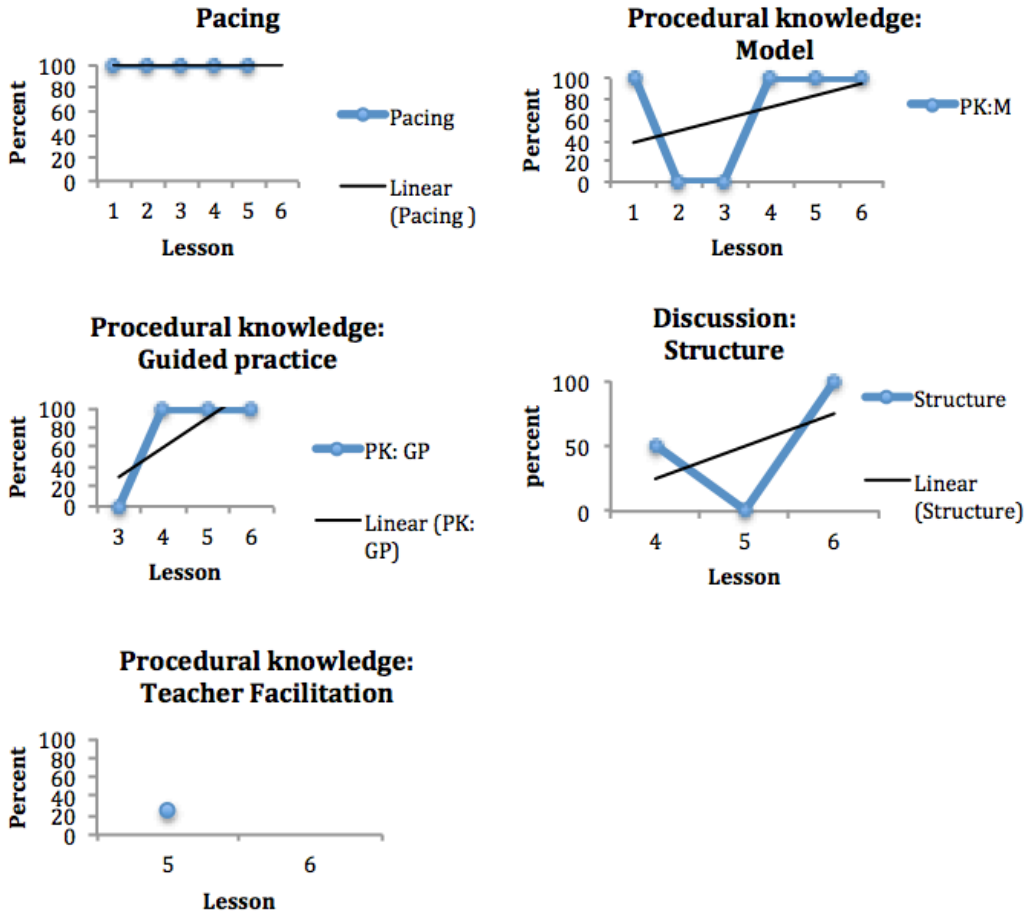
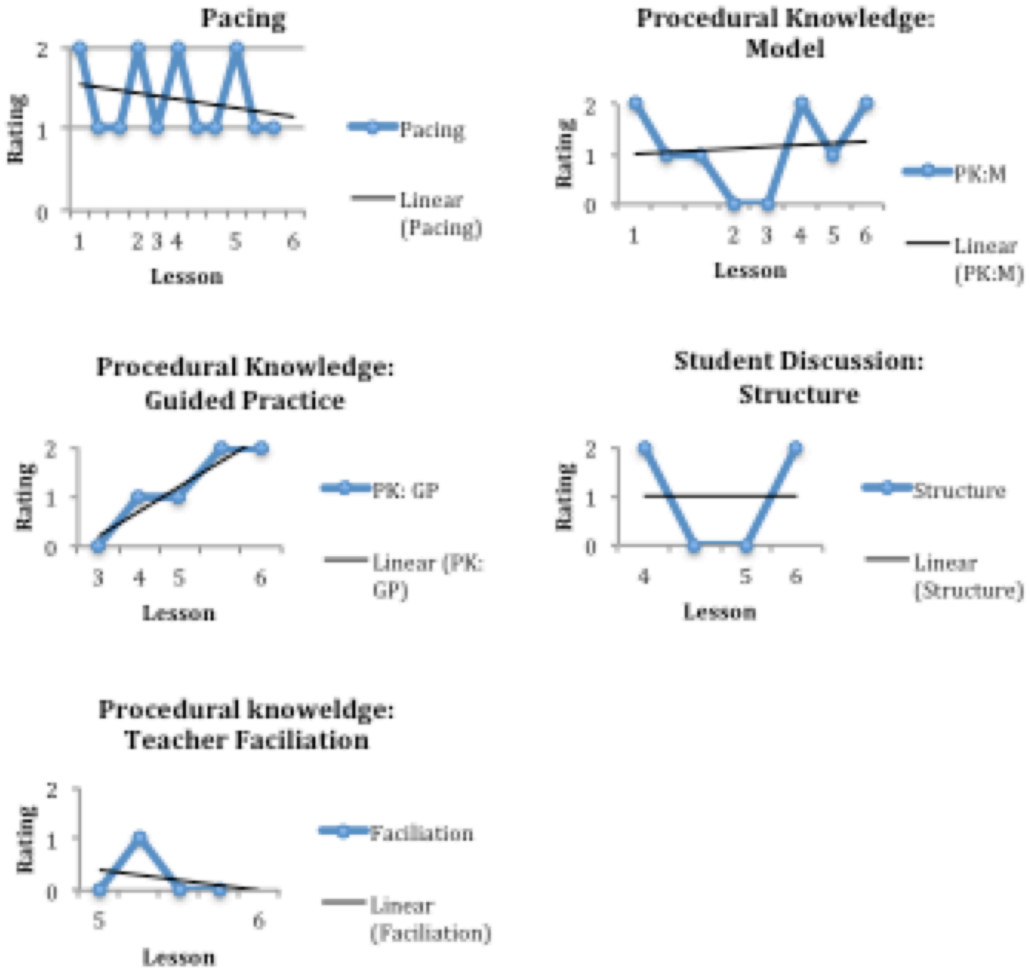


Figure 14: Corrie: *Quality rating for suggestions for instruction*



Instructional quality. The SIs with the highest implementation rates were also the SIs with the greatest mean quality ratings: Pacing (1.36), Procedural knowledge: Guided practice (1.20), and Procedural knowledge: Model (1.12). These were also the SI discussed in the most co-viewing sessions. Similarly, those with the lowest implementation percentages also had the lowest mean quality ratings: Discussion: Structure (1.0) and Procedural knowledge: Teacher Facilitation (.25). These were discussed in the fewest co-viewing sessions.

Figure 14 displays the growth patterns for each SI across the Lesson Videos. Pacing fluctuated from 'developing' to 'effective' ratings, indicating Corrie's continuing development in this instructional domain. Trend lines for sub-codes in the procedural knowledge domain (Model and Guided practice) indicate that implementation quality increased from initial to final implementation. Corrie's effectiveness in structuring seminar discussions showed flat growth, but the initial and final 'effective' ratings, indicate capacity, if not consistent use of effective discussion structures. Procedural knowledge: Teacher facilitation had one implementation attempt rated 'developing' indicating near absent uptake or growth in this SI.

In sum, Corrie implemented each instructional suggestion, although not always immediately or with a high degree of consistency. Corrie's shifts from one instructional domain to another as well as her intentions for her class discussions may have influenced her uptake of the SIs. Taken together, analysis indicates that Corrie more readily implemented instruction focused on the procedural part of strategies and less readily incorporated strategies focused on how discussions were structured and teacher talk

moves that facilitate students' high-quality text-based discussions.

Instructional change over time. Next, I turn to the qualitative data to describe the changes represented in the frequency counts and implementation ratings. I begin with a review of Corrie's baseline and first video and then continue to report on the four Lesson Videos focused on discussion. I grouped individual codes into two larger categories, procedural knowledge (Modeling, Guided Practice, and Teacher Facilitation) and discussion structures (Discussion: Structure).

Figure 15: Corrie's procedural knowledge instruction: *Percentage of opportunities acted on*

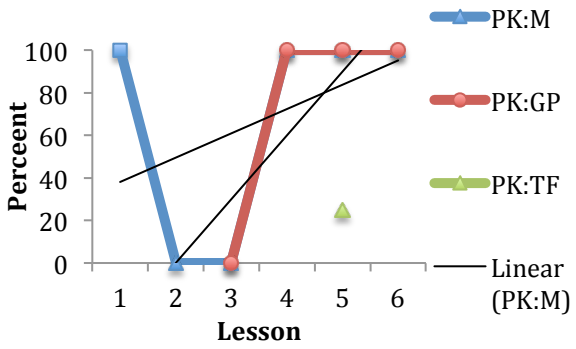
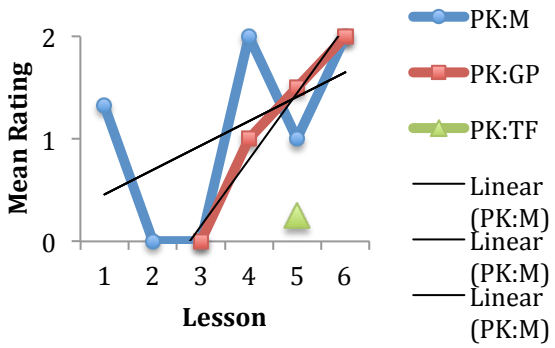


Figure 16: Corrie's procedural knowledge instruction*: Mean quality ratings*



Corrie's procedural knowledge instruction. The instructional domain procedural knowledge comprises suggestions for instruction focused on developing students' understanding of how to carry out a specific strategy to meet a goal (Procedural knowledge: Model; Procedural knowledge: Guided practice; Teacher Facilitation). Figures 15 and 16 show the development of modeling codes in the context of direct strategy instruction (Baseline and Lesson Video #1) and then modeling and guided practice during student-led discussions (Lesson Video 2, 3, 4, 5, and 6).

Corrie's existing knowledge of procedural knowledge instruction at the onset of the study was evident at baseline. The following excerpt is an example of Corrie's modeling of procedural knowledge relative to identifying an author's tone in a selection.

> T: Watch me as I read this text and find clues that help me determine the tone of the piece.
>
> T: The first question that I have to ask myself when I am trying to figure out tone is, how does what I just read make me feel? I read a little bit, the first sentences, and the first feeling that I am getting from my gut instinct is that something is very serious. I am not sure what Wiesel is taking about yet, but before I figure it out, I know that he is taking it very seriously. Just know that is not quite enough for me. I need to know what made me feel that way.
>
> T: So, the next question I am going to ask myself is in particular, what were the words that made this seem very serious? I am going to go back and look for some of those words. *It is with a profound sense of humility*…I am going to stop already right there because there are a couple of words that are jumping out at me right

there that make it very serious. The first one, *profound*, because that means something that is very, very serious and important – profound, important. Also, that idea of *humility*, he is talking himself down a little bit. He is being very humble, that is also a serious topic as well. (Baseline Lesson Video Transcript, lines 4 – 22)

Corrie's modeling episode continues through another segment of the text, although the first example may have been sufficient. During the co-viewing, Corrie commented on the extended modeling.

T: I'm noticing I am losing them now. I wonder if that first paragraph was rich enough so that we could have debriefed from there.

C: Yes. This could have probably have been the teacher-student part.

T: yes.

C: The whole speech is serious so you are just gathering more evidence that is serious.

T: I think in the moment my feeling was just go through the process one time wasn't enough to show them, but watching it again I think one time was strong enough, I probably didn't need to keep going. (CVBC Session #1 Transcript, lines 192 - 200)

This excerpt suggests that Corrie had prior knowledge about teaching students procedural knowledge, but she needed to refine how much she modeled before the transferring responsibility to students. Additionally, we discussed the possibility that Corrie's students did not fully understand their role during a teacher demonstration and

how Corrie could make that more explicit for them.

In Lesson Video #1, Corrie again video recorded her procedural knowledge instruction. First, Corrie provided students an explanation and handout of what they should do and notice during teacher modeling. Then, she demonstrated a reading strategy (e.g., finding and recording research information) using a text related to the topic of the research project students were beginning. As this segment illustrates, Corrie was effective in sharing her thinking process while modeling the strategy.

> T: Here, I have my graphic organizer that I am going to be using. It contains all the questions that I am going to have to answer when I do my writing: the who, what, where, and why.
>
> T: The header of the section that I am going to start reading is Death Camps 1941-1945. Already I haven't even started reading not even a paragraph yet and already I am asking myself, is there information that I can get from this heading?
>
> Is there information about the who? Not really. Is there information about the what? Holocaust death camps, I am going to want more information about the what. Does it tell me anything about the when? Yes, it does. It tells me it was between 1941 and 1945, something right from my heading that I can write down in my notes for when. I am going to keep reading and actually start my paragraph. (Lesson Video #1 Transcript, lines 57 – 74)

During the co-viewing session, Corrie noted that as she modeled she was thinking about how much of the process she should demonstrate, and if she had needed to model all the question types. Although we did not yet discuss this observation, Corrie's

explication of the strategy also remained oriented to the specific task, and did not explain how this strategy could generalize to other research situation. While this demonstration and the introduction leading into it were better paced than the Baseline instruction, we discussed again how Corrie could more effectively transition from teacher-led modeling to teacher-student practice (CVBC Session #2).

Starting with Lesson Video #2, however, Corrie shifted the focus of her recorded instruction from direct instruction of reading strategies to student-led discussions. Corrie explained these were formal discussions framed by *Socratic Seminar* protocol (see Billings & Fitzgerald, 2002). Students asked and answer questions they developed to explore the ideas and perspectives of a focal text(s). The following section describes how Corrie addressed procedural knowledge in this dialogic context.

In Lesson Video #2 and #3, Corrie recorded student-led seminar discussions, one from each of Corrie's two classes (approximately 25 students each). In each recording, students were seated at desks arranged in a large circle. Corrie stood just outside the circle near a teaching podium on which the camera was placed. Students had prepared notes and texts with them. Both recordings began after the discussion was already started.

The recorded discussions shared other similarities in addition to the physical structure. In both discussions, student participation was limited to a small percent of the class. In Lesson Video #2, approximately 10 students participated; in Lesson Video #3, participation was limited to five main contributors. In each discussion, students did not raise their hands to speak but engaged in an authentic give and take of conversation using

academic language (*I agree with . . . I would like to bring up the idea…*). In each, non-participating students observed the discussion. Corrie's comments during the discussion were brief, and focused norm reminders (e.g., no sidebar conversations), and pacing (e.g., are we done with this topic?).

Although the recorded discussions were similar in structure, they differed in content. In Lesson Video #2, student contributions to the discussion were largely on topic and often supported by references to related texts. The following excerpt is from that discussion.

> S10: Hitler recruited all his solders before he started hurting people. He had recruited this army and then he introduced propaganda to make the Jews look like worse than normal people. The soldiers thought that by doing this they were helping out their country.
>
> S1 I agree with [S10], because in Night, I think it was *Night*, no it was in *Boy in the Striped Pajamas*, it said that when the father of the boy, when he was wearing his uniform the grandfather would say, look at the thing he is wearing for the wrongs of his country.
>
> S10: Not only that but in the documentary, remember that person, the one with the long hair that actually killed one million people in the war? They called her sadistic, which are basically people who just like to kill.
>
> S5: I would like to add onto [Name's] point that they were just trying to see that they were doing some good for the country. Like we were talking about in [social studies] class, the knights that would do battle. They are doing the same thing as

Hitler. They thought he was correct. (Lesson Video #1 Transcript, lines 86 -93)

The co-viewing discussion of Lesson Video #2 focused first on what Corrie noticed about the discussion, and then how she had prepared students.

T: That is …one thing that I thought they did there. Kids will do this every once and awhile. They will say, 'Oh, I agree. Right, but you haven't said anything it you just say 'agree.' The fact that their classmates individually followed up with that – why do you agree? It's on them. I don't interfere as much as possible. The fact that they put it out there I think shows that they are picking up [on the] the collaborative side of working together to bring each other up.

C: But how did they know to do that though?

T: Way back when I first started doing this, to pre-teach Socratic Seminar, I actually showed them other students doing it. I used some videos I found on You Tube. If I was going to do that again going forward with another group of kids, I would use something like this [class video], especially because these kids do an especially great job at it. I didn't have this from my own classroom so I showed them some videos and we had a notes page where they recorded observations. We talked about what were some of the things they were doing. Once we had gone through that, we went through our own expectations for what we would do for a Socratic seminar and we looked at a rubric for grading it. (CVBC Session #3 Transcript, lines, 64 -90)

And later in that discussion, Corrie added:

T: . . . We talked about encouraging people to participate and asking follow-up

questions and stuff like that. When we first started, I occasionally would have had to stop and say, 'A lot of people are just saying I agree...why do you agree? Talk about that a little more.' But now they have sort of picked up through the teaching before hand and a little bit of modeling to do that on their own. (Lines, 93-103)

Evident in Corrie's explanation of her pre-teaching before students' first Socratic Seminars was her awareness and prior use of models and examples as tools to show students the "how" of seminar discussion. There was no procedural knowledge instruction observed in the Lesson Video. Although previous discussions of procedural knowledge occurred in relation to direct instruction of a reading strategy, opportunity to provide model language was not acted on in the beginning of the discussion.

The co-viewing discussion then focused on providing scaffolded or guided practice to improve overall student participation. Honoring Corrie's goal to foster students' agency and management of the discussions, I suggested Corrie teach students how to collect observational data during discussions that could then inform post-discussion feedback. Through this student-oriented guided practice, students could identify what was working well and what could be improved in the next discussion.

C: Looking at this, what do you think we can do besides that [talking about team effort] to ensure that everyone is doing their part?

T: That is one thing I haven't done is assign roles or anything like that. But I mean, where there is a handful that are the shy ones that tend not to participate, I certainly could check in with them and their paper ahead of time. I could point out, 'That is a really good question. I hope you ask that during the Socratic

Seminar.'

C: That's a great idea. Are any of the less verbal people good at capturing the main ideas that are brought out? They could be note-takers of ideas and questions. Then, they could hand it [the notes] back out, like a concept web and report it out, 'These are the things we talked about [in the discussion].' They could also do some sort of quantitative analysis! Maybe give them a class list: Who asked a question, who responded to a question?

T: That is not a bad idea because I am usually doing that. It would be nice to have one of them do that.

C: You could have them share out that data with the class after and say, 'Let's look at the data. Who does the talking? Who is doing the most questioning? Where do you see yourself? Do you want to ask more questions? How many times has someone drawn on a text with a quote? How many times has someone brought in an alternative text or a text we haven't considered?' This might be some kind of interesting next steps to really have everyone more active. (CVBC Session #3 Transcript, lines 245-300)

The discussion recorded in Lesson Video #3 (conducted with Corrie's other class section, referred to here as Class B) differed in quality to the discussion in Lesson 2 (with Class A). In Class B fewer students participated and the contributions lacked substantive analysis of topic or text. The following is an illustrative excerpt from Lesson Video #3:

S2: So, that is what I said, everyone should be together, since . . .

S6: I just want to say that I agree with yours and [Name's] comment.

S2: Why?

S6: Because how like you said, people should live together in our nation and how [Name] said, I agree.

S4: Maybe if people come together they won't be causing wars.

S: What? Oh.

S7: I think I agree with them, because as a Nation of Nations, we should work together.

[Multiple overlapping voices]

S6: I don't think that America is really great because all together, because there is discrimination and issues with race.

S4: I think that when [Name] said that, what did he say?

S2: He said that why do you think we are a Nation of Nations?

S4: When he said that point that is what the person was trying to say. Yes, there is a lot of racism and there is a lot of discrimination or whatever, but that we should all come to one and work together and end that.

S6: I agree with that. (Lesson Video #3 Transcript, lines, 62 - 77)

There was no recorded evidence of Corrie implementing the SI regarding student-observation and feedback introduced during the co-viewing of Lesson Video 2. Corrie again limited her remarks to a brief redirection. Taking a problem-solving stance, I commented on the limited participation (five of the twenty-five students) and picked up on an opportunity to leverage Corrie's existing procedural knowledge in providing models. As the following excerpt shows, I suggested using a 'fishbowl' model technique

to support this class in their discussions.

C: . . .and this is a conversation of five people.

T: Yes.

C: You don't think doing this class in two groups might be it? Maybe a fishbowl group doing a Socratic and the others are watching using the rubric checklist? What do you see them doing? Can you have your [students who are more proficient in seminar discussions] model what a rich discussion is like?

T: Yes, that's a really good idea. I have tried with this group, splitting it into two in a different way. Actually two separate ones. I took one and [Name] took the other, but it was too noisy in the room so it didn't work. But that idea of someone modeling, they would love it. (CVBC Session #4 Transcript, lines 192-217)

Although Corrie had previously shared her intent to keep the class in a whole group during discussions (CVBC Session #3 Transcript, lines 303-307), she effectively implemented a 'fishbowl' demonstration with Class B as a start to their next seminar (Lesson Video 4).

For the model discussion, five students were arranged in a center circle. As they engaged in a seminar discussion, the rest of the class, arranged in an outer circle, and recorded observations using a teacher-created "statistician log."

During the co-viewing of Lesson Video #4, we discussed multiple aspects of the discussion and suggestions for next steps. First, we debriefed the student demonstration and the observing students' response. Corrie noticed the demonstrating students, while somewhat self-conscious, modeled attentive body language and natural conversation

patterns. There were no references to the focal text. Corrie noted these qualities during the co-viewing, and shared that the students observing made similar observations. The students' debriefing of the 'fishbowl modeling' was not recorded (CVBC Session #5).

As we continued co-viewing, we observed the 'whole group' discussion that followed the small group 'fishbowl' modeling. During this discussion nine of the twenty-five students contributed. When the discussion slows Corrie interjects, inviting a new question rather than bringing the discussion to a close and initiating a debriefing of the two discussions. During the co-viewing, Corrie noted the continued pattern of limited student participation in the larger group.

> T: One thing I didn't see a lot of improvement in, which I think has already been included, is in the breath of participation in the whole group. While the group is more engaged and showing better listening skills, I notice not too many more spoke that did not previous rounds. A few more here and there, but for the most part, it is still my core group of kids that participated. (CVBC Session #5 Transcript, lines 75 -81)

Then, to provide Corrie another procedural instructional strategy to employ during student-led discussion, I introduced an SI related to using facilitative language during discussions to promote students' use of text references and evidence. I modeled some facilitative language "I think what you are talking about is this… What in the text can you use to support that?" (Lines, 110-111) Corrie added that she could encourage the students that are not participating, "This is what we are talking about. Find something in the text that might even be [supporting]" (Lines, 124 – 126).

Then, as we noticed the limited change in the seminar talk after the fishbowl modeling, our talk then turned back to the SI aimed at providing guided practice through student-generated feedback, a suggestion that emerged from the co-viewing of the first class. Drawing on *Socratic Seminar* structures, the suggestion evolved to include a form of peer coaching as a means of increasing the participation and quality of discussion contributions.

> T: I wonder for those kids who are less likely to verbally participate, even while other people are talking, see if you could find some evidence,
>
> C: That has me thinking about teams! Maybe you could have them working in teams. Student A is talking and you could be behind the scenes finding more evidence [to support what she is saying].
>
> T: Yes.
>
> C: Someone who is a spokesperson and a wingman.
>
> T: Like [Name] trying to get her to say a peep will be . . . she is so shy, but she is really good at finding solid text evidence. It is a huge strength of hers. That could be.
>
> C: Do you thing that might work?
>
> T: Oh yeah.
>
> C: The speaker, I mean anyone could be the speaker at any time, but the speaker and then the wing-person that is getting text evidence for you. If you push those seats in further, and those seats set back in the row, you have inner circle of speakers and their wingman is right there.

T: yeah!

C: Then you switch the roles around. (CVBC Session #5 Transcript, lines 254 - 273)

In Lesson Video #5, Corrie partially implemented this student observation-feedback strategy with Class A. Students remained in a large group for the seminar discussion (25 students). At a mid-point, students were asked to discuss what was going well and what could be improved with the people seated next to them. After this debrief, students took up the discussion again. This guided practice implementation was rated 'developing.'

In the first half of the discussion, 14 of the 25 students participated, an increase from the 10 participants in the first recorded discussion. In the second half, after the debriefing conversation, the participation rate was similar, 15 out of 25 participated. Students used talk moves such as "*I would like to hear what H. has to say*" and "*I would like to hear from M*." to encourage others to participate. The pace of the discussion slowed, Corrie asked for any last questions. In the co-viewing of this seminar, I remarked on the uptick of participation with the inclusion of student-generated feedback.

C: There was already more participation.

T: Yes! There are already a couple of kids that don't usually . . . They really did a good job of bouncing off of each other and kind of, very briefly recalling other's ideas, using those as lead ins during their talk. (CVBC Session #6 Transcript, lines 30 -35)

And later in the discussion, we noticed more text references,

T: That's some text evidence there.

C: Okay.

C: That is quoting something from the text.

T: They are actually doing better at it then. Now watching it again, I am noticing more in the moment (Lines, 49 – 54)

We also discussed students who had not previously participated who had now joined the discussion,

C: We haven't seen that before [remarking on a student who made a contribution to the discussion].

T: This definitely made a difference and if you want, you can count that as two [participation attempts] because he clarified and used evidence from the text. (CVBC Session #6 Transcript, lines 276 -280)

Although we noticed the use of text evidence while co-viewing session, Corrie did not employ the suggested facilitative moves to prompt text evidence, missing two opportunities, and offering a clarification in another.

Before presenting Corrie's procedural knowledge instruction in Lesson Video # 6, I turn to an explanation of Corrie's implementation of the SI related to discussion structure, as procedural knowledge instruction and structural changes intersect in Lesson Video#6. In the next section, I provide this explanation and then return to the procedural knowledge domain to describe Lesson Video #6.

Figure 17: Corrie's discussion structure: *Percentage of opportunities acted upon*

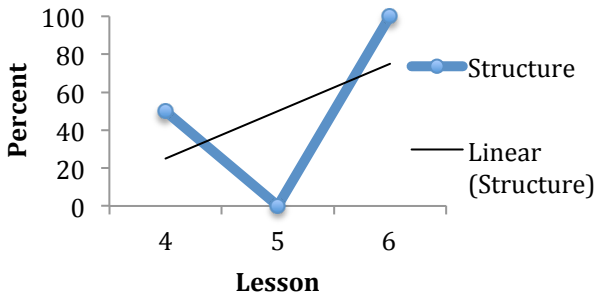
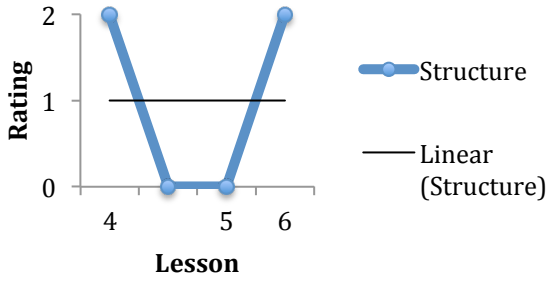


Figure 18: Corrie's discussion structure: *Mean quality ratings*



Corrie's use of discussion structures: Corrie arranged seminar discussion in a single large-group formation. Drawing on the research that describes ideal instructional frames for productive text-based discussions (Wilkinson, Soter, & Murphy, 2010), I suggested restructuring the group. Initially, when the idea of changing the discussion structure from a single large group to smaller groups was first discussed, Corrie shared her concern:

> T: The only other way that I have really seen it done is with the inside circle and the outside circle, and I don't love it with the inside – outside circle. I would have

been jumping out of my seat if I were one of the kids in the outside circle. No! I have something to say now! (CVBC Session #3 Transcript, lines, 303-306)

Even with evidence from the small-group modeling in Lesson Video #4 that smaller groups might increase participation, Corrie was reluctant to change the discussion structure. She had started seminars in her classroom with a set vision for what discussions would look like: the whole class simultaneously engaged in a shared discussion.

C: . . . I am still thinking this is such a big group.

T: Yes.

C: For Socratic Seminar . . . if you have the circle within a circle. What if you alternate? Week one, you are in the inner talking, and then the next week, you are in the outer . . . [omitted lines about alternating groups].

T: Yes, it's a big class. There is definitely a factor. I have lots of kiddos in here who have a problem talking in front of the class. Not their idea of a good time. (CVBC Session #5 Transcript, lines 152 - 162)

In Lesson Video #5, Corrie retained the whole-group structure even as she included a mid-point, student-led feedback opportunity. However, while co-viewing the lesson, Corrie shared her intent to try dividing the class into two groups for the next seminars and reflected on an example video we viewed on the Internet.

In Video Lesson #6, Corrie effectively implemented together both the procedural knowledge SIs (e.g., peer coaching, modeling) and structural changes (e.g., small groups) in a seminar discussion with Class B (the class that demonstrated less proficiency in

student-led discussion in Lesson Video #3). The discussion was structured with eight participants in an inner circle and the rest in an outer circle. The outer-circle participants were observed recording notes to share with peer partners at the midway point. Those in the center had text and notes on hand. In the video recording, all eight participants in the inner circle contributed to the discussion. Two students were observed contributing for the first time during video recorded discussions. As the following excerpt shows, students referenced texts and built onto one another's ideas.

S1: A lot of people read books, use calculators [on their phones].

S2: I agree. I also said that I think we do group work all the time and it takes a while to settle down. We could use texting to communicate. We could use text chat to communicate.

S1: I agree. The text says, 'Taylor sees the cell phone as a necessary tool to teach kids to use…we would be burying our heads in the sand.'

S3: Cell phones are part of our everyday life, it is true.

S1: I agree with [S3], but it would be nice to use our phones in school to help us learn better. We always learn fast with our phones, instead of [unintelligible].

S4 and S5: I think…

S4: I'm sorry. You go.

S5: I also think that cell phones [shouldn't] be used in classrooms because I think it would be a good idea because if we have our phones we would most likely get distracted…(Lesson Video #6, 1-14)

During the co-viewing of the discussion, Corrie was pleased with the quality of

the discussion. She noted,

> T: At this point, it is working really well for this class. They have come a really come a long way since I implemented this. There are kids that are in the inner circle. They stay in there for the entirety. I put a 10-minute timer on. They talk for 10 minutes and when that goes off they have a person on the outside who is assigned as their coach. They have two minutes of coaching. They use the same data sheet that the statisticians use. What are they doing? What can they work on for the second half? Then I usually do a 12-minute timer for the second half but it ends up being more like 15 minutes because it is inorganic to have they just stop. I usually, when the timer goes off, say one more question . . .
>
> C: That was always a focus for you. You didn't want to put so many constraints on that it didn't feel like an authentic conversation.
>
> T: But this is pretty cool to watch them in this because this really made a huge difference for them in my opinion. (CVBC Session #7 Transcript, lines 11- 29)

As the video continued, Corrie made another consequential observation regarding the smaller groups.

> T: I think that there is simultaneously less pressure and more pressure when they are in the small circle because there is less pressure of the judgment of peers. But because there is a smaller group there is more pressure to talk. If you are not talking it gets awkward really quick because there are less people to participate.
>
> T: I think I should show them two minutes of one of the earlier ones and then show them this. Look how far you have come; the difference is stark. In a good

way! Is the word stark?

C: Is it dramatic?

T: Yes! It is dramatic, a very dramatic change! (CVBC Session #7 Transcript, lines, 119 -125)

Corrie also commented on the progress the students had made as seminar participants.

T: The really cool thing that is happening here that we weren't seeing before in this classroom is that, to speak in that natural conversation. I think that maybe one question has been posed since the beginning and they have been just talking since then. The focus has shifted so that they are discussing new topics around it but like they have never even gotten to that point of a silence that they have to add a new question, they are just flowing off each other's ideas and having a cool time. (CVBC Session #7 Transcript, lines 70- 78)

This Lesson Video was rated effective for pacing, guided practice (students were partnered as peer coaching and taking notes), and discussion structure. Given the quality of the video-recorded portion of the discussion (the camera cut out after six minutes), teacher facilitation was rated not applicable as students referenced text evidence without a teacher prompt. Modeling was also rated not applicable.

To review, for SI related to procedural knowledge, Corrie provided instruction in 11 of 17 opportunities (64%). Instructional quality achieved a combined mean quality rating of 1.16 for modeling and guided practice together, and .85 overall when ratings for teacher facilitation are included. Across the coaching cycles, Corrie transferred her prior

knowledge of procedural knowledge instruction from the more familiar domain of direct comprehension strategy instruction to the less familiar context of student-led discussion. Additionally, Corrie used this pedagogical knowledge flexibly in response to the needs of her two ELA classes, providing modeling to one while moving forward with peer coaching in the other.

Overall, Corrie more readily implemented components of procedural knowledge related to demonstration and guided practice (e.g., particularly student-generated feedback and coaching) than providing facilitative prompts during student discussions. However, there was limited coaching focus on the later instructional strategy as it was discussed in one CVBC session. It is predicted that had coaching continued, a focus on facilitative teacher moves to promote high-quality student discussion would have developed.

Case Summary. Corrie began the study with a focus on improving her strategic teaching of reading strategies. However, the design of the coaching model allowed Corrie to shift her focus to a domain of personal interest, student-led discussions. The coaching cycles provided opportunity for Corrie to reexamine how she enacted procedural knowledge instruction aimed at supporting students, as well as options for structuring the talk. Further coaching may have assisted Corrie in implementing facilitated talk to increase text references as suggested, as well as other evidence-based facilitation (e.g., summarizing, challenging, prompting (Wilkinson et al., 2010)).

Noteworthy in Corrie's case is how the video-aided coaching developed as a type of a problem-solving space in which we, as teacher and coach, were collaborative thought

partners focused on a common goal, increasing the quality of student-led discussions.

Overall, examination of the first to the final discussion shows Corrie made substantive changes to ways she facilitated discussion in her classroom. As evidenced by the mean quality ratings from Lesson Video #2 (1.0) to Lesson Video #6 (2.0), Corrie met her goal of improving her classroom discussion.

As the final co-viewing session closed, Corrie added, "To watch them go from a nonfunctional [group] talking over each other, arguing, nothing getting done to that by the end of the year is so phenomenal. It's like, I did something right this year!" (CVBC Session #7 Transcript, lines 285 -288)

Summary of Cases

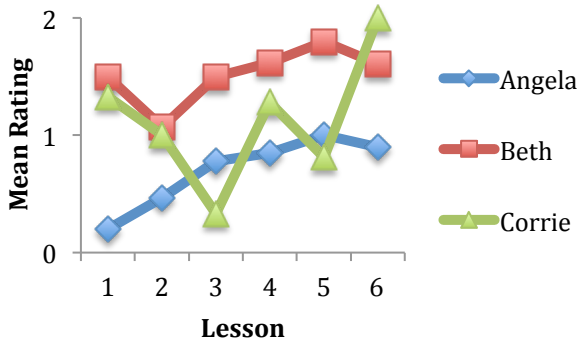
Collectively, the case analyses provide a description of the nature of teacher growth in the context of collaborative video aided literacy coaching. Teachers were active participants in the professional development model; they routinely recorded instruction, fully engaged in co-viewing and analysis sessions, and implemented the suggestions that emerged from these collaborations. The frequency data show teachers' intentional practice of new ways of teaching, while transcripts of co-viewing sessions show their cognitive engagement and reflective thinking during the coaching process. Quality ratings for multiple SIs indicate growth in efficacy while enacting highly effective instruction, although in many areas, that growth was not constant in its trajectory, but instead fluctuated as teachers responded to the dynamic contexts of their classrooms.

In the final sections, I search the quantitative and qualitative data to first present a

comparison of teachers' mean implementation ratings across the coaching cycles. Second, I address the secondary research question with a cross comparisons of teachers' implementation frequency and quality of SIs.

Cross – Comparisons

Figure 20: *Mean quality ratings per teacher across videos*



Mean quality ratings across videos. In this section, I present the mean quality ratings of the three teachers' implementation of the Suggestions for Instruction introduced over the six Lesson Videos. To calculate the mean implementation ratings, all ratings assigned to a teacher's instructional video were averaged together to yield on quality rating of the video. As presented in figure 20, these mean quality ratings are displayed over the six videos in relation to the 0 - 2-point quality rating scale.

The three teachers' data trend lines show increased mean quality ratings from the initial to the final Lesson Video indicating growth over time. Overall, teachers made advancements toward expertise in literacy instruction. Individually, their growth patterns differ. For example, Angela's mean quality ratings over the coaching cycles show incremental growth as she developed her strategic teaching while Corrie's data show

greater changes between Lesson Videos reflecting her progress as she applied known pedagogical knowledge to a less familiar domain. Beth's growth trajectory reflects her refinement of her strategic teaching over the six videos. Beth's mean quality ratings are all above the mid-point, or 'developing' rating, and the difference between her first and last mean quality ratings is small (.28 points).

I also calculated a total mean quality rating for each teacher's (an average of the mean quality ratings for each video). I compared these total means to teachers' level of knowledge in relation to the focus of their coaching. Angela, a first-year teacher, had no prior knowledge or existing strategic teaching practices had the lowest total mean quality rating (.70). Beth, in her third year of teaching, entered the study with prior knowledge of strategic teaching had the highest total mean (1.51). Corrie, in her first year as the lead ELA teacher, had prior knowledge of strategic teaching and self-reported some experiences facilitating student-led discussions achieved a total mean quality rating of 1.12. Across these cases, existing or prior knowledge in relation to the coaching focus correlated with higher total mean averages.

Table 9: Summary of cases: *Instructional strategy domains*

Case	**Declarative Domain**		**Procedural Domain**	
	Percent of Opportunities Acted on	Mean Quality rating (0-2 scale)	Percent of Opportunities Acted on	Mean Quality rating (0-2 scale)
Angela	45%	.65	76%	.81
Beth	100%	1.57	89%	1.44
Corrie	n/a	n/a	64%	.85

Comparison of instructional domains. To answer the second research question, (if teachers advance toward expertise in literacy instruction, does this advancement differ across instructional domains?), I looked to differences in implementation frequency and quality within the teachers' cases. Teachers differed in relation to the instructional domain they more readily implemented. As presented in Table 9, Angela more readily implemented aspects of procedural knowledge, specifically providing 'how-to' explanations and demonstration of comprehension strategies, and less readily incorporated strategies focused on explaining what student were to learn (e.g., literacy goals) or how these strategies would be employed to gain knowledge about their world (e.g., content or knowledge goals).

In comparison, Beth demonstrated a high level of implementation consistency in both declarative and procedural knowledge. Differences in implementation percentages and quality ratings between these domains suggest Beth more readily incorporated well-paced declarative knowledge instruction; specifically in providing explanations of what strategy or information would be learned in a given lesson. Comparatively, Beth acted on the fewest opportunities to provide guided practice (85%), although those attempts achieved a mean rating of 1.55.

Corrie's SIs were primarily categorized within the procedural knowledge domain and therefore restrict comparison across domains. Suggestions for instruction were not introduced in the declarative knowledge domain. Within the procedural knowledge domain, Corrie more readily incorporated aspects of guided practice during the student-led discussions (e.g., developing means for student-generated observations and feedback,

peer coaching). Corrie less readily incorporated suggestions to prompt students' use of texts during discussion through facilitative prompts. Interestingly, the physical changing of discussion structures, likely viewed as an "easy change," was less readily or consistently implemented (50%).

Common across the cases was the correlation between rates of implementation, quality ratings, and content of the co-viewing sessions. Suggestions for instruction that were repeatedly discussed in co-viewing sessions were also more likely to be implemented when an opportunity was presented. These more practiced SIs were also more likely to achieve a higher mean quality rating. Instructional suggestions that aligned to teachers' personal goals or interests also more readily incorporated into their instruction.

In sum, teachers made advances in their implementation of the suggestions for instruction presented during co-viewing session of their own instructional videos. These advancements were represented by increases in the quantity and quality of instructional suggestions related to declarative and procedural knowledge instruction. These instructional strategies represent foundational components of strategic teaching, and core elements of highly effective, meaning-oriented literacy instruction (Anderson & Roit, 1993; Duffy et al., 1987; Vaughn, et al., 2011).

CHAPTER FIVE

Discussion

Introduction

In this study, I set out to investigate the nature of teachers' advancement toward instruction effectiveness in the context of a video aided coaching model. I was prompted to conduct this study by the pressing need for innovative, impactful, and intensive literacy coaching models that can support teachers in their implementation of highly effective instruction. As reflected in persistent trends of low literacy achievement represented in national literacy assessment results (NAEP, 2018), this need is especially critical for novice teachers who teach in schools that serve low-income and less advantaged communities. Extant evidence shows that through coaching, teachers can advance in their expertise, and in turn, provide the highly effective instruction that leads to student achievement.

Professional development that promotes authentic teacher growth requires opportunities for learning that are contextualized, sustained, and cognitively engaging for the facilitator and the learner (Darling-Hammond & Richardson, 2009; Shulman, 1986; Wei, et al., 2010). Additionally, expert teachers display reflective dispositions toward their instruction and routinely consider the relationship between their instructional choices and student learning (Berliner, 1988; Schön, 1983; Shulman, 1986). Given that, effective professional development models provide opportunity and support for the development of these reflective habits of mind. This study was framed in these principles.

I set out to investigate video as a literacy coaching tool because of video's unique

affordances that positions teachers as observers of their own instruction, a position that promotes teachers' active engagement in reflection and analysis (Marsh & Mitchell, 2014; Sherin & van Es, 2005). When teachers are provided opportunity to reflect and analyze their own instruction, they are more likely to employ suggestions aimed at improving their practice (Tripp & Rich, 2012). This study contributes to the coaching literature in that it investigated the growth of in-service, early career, urban, middle school literacy teachers in the context of a collaborative, co-viewing model of video-aided model. Additionally, the study design quantified teachers' uptake of coaching that occurred during collaborative viewing and analysis of teachers' instructional videos.

At the end of the six cycles of video aided coaching, each teacher advanced toward expertise in the articulation of highly effective literacy instruction. This advancement was not a direct trajectory, nor was it evenly distributed across the represented instructional domains. Rather, instances of effective implementation of focal strategies were understood as evidence of a teacher's capacity while fluctuating rating scores suggested the need for further support to achieve routinely effective implementation.

The impetus for this study was to develop a coaching model that supported a more comprehensive uptake of complex, multidimensional instructional practices (e.g., cognitive strategy instruction, writing process, facilitating text-based discussions) aimed at developing adolescent students' literacy. The findings of the present study aligned with similar research. Teachers incorporate aspects of complex instructional practices more or less readily than others (Sailors & Price, 2010; Pomerantz & Pierce, 2013; Teemant et al.,

2011). Researchers found teachers less frequently provided explanations of procedural knowledge (as Beth, but unlike Angela), facilitative feedback (as Corrie), or but more readily provided explanations of useful comprehension strategies (as Beth) (Pomerantz & Pierce, 2013; Sailors & Price, 2010). Overall, the present study aligns with these coaching studies; teachers achieved effective implementation on some aspects of coached instruction, and little or no growth in others.

In the following sections, I continue to situate the findings of this study in the literature of effective professional development and the affordances of video aided instructional coaching models. I organize the discussion in the phases of video – aided literacy coaching: *revisiting* instruction, *reflecting* with a more knowledgeable other, and *refining* instruction (Shulman, 1987) through co-planning and practice. I conclude with implications for practice, considerations for future research, and limitations of the present study.

Reliving the Instruction

Researchers report that when teachers view videos of their own instruction, they are able to see their teaching from a new perspective, that of a critical observer. With that, teachers are able to see features of their instruction that may have gone unnoticed during teaching and as a result, see for themselves the need for change in their own practice (Borko et al., 2008; Sherin & van Es, 2009; Tripp & Rich, 2012). Because these observations are made in the context of their own classrooms, curriculum and students, teachers are more likely to regard subsequent feedback and suggestions as trustworthy, and in turn, more likely to act on them (Tripp & Rich, 2012).

The results of the present study align with these findings. First, as evidenced by the frequency counts and reflections made during co-viewing sessions, the teachers responded to viewing videos of their instruction in similar ways as described in previous studies (Ermeling, 2010; Tripp & Rich, 2012). Teachers made consequential observations and make causal connections between instructional choices and students' learning outcomes (Ermeling, 2010). Researchers contend that it is this opportunity to *see* their instruction that accounts for the uptake of new practices (Sherin & van Es, 2005),

Moreover, video analysis provides opportunity for teachers view their own instruction outside the simultaneous demands of delivery the instruction – an affordance particularly important for novice teachers for whom instruction requires the greater portion of their cognitive focus.

Second, when teachers video record their instruction, they essentially create a detailed text that can be revisited and reviewed for multiple reasons (Brophy, 2004; Gelfuso & Dennis, 2014). The present study confirms Rosaen et al.'s (2008) conclusion that this replaying capability of video allows teachers and coaches to make more detailed, complex, and specific observations than memory-based recollections of the instruction may allow. It was also helpful in recognizing opportunities to increase the productive and high quality talk among students. Beth's comment echoes this idea,

> One of the first videos that we watched there was a lot of me talking, a lot of teacher talk. To be able to see that rather than just hear it, hey tone down on the teacher instruction, focus more on student, I was able to actually tone down on that and focus more on figuring out ways for students to actually engage in social

learning. (May 30, 2017)

Third, I add that having the video record of instruction to share provided another affordance that shifted the relationship between coach and teacher. Having the video reduced or eliminated the need to start each coaching session with a reconstruction or negotiation of an observed instructional episode as is the often the case in recollection based coaching models. Instead, our co-viewing sessions often started with teachers offering summary statements of intention, descriptions of new strategies tried, or problems of practice that needed solutions. They were sharing their instruction with me. To emphasize, with video-aided coaching it was the teacher that came to the conversation with more *information* or *insights* about the instructional episode than the coach – a subtle, but perhaps important shift that changes the coach-teacher dynamic.

Rainville and Jones (2008) considered these issues of power and positioning as it relates to coaching. Rainville and Jones draw on Gee's (1999) concept of "situated identities" the "different identities or social positions we enact and recognize in different settings" (p. 12), to examine coach-teacher interactions and relationship. In sum, Rainville and Jones posit how coaches engage with teachers is worthy of examination and conclude that making adjustments that serve to position teachers as equal partners in the learning is consequential:

> Conscious and strategic self-positioning by a coach as a learner or coparticipant is not only possible but also can open up spaces in which teachers feel they can take control of their professional development and experiment with ideas that could change their practices (p. 447).

In sum, when coaching models include opportunities for teachers to view their own instruction, teachers are positioned in new ways. First, they gain new perspective on their teaching as an observer rather than participant – freeing their attention to reflect and analyze in ways that are not possible during the 'live' teaching, nor in ways that recollection based coaching models allow. Second, through video, teachers observe their instruction with the same perspective as the coach. The coach does not have proprietary knowledge for having already observed, nor is the teacher positioned as a recipient of the coach's interpretations without the benefit of the same observational view. This equalization of the power relationship between coach and teacher likely extends past the observation of the instruction to the reflection on and the refinement of the instruction itself. In the next section, I discuss the collaborative context in which videos were viewed for video viewing that is central to this coaching model.

Reflecting on the Instruction

Research provides evidence that when teachers collaborate with more knowledgeable others during or after video viewing, there is increased reflection around current and future instruction (Ermeling, 2010; Gelfuso & Dennis, 2014; Rich & Hannafin, 2008; Sherin, 2007; Tripp & Rich, 2012; Wilkinson et al., 2010). Conversely, when teachers engage in post viewing discussions of problems of practice without expert support, they were limited in their ability to generate instructional strategies (Christ et al., 2012)

This can be best understood through social learning theories that posit that learning is a social endeavor that is mediated by the language we use to communicate,

question, and clarify ideas (Vygotsky, 1978). Artifacts and tools that represent and extend the learning – in this case, the instructional videos, further support this social exchange of ideas. Learners can also be supported by more knowledgeable others that help learners do more than could be done independently. This help comes in the form of modeling, external voicing of processes, and guiding prompts.

In this present study, I created a collaborative space for co-viewing and co-analysis of video footage with the purpose of supporting teachers as they engaged with their own instruction. I guided teachers to notice consequential events as a means of developing their "professional vision" – modeling how "teachers identify significant interactions in the context of a classroom" (Sherin & Russ, 2015, p. 4). I prompted teachers to make causal connections between instructional moves and student learning (Ermeling, 2010), and shared my own thinking while reflecting with them. I engaged teachers in in what Wilkinson and colleagues (2010) termed "scaffolded talk" (Wilkinson et al., 210, p. 45), or talk that included reflections on practice and development of next steps to improve practice. In short, I provided a model of the thinking processes that occur during reflection. As Beth commented at the end of the study,

> I definitely think the coaching sessions, being able to view together and debrief together helped me process what I needed to work on and what my strengths were, too. I think that bouncing ideas off somebody that is in the coaching role helped out quite a bit. (May 30, 2017)

Another aspect of collaborative analysis came from the teacher contributions to the direction and focus of the coaching cycles. As Neufeld and Roper (2003b) reported

during the second year of a literacy coaching implementation, when teachers felt ownership and agency in their professional development, as well as space to establish their own personal goals, their investment and engagement increased. This may explain some of the patterns of frequency and quality improvement in the implementation attempts observed in the data. In this present study, the instructional suggestions that were most aligned to the teachers' own interests or goals were also the most frequently and effectively implemented – over those that were secondary to that goal. For example, Angela was highly motivated to explain reading strategies well, and her procedural knowledge code was highly implemented: less so, the instructional suggestion to provide clear knowledge goals for lessons. It may have been that with less intrinsic drive, Angela was less motivated to attend to knowledge goals in her instruction. In Corrie's case, the agency to shift the focus of coaching on student discussion

Refining the Instruction

Refinement was supported through the routine cycles of recording, viewing, and implementing. Drawing on the research that suggests differentiated coaching is an effective practice (Robertson, et al., 2014; Stover, et al., 2011). This coaching model was differentiated in its design, each teacher's current knowledge base influenced how much time and coaching were provided for a given strategy. While the findings show more coaching would likely refine the target practices further, the increased effectiveness of implementation speaks to responsive coaching.

Using Duffy's (1993) notion of points of progress, we can understand how the coaching was able to start at the point of the teacher's current practice. For example, both

Angela and Beth focused their coaching on effective implementation of cognitive strategies. Angela was earlier in her development than Beth. She was interested in learning a new strategy, but at the same time, as a novice teacher, was more reliant on existing ways of doing. Angela needs differed from Beth, who had more prior knowledge of the strategy instruction, but was ready to increase the authentic enactment of strategies in response to task and text. Duffy noted, it takes different amounts of time to arrive at different levels of understanding and implementation of strategies, and support of teachers in these different points needs to be responsive. Moreover, effective coaches draw from multiple models, tools, and actions to support teachers (Walpole et al., 2010). In reflecting on Angela's more limited development over the six weeks, it may be that more robust growth would have been achieved with a combination of video aided coaching and other strategies such as coach demonstration, co-teaching, and article study.

Lastly, in terms of refinement, teachers began to effectively layer or combine instructional suggestions. This speaks to a key proposition of this study: the idea that highly effective instruction is not necessarily one effective strategy at play, but the synergy of multiple strategies together to develop students' content knowledge and skills. A closer analysis of the cases shows episodes of this synergistic teaching.

Corrie focused on improving the quality and quantity of student participation in discussions in her classroom. During video five, Corrie implemented suggestions that students take on specific roles as a means of providing participation options. In the video, students are seen acting as critical observers and peer coaches. However, the effectiveness of this implementation was diluted in the context of a large, whole class

discussion format. In video six, students continued their roles. This time, the effectiveness was amplified because the discussions are happening in smaller, heterogeneous groups. Both suggestions, the roles and small groups, had been provided earlier in the coaching, but here, we see them working together to positive effect on participation (Soter et al., 2008; Wilkinson, et al., 2010).

For Beth, this synergy was observed in video six. Here, Beth effectively enacted suggestions for instruction around strategic teaching and active learning opportunities. In earlier videos, Beth provides scaffolded practice and process-oriented talk; but it is in video six that she effectively combined active engagement strategies, inclusive classroom talk, procedural knowledge, and scaffolded practice during a writing class.

Angela, while still developing the suggested instructional strategies, enacts multiple strategies well in video five. Angela provides an objective, and develops declarative and procedural knowledge followed by opportunity for peer-scaffolded practice. In short, Angela recorded a fairly comprehensive enactment of strategic teaching.

Video Aided Coaching for In-Service Reading Teachers

This study contributes to the limited literature on video-aided coaching in terms of its implementation in schools with inservice teachers (Christ et al., 2012; Osipova et al., 2011; Wilkinson et al., 2010). The follow section describes affordances and challenges of a video-aided coaching model implemented in a school setting.

Time was a major factor for all teachers through the study. Multiple events, meetings, and coverage issues pulled on their time. Video recording served to mediate

those challenges in that the videos were held in time. That is, the recorded instruction was saved for reviewing when a coaching debrief was rescheduled or delayed. In this way, the instructional episode had a longer "shelf life" in that what would have been forgotten if memory-based recollection was required, and was fresher as a result of the ability to replay and re-view. Angela noted in a comment about why she felt the video-aided coaching was successful for her, "That is a super important point – about why I think it is so successful. I wouldn't have remembered everything that I did." In another instance, Beth and I had pressed pause on our session and restarted it the next day.

However, it was often a challenge to fit video viewing, co-analysis, and development of next steps in the 50-minute teacher preparatory time in which these co-viewing sessions were held. These sessions sometimes felt rushed and I worried that teachers did not have time to process what was discussed or suggested. During the study, Corrie remarked that she experienced a challenge remembering the ideas shared in the CVBC session. She took notes, but it was hard to focus on the video and simultaneously discuss current and future instruction. Angela noted, even when taking notes, the new ideas offered were sometimes difficult to record. A noted refinement of the coaching model is to add a memo or shared electronic document that can recap or summarize the session. Additionally, this could be developed into a custom resource site for the teacher, with their videos, supplemental texts and articles, and other supportive resources to aid the teacher in the implementation of new strategies.

Implications for Practice

The study, while limited by its duration and its small-scale case study design, does offer sufficient evidence to support further implementation and investigation of this video-aided literacy coaching model. First, the model has potential to maximize the impact of a literacy coach in a school setting. Given the scheduling demands of observing multiple teachers, video-aided coaching increases the instructional episodes that can be "viewed" and discussed in a given day (Breslow, 2017). Any number of teachers could record during a time period with follow-up co-viewing sessions scheduled over the following days. In this way, existing technology, or relatively inexpensive technology purchases (e.g., *iPads*, school issued smartphones) could allow a coach to provide fairly intensive coaching for more teachers than is typically possible. This is a critical need for coaches working in school with high percentages of novice teachers. Increasing novice teachers' access to meaningful, individualized, support from a literacy coach improves teachers' sense of efficacy (Cantrell & Hughes, 2008), instructional practices (Blachowicz, et al., 2004; L'Allier & Elish-Piper, 2010), and promotes habits of reflection characteristic of more expert teachers (Stover et al., 2011).

Second, while this study focused on the organic emergence and evolution of coaching goals via co-analysis of instructional videos and goal-oriented discussions, districts often have instruction initiatives for reading teachers. Allowing goals to organically emerge while viewing baseline or subsequent videos honors teachers' professional vision for themselves and positions the coaching as a shared endeavor. Personal goals could then be crafted to complement or support necessary school and

district goals.

Third, while this study isolated video-aided coaching as the sole coaching activity used to support teacher growth, the recommendation would be to use this model as one of many coaching activities that best serve teachers. Complementing video-aided coaching with lesson analysis, articles, and other knowledge-building activities may act as supports to the intense video coaching

Recommendations for Future Study

This study was limited by its scope and design; however, it raises the potential for future research. Primary would be to conduct more research into the use of video aided coaching model in secondary literacy classrooms. Second, develop more study designs that trace the teachers' uptake of coaching suggestions and so, report outcome data on teacher change. Further, larger scale studies increase the scope of the research to include more participants to strengthen the outcomes. Limited research on video aided coaching for in service literacy teachers at the secondary level prompt a call for more investigations in this setting.

Second, collecting student data to measure potential changes in achievement is also a necessary next step. This coaching model could also be evaluated in the context of specific disciplines, as well as undergo a more rigorous comparison across domains and instructional strategies. Finally, how this coaching model might fit in with other coaching methods and how this combination might serve teachers would add to the coaching literature.

Extant research over the last decade has provided strong support for literacy

coaching as a means of raising teacher efficacy. Given the increasing demands of 21st teaching and learning and the persistently low performance trends in high-poverty schools, now is the time to build on this firm foundation. Now is the time to explore innovative coaching models that leverage new technologies to support teachers as they strive to meet the needs of the growing number of diverse learners in today's classrooms.

APPENDIX A

Coding and Rating Manual

The instructional videos are analyzed in two ways. The first is to identify implementation attempts of the suggestions for instruction that emerged from the co-viewing sessions. Each identified attempt is tallied under its respective SI code. The second analysis rates the effectiveness of the implementation attempt on a 3-point scale.

Procedures

Counting implementation attempts

1. View the video in its entirety.
2. View the video a second time to determine the instructional episodes. Mark the time for beginning and end of each episode.
3. View the episodes to identify implementation attempts of the applicable SI codes contained in the teacher's Suggestions for Instruction table. Tally each identified implementation attempt under its respective code on the participant's Implementation Summary Table.

Rating video recorded instruction

1. As implementation attempts are identified and tallied, assign one of the implementation ratings: 2 (effective), 1 (developing effectiveness) or 0 (no implementation attempt was made despite opportunity to do so). A not applicable rating (n/a) is assigned to a specific code in an instructional episode if no opportunity to implement the code was observed. See Implementation Rating Scales to guide rating processes (Appendix C).

2. Record rating with corresponding tally on the participant's Implementation Summary Table.

Instructional Episodes

The unit of analysis is video recorded instructional episodes that are bound by a particular instructional focus (e.g., vocabulary, comprehension instruction, writing) (Sailors & Price, 2010). An instructional episode can range from a single teacher statement or multiple teacher- student turns. Video segments of non-instructional activities (e.g., discussing school schedule, school/class events) will not be segmented**.**

APPENDIX B

Code Tables

Table 10: Angela's Suggestions for Instruction Code Table

Topic	Code	Definition	Example
Declarative knowledge: Lesson organization (Duffy, 2014; Paris et al., 1994)	A1 DK: LO	Provide students information regarding the lesson's organization. What activities will the class do and in what order. Organization is shared through written agenda and/or verbal review.	Today, we are going to first read the selection. Then we are going to share our questions.
Declarative knowledge, Literacy goals (Paris et al., 1994)	A1 DK: LG	Develop knowledge of a literacy strategy and goal Provide text information before reading: (e.g., What, why, how). Elicit prior knowledge, genre information, author's purpose, and helpful reading strategy aimed at assisting readers in making meaning.	*C: Today we are going to be reading a nonfiction article about gorillas to learn more about how they live in the wild. Remember, Ivan was fiction. This selection is nonfiction. This is what the author's purpose likely is not so much to entertain us anymore but to give us information. We can learn what wild gorillas need to thrive.*
Procedural knowledge: Model (Paris et al., 1994)	A2 PK: M	Develop knowledge of how to apply a strategy Provide demonstration of strategy using a think aloud. Debrief models to make explicit what you were doing, why, and when. Provide visual display of text during think-aloud	*C: Your visual while you are thinking through your annotation is really clear. The highlighting - the careful note taking - your annotations are so easy to follow. I wonder if you could add to that the thinking you do in your head that helps you get there. Can you verbalize that?*
Declarative knowledge:	A2 DK: KG	Establish what will likely be learned about the world as a	*C: You are teaching kids about the world - a*

Knowledge goals (Guthrie & Humenick, 2004; Guthrie, Klauda, & Ho, 2013)		result of reading the text Position literacy strategies as practiced in the service of knowledge acquisition.	*knowledge goal. What were the attitudes about slavery in this time period? How are we going to learn that? And you selected a reading strategy - a literacy goal - a way for them to attain the knowledge goal and be better readers by teaching them how to close read for bias.*
Procedural knowledge: Guided practice (Duffy, 2014)	A2 PK: GP	Use the gradual release of responsibility (Pearson & Gallagher, 1983) to gradually reduce support until students apply strategy independently. Provide scaffolded opportunities to practice newly learned strategies. Ask questions that prompt discussion of the processes students used.	*C: Bring it [practice] closer to the direct instruction - model with your think aloud - and pencil out some strategy steps in a succinct way - and you have posted - representing what you did and then say, let's try it together.* *You have provided them two forms of scaffolding, a partner and the strategy.* *How did you know that?*

Table 11: Beth's Suggestions for Instruction Code Table

Topic	Code	Definition	Example
Instructional Pacing (Berliner, 1986)	B1 P	Provide brisk instruction that maintains student engagement and understanding Use clear and concise directions that move students efficiently to reading and writing activities. Develop efficient routines and organization of materials.	*T: They are taking a while. I don't know where they are with this, but it seems they are doing a lot of digging to get things.* *C: Try grouping materials together. Ask, how can I get right to that objective as quick as I can because attention is finite?*
Declarative knowledge: Literacy goals (Paris et al., 1994; Duffy et al., 1986)	B2 DK	Develop students' knowledge of the strategy they will learn (Paris, Lipson, & Wixson, 1994). Increase student engagement in this lesson component through active learning /inquiry opportunity.	*C: What if you gave them a blurb about classification as a text structure and ask them to develop a draft definition for classification.*
Procedural knowledge: Model (Paris et al., 1994; Duffy 2014)	B2 PK	Develop students' knowledge of how to apply a strategy. Develop concise and focused models and demonstrations.	*T: Watch me while I use this classification text structure to understand the main ideas and details about the camps.*
Procedural knowledge: Guided practice (Duffy, 2014)	B5 PK: GP	Coach students in using strategy. Provide reinforcing statements that encourage and refine strategy use. Provide actionable steps. Gather small groups of students with similar needs to provide just in time re-teaching and support.	*Guided practice is to practice or apply the strategy that you just co-constructed. Ask, "let's look at the thinking steps that we just debriefed where..." build a hook by tapping into an interesting fact, an emotion, to an unexpected claim. Which one would you like to try?" Connecting it back to your modeling into guided practice.* *C: Try to group students with similar instructional needs and provide small group instruction.*

Table 12: Corrie's Suggestions for Instruction Codes

Topic	Code	Definition	Example
Instructional pacing (Berliner, 1986)	C1 Pacing	Provide brisk instruction that maintains student engagement and understanding Use clear and concise directions that move students efficiently to reading and writing activities. Develop efficient routines and organization of materials.	*Ask, how can I get right to that objective as quick as I can because attention is finite?*
Procedural knowledge: Model (Paris et al., 1994)	C1 PK: M	Develop students' knowledge of how to apply a strategy. Develop concise and focused models and demonstrations.	*C: You don't think doing this class in two groups might be it? Maybe fishbowl one group doing a Socratic and other are watching using the rubric checklist? What do you see them doing? Have your [more proficient students] model what a rich discussion is like.*
Procedural Knowledge: Guided practice (Chinn, Anderson, & Waggoner, 2001; Soter et al., 2008)	C3 PK: GP	Increase options for student participation in discussions through roles (e.g., data collectors, peer coaches)	*C: That has me thinking about teams! Maybe you could have them working in teams. Student A is talking and you could be behind the scenes finding more evidence to support what she is saying.*
Discussion: Structures (Soter et al., 2008)	C4 D: STR	Increase student participation in discussions through changes in the discussion structure (e.g., smaller groups)	*C: For Socratic Seminar, if you have the circle within a circle. What if you alternate? Week one, you are in the inner talking, and then the next week, you are in the outer.* *T: Yes, it's a big class. There is definitely a factor. I have lots of kiddos in here who have a*

			problem talking in front of the class. Not their idea of a good time
Procedural Knowledge: Teacher Facilitation (Soter et al., 2008)	C5 PK: TF	Improve the quality of discussions (Soter et al., 2008)	*C: I wonder though, the move of "I think what you are talking about is this...What in the text can you use to support that idea?* *T: Yes, reminding them. Keep talking about this if that is what you are interested in, but embedded it in the text."*

APPENDIX C

Implementation Rating Scales

Table 13: Angela's implementation rating scale

	2 - Effective	**1- Developing**	**0 - No evidence of implementation**
A1 CT: LO Lesson organization (Duffy, 2014)	Communicates clear learning objectives through written agenda and/or verbal review. Communicates the what, why, and how of the lesson.	Attempts to communicate clear learning objectives written agenda and/or verbal review, but message is unclear or incomplete.	Teacher does not communicate learning objectives.
A1 DK Declarative knowledge: Literacy goal (Paris, et al., 1994)	Develops knowledge of a strategy and goal through definitions, connections to background knowledge, and examples. Instruction is effectively placed in lesson sequence.	Attempts to develop knowledge of a strategy and goal, but definitions, examples, and/or connections to prior knowledge need revision to be effective	No development of declarative knowledge.
A2 DK: KG Knowledge goals (Guthrie, 2011)	Establishes a clear knowledge goal that is connected to the literacy tasks through an explicit statement/explanation	Attempts to establish a knowledge goal but revision is needed or improved connection to the literacy tasks is needed.	Teacher does not establish a knowledge goal.
A2 PK Procedural knowledge: Model (Paris, et al., 1994; Roehler & Duffy, 1984;)	Develops knowledge of how to apply strategy through modeling and think-aloud. Debriefs model to develop heuristics.	Attempts to develop knowledge of how to apply strategy but model needs revision to be effective and/or debrief is missing or needs revisions to establish heuristic.	Teacher does not develop knowledge of how to apply strategy.
A2 PK:GP Guided	Provides scaffolded practice to support the	Attempts to provide a scaffolded practice to	Teacher does not provide scaffolded

Practice (Roehler & Duffy, 1984)	development of strategy through peer partnerships, teacher conferencing, graphic organizers and other scaffolds.	support the development of strategy but scaffolds are missing or need revision	practice to support the development of strategy.

Table 14: Beth's implementation rating scales

	2 - Effective	**1- Developing**	**0 - No evidence of implementation**
B1 Pacing (Berliner, 1986)	Provides clear and concise directions and facilitates efficient routines. Provides brisk instruction that maintains engagement and promotes understanding through most of lesson.	Attempts to provide clear and concise directions and routines but revisions are needed. Provides some brisk instruction that maintains engagement and promotes understanding.	Does not provide concise or clear directions, does not establish efficient routines. Pace of most of the instruction is too slow or fast to maintain engagement or promote understanding
B2 DK Declarative knowledge: Literacy goal (Paris, et al., 1994)	Develops knowledge of a strategy and goal through definitions, connections to background knowledge, and examples. Increases student engagement during this lesson component through active learning /inquiry opportunity.	Attempts to develop knowledge of a strategy and goal, but definitions, examples, and/or connections to prior knowledge need revision to be effective. Attempts to increase student engagement in this lesson component, but revision is needed.	Does not develop knowledge of a strategy and goal.
B2 PK Procedural knowledge: Model (Duffy, 2014; Paris, et al., 1994)	Develops knowledge of how to apply strategy through concise and focused modeling and think-alouds. Debriefs model to establish heuristic	Attempts to develop knowledge of how to apply strategy but model needs revision to be concise or focused and/or debrief is missing or needs revisions to establish heuristic.	Teacher does not develop knowledge of how to apply strategy.
B5 PKGP Guided Practice (Roehler & Duffy, 1984;	Provides scaffolded practice to support development of strategy. Provides reinforcing	Attempts to provide scaffolded practice to support development of strategy, but instruction needs revision.	Does not provide scaffolded practice opportunities.

Duffy, 2014)	statements that encourage and refine strategy use. Works with small groups of students with similar needs to provide just in time re-teaching and support.	Works with individuals to provide support during strategy practice.

Table 15: Corrie's implementation rating scales

	2 - Effective	**1- Developing**	**0 - No evidence of implementation**
C1 Pacing (Berliner, 1986)	Provides clear and concise directions and facilitates efficient routines. Provides brisk instruction that maintains engagement and promotes understanding through most of lesson.	Attempts to provide clear and concise directions and routines but revisions are needed. Provides some brisk instruction that maintains engagement and promotes understanding.	Does not provide concise or clear directions, does not establish efficient routines. Pace of most of the instruction is too slow or fast to maintain engagement or promote understanding
C1 PK Procedural knowledge: Model (Paris, et al., 1994; Roehler & Duffy, 1984)	Develops knowledge of how to apply strategy or skill through demonstrations, models, and think-aloud. Debriefs model to develop heuristics.	Attempts to develop knowledge of how to apply strategy but model needs revision to be effective and/or debrief is missing or needs revisions to establish heuristic.	Teacher does not develop knowledge of how to apply strategy.
C3 PK: GP Procedural Knowledge: Guided Practice (Soter et al., 2008)	Increases participation in student-led discussion through student-generated feedback (e.g., critical observer, peer coaches)	Attempts to increase participation in student-led discussion through student-led feedback (e.g., critical observer, peer coaches), but revisions are needed	Does not use participation options to increase participation in student-led discussions.
C4 D: ST Discussion: Structure (Soter et al., 2008)	Organizes discussion into small, heterogeneous groups, students control talk turns	Some changes to discussion that reduces group size, but further restructuring is needed; students control turns	Discussion structure is primarily large group; no structural changes made to reduce group size
C5 PK: TF Procedural knowledge:	Provides prompts aimed at increasing text evidence during	Attempts to provide prompts aimed at increasing text	Does not provide feedback and prompts aimed at increasing text

Teacher Facilitation (Soter et al., 2008)	student-led discussions.	evidence during student-led discussions, but revision is needed, or infrequent feedback/comments provided.	evidence

References

Allington, R. L., & Johnston, P. (2001). Characteristics of exemplary fourth grade instruction. *Research on Effective Teaching*. Newark, DE: International Reading Association.

Allington, R. L., Johnston, P. H., & Day, J. P. (2002). Exemplary fourth grade teachers. *Language Arts, 79*(6), 462-466.

Alvermann, D. E. (2002). Effective literacy instruction for adolescents. *Journal of Literacy Research*, *34*(2) 189-208.

American Community Survey (2016). American fact finder: Educational attainment. U.S. Census Bureau. Retrieved from https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF

Atteberry, A., & Bryk, A. S. (2011). Analyzing teacher participation in literacy coaching activities. *The Elementary School Journal, 112*(2), 356-382.

Bean, R. M., Draper, J. A., Hall, V., Vandermolen, J., & Zigmond, N. (2010). Coaches and coaching in Reading First schools: A reality check. *The Elementary School Journal*, *111*(1), 87-114.

Berliner, D. C. (1986). In pursuit of expert pedagogue. *Educational Researcher, 15*(7), 5 -13.

Berliner, D. C. (1988). *The development of expertise in pedagogy*. Washington, D.C.: AACTE Publications

Biancarosa, G., Bryk, A. S., & Dexter, E. R. (2010). Assessing the value-added effects of literacy collaborative professional development on student learning. *The Elementary School Journal*, *111*(1), 7-34.

Billings, L., & Fitzgerald, J. (2002). Dialogic discussion and the Paideia seminar. *American Educational Research Journal, 39*(4), 907-941.

Blachowicz, C. L., Obrochta, C., & Fogelberg, E. (2005). Literacy coaching for change. *Educational Leadership 62*(6), 55- 58

Blamey, K. L., Meyer, C. K., & Walpole, S. (2008). Middle and High school literacy coaches: A national survey. *Journal of Adolescent and Adult Literacy, 52*(4), 310-323.

Borko, H., Jacobs, J., Eiteljorg, E., & Pittman, M. E. (2008). Video as a tool for fostering productive discussions in mathematics professional development. *Teaching and Teacher Education, 24*(2), 417-436.

Breslow, N. (2017). Technology takes coaching to scales: Investing in innovation grantees show how it's done. *The Learning Professional, 38*(6), 54- 62. Retrieved from https://learningforward.org/wp-content/uploads/2018/01/technology-takes-coaching-to-scale.pdf

Calandra, B. (2014). A process of guided, video-based reflection. In B. Calandra and P. J. Rich (Eds.), *Digital Video for Teacher Education*, pp. 36 – 52., New York, NY: Routledge.

Calandra, B., Brantley-Dias, L., & Dias, M. (2006). Using digital video for professional development in urban schools: A preservice teacher's experience with reflection. *Journal of Computing in Teacher Education, 22(*4), 137-145.

Calandra, B., Brantley-Dias, L., Lee, J. K., & Fox, D. L. (2009). Using video editing to cultivate novice teachers' practice. *Journal of Research on Technology in Education, 42*(1), 73-94.

Calandra, B., Gurvitch, R., & Lund, J. (2008). An exploratory study of digital video editing as a tool for teacher preparation. *Journal of Technology and Teacher Education*, *16*(2), 137-153.

Cantrell, S.C. & Hughes, H. K. (2008). Teacher efficacy and content literacy implementation: An exploration of the effects of extended professional development with coaching. *Journal of Literacy Research, 40*, 95-127

Cazden, C. (2001). *Classroom discourse: The language of learning and teaching.* Portsmouth, NH: Heinemann.

Chi, M., Glaser, R., Farr, M. (1988). *The nature of expertise*. New York, NY: Psychology Press.

Chinn, C. A., Anderson, R. C. & Waggoner, M. A. (2001). Patterns of discourse in two kinds of literature discussion. *Reading Research Quarterly, 36*(4), 378-411.

Christ, T., Arya, P., Chiu, M. M. (2012). Collaborative peer video analysis: Insights about literacy assessment and instruction. *Journal of Literacy Research, 44*(2), 171-199

Cochran-Smith, M. (2003). Teacher quality matters, *Journal of Teacher Education*, 54(2), 95-98 DOI: 10.1177/0022487102250283

Copeland, W. D., & Decker, D. L. (1996). Video cases and the development of meaning making in preservice teachers. *Teaching and Teacher Education*, *12*(5), 467-481.

Creswell, J. W. (2014). *A concise introduction to mixed methods research*. Thousand Oaks, CA: Sage Publications.

Crosson, A. C., Boston, M., Levison, A., Matsumura, L. C., Resnick, L. B., Wolf, M. K., & Junker, B. W. (2006). Beyond summative evaluation: The instructional quality assessment as a professional development tool. *CSE Technical Report* 691. National Center for Research on Evaluation, Standards, and Student Testing (CRESST).

Darling-Hammond, L. (2000). Teacher quality and student achievement. *Education Policy Analysis Archives*, *8*, 1.

Darling-Hammond, L., & Richardson, N. (2009). Research review/teacher learning: What matters. *Educational Leadership*, *66*(5), 46-53.

Denton, C. A., & Hasbrouck, J. A. N. (2009). A description of instructional coaching and its relationship to consultation. *Journal of Educational and Psychological Consultation, 19*(2), 150-175.

Dewey, J., & HMH, H. M. H. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process.* D.C. Heath, Boston.

Dillon, B. R., O'Brien, D. G., Sato, M. & Kelly, C. (2011). Professional development and teacher education for reading instruction. In M. L. Kamil, P. D. Pearson, E. B. Moje, P. P. Afflerbach (Eds.), *Handbook of reading research,* (vol. IV, pp. 629-660). New York, NY: Routledge.

Dole, J. A. (2004). The changing role of the reading specialist in school reform. *The Reading Teacher*, *57*(5), 462-471

Duffy, G. G. (1993). Teachers' progress toward becoming expert strategy teachers. *The Elementary School Journal*, *94*(2), 109–120

Duffy, G. G. (2014). *Explaining reading: A resource for explicit teaching of the Common Core Standards* (3rd ed.). New York, NY: The Guilford Press.

Duffy, G. G., Roehler, L. R., Sivan, E., Radcliffe, G., Book, C., Meloth, M. S., Vavrus, L. G., Wesselman, R., Putman, J., Bassiri, D. (1987). Effects of explaining the reasoning associated with using reading strategies. *Reading Research Quarterly, 22*(3), 347-368.

Elish-Piper, L., & L'Allier, S. K. (2010). Exploring the relationship between literacy coaching and student reading achievement in grades K–1. *Literacy Research and Instruction*, *49*(2), 162-174.

Ermeling, B. A. (2010). Tracing the effects of teacher inquiry on classroom practice. *Teaching and Teacher Education*, *26*(3), 377-388.

Every Student Succeeds Act (2015*).* S. 1177*:* Executive summary White House Report: Office of Press Secretary. Retrieved at http://edworkforce.house.gov/uploadedfiles/every_student_succeeds_act_-_conference_report.pdf

Ferguson, R. F. (1991). Racial patterns in how school and teacher quality affect achievement and earnings. *Challenge*, *2*(1), 1-35.

Ford-Connors, E., Dougherty, S., Robertson, D. A., & Paratore, J. R. (2015). Mediating complex texts in the upper grades. *Journal of Adolescent and Adult Literacy, 58*(8), 650-659.

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Education Research Journal*, *38*(4), 915–945.

Gee, J. P. (1999). Critical issues: Reading and the new literacy studies: Reframing the National Academy of Sciences report on reading. *Journal of Literacy Research, 31*(3), 355- 374.

Gelfuso, A., & Dennis, D. V. (2014). Getting reflection off the page: The challenges of developing support structures for pre-service teacher reflection. *Teaching and Teacher Education*, *38*, 1-11.

Gersten, R., Morvant, M., & Brengelman, S. (1995). Close to the classroom is close to the bone: Coaching as a means to translate research into classroom practice. *Exceptional Children, 62*(1), 52-66.

Graham, S., & Perin, D. (2007). *Writing next: Effective strategies to improve writing of adolescents in middle and high schools –A report to Carnegie Corporation of New York.* Washington, D.C.: Alliance for Excellent Education.

Guthrie, J. T., & Humenick, N. M. (2004). Motivating students to read: Evidence for classroom practices that increase reading motivation and achievement. In P. McCardle (Ed.), *The voice of evidence in reading research: Bringing research to classroom educators*, (pp. 329-354) New York, NY: Brookes Publishing.

Guthrie, J. T., Klauda, S. L., & Ho, A. N. (2013). Modeling the relationship among reading instruction, motivation, engagement, and achievement for adolescents, *Reading Research Quarterly, 48*(1), pp. 9-26

Guthrie, J., McRae, A., Klauda, S. L. (2007). Contributions of concept-oriented instruction to knowledge about intervention for motivation in reading. *Educational Psychology, 42*(4), 237 - 250

Hawley, W. & Valli, L. (1999). The essentials of effective professional development: A new consensus. In L. Darling-Hammond, and G. Sykes, (Eds.), *Teaching as the learning profession*. Handbook of Policy and Practice, San Francisco, CA: Jossey-Bass Publishers,

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses related to student achievemen*t. New York, NY: Routledge.

Heineke, S. F. (2013). Coaching discourse: Supporting teachers' professional learning. *The Elementary School Journal, 113*(3), 409-433.

Ingersoll, R., & Merrill, L. (2010). Who's teaching our children? *Educational Leadership, 67*(8), 14-20.

International Reading Association, Standards for Reading Professionals (2010). Retrieved from http://www.literacyworldwide.org/get-resources/standards/standards-for-reading-professionals

Joyce, B. R., & Showers, B. (2002*). Student achievement through staff development*. National College for School Leadership. Retrieved from https://www.unrwa.org/sites/default/files/joyce_and_showers_coaching_as_cpd.pdf

Kamil, M. L., Borman, G. D., Dole, J., Kral, C. C., Salinger, T., & Torgesen, J. (2008). *Improving adolescent literacy: Effective classroom and intervention practices: A Practice Guide* (NCEE #2008-4027). Washington, D.C.: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc.

Kane, T. J., Gelhbach, H., Greenberg, M., Quinn, D., & Thal, D. (2015). Best foot forward project: Leveraging video for learning. Center for Educational Policy Research, Cambridge, MA: Harvard University, Retrieved from http://www.cepr.harvard.edu/best-foot-forward-project

Kane, T. J. (2015, May, 18). Best Foot Forward Project intro. Retrieved from https://www.youtube.com/watch?v=AY-ZWRGYD_k

Knapp, M. S. (1995). *Teaching for meaning in high-poverty classrooms*. New York, New York: Teachers College Press.

Kennedy, E., & Shiel, G. (2010). Raising literacy levels with collaborative on‐site professional development in an urban disadvantaged school. *The Reading Teacher*, *63*(5), 372-383.

Knight D. S. (2012). Assessing the cost of instructional coaching. *Journal of Educational Finance, 38*(1), 52-80.

Langer, J. A. (2001). Beating the odds: Teaching middle and high school students to read and write well. *American Educational Research Journal*, *38*(4), 837-880.

L'Allier, S. K., & Elish-Piper, L. (2006/2007). Ten best practices for professional development in reading. *Illinois Reading Council Journal, 35*(1), 22-27.

L'Allier, S. K., Elish-Piper, L., & Bean, R. M. (2010). What matters for elementary literacy coaching? Guiding principles for instructional improvement and student achievement. *Reading Teacher, 63*(7), 544-554.

Learning Forward, (2015). *Standards for professional learning*. Retrieved from Learningforward.org.

Leinhardt, G., & Greeno, J. G. (1986). The cognitive skill of teaching. *Journal of Educational Psychology, 78*(2), 75.

Lockwood, J. R., McCombs, J. S., & Marsh, J. (2010). Linking reading coaches and student achievement: Evidence from Florida middle schools. *Educational Evaluation and Policy Analysis, 32*(3), 372-388.

Marsh, B., & Mitchell, N. (2014). The role of video in teacher professional development. *Teacher Development, 18*(3), 403-417.

Matsumura, L. C., Garnier, H. E., Correnti, R., Junker, B., & Bickel, D. D. (2010). Investigating the effectiveness of a comprehensive literacy coaching program in schools with high teacher mobility. *The Elementary School Journal*, *111*(1), 35-62.

Merriam, S. B. (2001). Andragogy and self‐directed learning: Pillars of adult learning theory. *New Directions for Adult and Continuing Education*, 2001(89), 3-14.

National Center for Educational Statistics (2018). U.S. Department of Education, Institute of Educational Sciences. Retrieved from nces.ed.gov

Neufeld, B, & Roper, D. (2003a). Coaching: A strategy for developing instructional capacity. Retrieved February 5, 2018 from http://www.annenberginstitute.org/sites/default/files/product/268/files/Coaching.pdf

Neufeld, B. & Roper, D. (2003b). *Expanding the work: Year II of Collaborative Coaching and learning in the Effective Practice schools*. Cambridge, MA: Education matters

Neuman, S. B., & Wright, T. S. (2010). Promoting language and literacy development for early childhood educators: A mixed-methods study of coursework and coaching. *The Elementary School Journal*, *111*(1), 63-86.

No Child Left Behind Act of 2001, P.L. 107-110, 20 U.S.C. § 6319 (2002).

Nystrand, M., Wu, A., Gamoran, A., Zeiser, S., & Long, D. A. (2003). Questions in time: Investigating the structure and dynamics of unfolding classroom discourse. *Discourse Processes, 35*(3), 1135-198.

Oakes, J., Franke, M., Quartz, K.H., & Rogers, J. (2002). Research for high-quality urban teaching: Defining it, developing it, assessing it. *Journal of Teacher Education*, *53*(3), 228-234.

Osipova, A., Prichard, B., Boardman, A. G., Kiely, M .T. & Carroll, P.E. (2011) Refocusing the lens: Enhancing elementary special education reading instruction through video self-reflection *Learning Disabilities Research and Practice, 26*(3), 158-171.

Osterman, K. F., & Kottkamp, R. B. (2004). *Reflective practice for educators: Professional development to improve student learning*. Thousand Oaks, CA: Corwin Press.

Paris, S. G., Wasik, B. A., & Turner, J. C. (1991). The development of strategic readers. In R. Barr, M. L. Kamil, P. Mosenthal, and P. D. Pearson (Eds.), *Handbook of Reading Research* (Vol. 2, pp. 609- 640). Mahwah, NJ: Erlbaum Associates.

Paris, S. G., Lipson, M. Y., & Wixson, K. K. (1994). Becoming a strategic reader. In R. B. Ruddell, M. R. Ruddell, and H. Singer (Eds.), *Theoretical models and processes of reading* (4th ed., pp. 788-810). Newark, DE: International Reading Association.

Patton, M. Q. (2002). *Qualitative research and evaluation methods.* Thousand Oaks, CA: Sage Publications.

Pearson, P. D. & Gallagher, M. C. (1983). The instruction of reading comprehension. *Contemporary Educational Psychology, 8*, 317-344.

Pianta, R. C., Mashburn, A. J., Downer, J. T., Hamre, B. K., & Justice, L. (2008). Effects of web-mediated professional development resources on teacher–child interactions in pre-kindergarten classrooms. *Early Childhood Research Quarterly*, *23*(4), 431-451.

Pomerantz, F., & Pierce, M. (2013). "When do we get to read?" Reading instruction and literacy coaching in a "failed" urban elementary school. *Reading Improvement*, *50*(3), 101-117.

Poglinco, S. M., Bach, A. J., Hovde, K., Rosenblum, S., Saunders, M., & Supovitz, J. A. (2003). The heart of the matter: The coaching model in America's Choice schools. *Consortium for Policy Research in Education Reports.* Retrieved from http://repository.upenn.edu/cpre_researchreports/35

Pressley, M. (2000). What should comprehension instruction be the instruction of? In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, and R. Barr (Eds.), Handbook of reading research (vol. III, pp. 545 – 562). Mahwah, NJ: Erlbaum

Pressley, M., El-Dinary, P. B., Gaskins, I., Schuder, T., Bergman, J., Almasi, J., Brown, R. (1992). Beyond direct explanation: Transactional instruction of reading comprehension strategies. *The Elementary School Journal, 92*(5), 513-555.

Pressley, M., & Gaskins, I. G. (2006). Metacognitively competent reading comprehension is constructively responsive reading: how can such reading be developed in students? *Metacognition and Learning, 1*, 99-113. doi: 10.1007/s11409-006-7263-7

Pressley, M., Wharton-McDonald, R., Allington, R. L., Block, C. C., Morrows, L., Tracey, D., et al. (2001). The nature of effective first-grade literacy instruction. *Scientific Studies in Reading*, *5*, 35-58.

Rainville, K. & Jones, S. (2008). Situated identities: Power and position in the work of a literacy coach. *The Reading Teacher, 61*(6), 440 – 448.

Rich, P. & Hannafin, M. (2008). Capturing and assessing evidence of student teacher inquiry: A case study. *Teaching and Teacher Education*, *24*(6), 1426-1440.

Robertson, D., Ford-Connors, E. & Paratore, J. R. (2014). Coaching teachers' talk during vocabulary and comprehension instruction. *Language Arts, 91*(6), 416- 420.

Roehrig, A. D., Bohn, C. M., Turner, J. E., & Pressley, M. (2008). Mentoring beginning primary teachers for exemplary teaching practices. *Teaching and Teacher Education*, *24*(3), 684-702.

Rogoff, B. (2003). *The cultural nature of human development*. New York, NY: Oxford University Press.

Rosaen, C. L., Lundeberg, M., Terpstra, M., Cooper, M., Fu, J., & Niu, R. (2009). Seeing through a different lens: What do interns learn when they make video cases of their own teaching? *The Teacher Educator, 45*(1), 1-22.

Roskos, K., Boehlen, S., & Walker, B. J. (2000). Learning the art of instructional conversation: The influence of self-assessment on teachers' instructional discourse in a reading clinic. *The Elementary School Journal*, *100*(3), 229-252.

Sailors, M., & Price, L. R. (2010). Professional development that supports the teaching of cognitive reading strategy instruction. *The Elementary School Journal*, *110*(3), 301-322.

Sailors, M., & Shanklin, N. L. (2010). Introduction: Growing evidence to support coaching in literacy and mathematics. *The Elementary School Journal, 111*(1), 1-6.

Sanders, W. L., & Rivers, J. C. (1996). Cumulative and residual effects of teachers on future student academic achievement. University of Tennessee Value-Added Research and Assessment Center. Retrieved from: http://beteronderwijsnederland.net/files/cumulative%20and%20residual%20effects%20of%20teachers.pdf

Sanders, W. L., Wright, S. P., & Horn, S. P. (1997). Teacher and classroom context effects on student achievement: Implications for teacher evaluation. *Journal of Personnel Evaluation in Education, 11*(1), 57-67.

Schoenfeld, A. H. (1985). Metacognitive and epistemological issues in mathematical understanding. *Teaching and learning mathematical problem solving: Multiple Research Perspectives, 89(*4), 361-380.

Schön, D. A. (1983). *The reflective practitioner: How professionals think in action* (Vol. 5126). New York, NY, Basic Books.

Shanahan, L. E., Tochelli-Ward, & Rinker, T.W. (2015). Insights into inservice teachers' video-facilitated reflection of literacy practices. In E. Ortlibe, M. B. McVee, L. E. Shanahan (Eds.) *Video reflection in literacy teacher education and development: Lessons from research and practice* (Literacy Research, Practice, and Evaluation, vol. 5, pp. 21-40), United Kingdom: Emerald Group Publishing Limited.

Shanklin, N. L. (2006). What are the characteristics of effective literacy coaching? *Literacy Coaching Clearinghouse*. Retrieved from https://files.eric.ed.gov/fulltext/ED530356.pdf

Sherin, M. G., & Russ, R. S. (2015). *Teacher noticing via video: The role of interpretive frames*. In B. Calandra and P. J. Rich (Eds.), Digital video for teacher education. New York, NY: Routledge.

Sherin, M. G. & Han, S. Y. (2004). Teacher learning in the context of a video club. *Teaching and Teacher Education, 20*, 163-183.

Sherin, M., & van Es, E. (2005). Using video to support teachers' ability to notice classroom interactions. *Journal of Technology and Teacher Education*, *13*(3), 475-491.

Showers, B., & Joyce, B. (1996). The evolution of peer coaching. *Educational Leadership, 53*, 12-16.

Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 4-14.

Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review, 57*(1), 1-22.

Smith, A. T. (2012). Middle grades literacy coaching from the coach's perspective. *Research in Middle Level Education Online. 35*(5), 1-16.

Slavin, R. E., Cheung, A., Groff, C., & Lake, C. (2008). Effective reading programs for middle and high schools: A best-evidence synthesis. *Reading Research Quarterly, 43*(3), 290-322.

Snow, C., Ippolito, J., & Schwartz, R. (2005). What we know and what we need to know about literacy coaches in middle and high schools: a research synthesis and proposed research agenda (Part 3). *Journal of Adolescent & Adult Literacy, 49*(4), S35-S35.

Soter, A. O., Wilkinson, I. A., Murphy, P. K., Rudge, L., Reninger, K., & Edwards, M. (2008). What the discourse tells us: Talk and indicators of high-level comprehension. *International Journal of Educational Research, 47*, 372-391.

Stover, K., Kissel, B., Haag, K., & Shoniker, R. (2011). Differentiated coaching: Fostering reflection with teachers. *The Reading Teacher, 64(*7), 498-509.

Sturtevant, E.G. (2003). *The literacy coach: A key to improving teaching and learning in secondary schools.* Washington, D.C., Alliance of Excellent Education. Retrieved February 4, 2018 from all4ed.org/publications/literacycoach/pdf

Supovitz, J. A., Mayer, D. P., & Kahle, J. B. (2000). Promoting inquiry-based instructional practice: The longitudinal impact of professional development in the context of systemic reform. *Educational Policy, 14*(3), 331–357.

Taylor, B., Pressley, M. & Pearson, P. D. (2000). *Effective teachers and effective schools: Trends across recent studi*es. Center for the Improvement of Early Reading Achievement. Ann Arbor, MI: Office of Education Research and Improvement.

Taylor, B. M., Pearson, P. D., Clark, K., & Walpole, S. (2000). Effective schools and accomplished teachers: Lessons about primary-grade reading instruction in low-income schools. *The Elementary School Journal*, *101*(2), 121-165.

Taylor, B. M., Pearson, P. D., Peterson, D. S. & Rodriguez, M. C. (2005). The CIERA school change framework: An evidence-based approach to professional development and school reading improvement. *Reading Research Quarterly, 40*(1), 40-69.

Teemant, A., Wink, J., & Tyra, S. (2011). Effects of coaching on teacher use of sociocultural instructional practices. *Teaching and Teacher Education*, *27*(4), 683-693.

Tripp, T. R., & Rich, P. J. (2012). The influence of video analysis on the process of teacher change. *Teaching and Teacher Education*, *28*(5), 728-739.

Tomlinson, C. A., & McTighe, J. (2006). *Integrating differentiated instruction and understanding by design: Connecting content and kids.* Alexandra, VA: Association for Supervision and Curriculum Development.

Vanderburg, M., & Stephens, D. (2010). The impact of literacy coaches: What teachers value and how teachers change. *The Elementary School Journal*, *111*(1), 141-163.

Van Keer, H., & Verhaeghe, J. P. (2005). Comparing two teacher development programs for innovating reading comprehension instruction with regard to teachers' experiences and student outcomes. *Teaching and Teacher Education*, *21*(5), 543-562.

Virshup, A. (1997). Grading teachers. *The Washington Post magazine: A special issue about education*, 14-17.

Vygotsky, L. (1978). *Mind in society: The development of higher mental process*. Cambridge, MA: Harvard University Press.

Walpole, S., McKenna, M. C., Uribe-Zarain, X., & Lamitina, D. (2010). The relationships between coaching and instruction in the primary grades: Evidence from high-poverty schools. *The Elementary School Journal*, *111*(1), 115-140.

Walpole, S., & McKenna, M. C. (2009). Everything you've always wanted to know about literacy coaching but were afraid to ask: A review of policy and research. In K. M. Leander, D. W. Rowe, D. K. Dickenson, M. K. Hundley, R. T. Jimenez, and V. J. Risko (Eds.), *58th Yearbook of the National Reading Conference*, (pp. 23-28). Oak Creek, WI: National Reading Conference, Inc.

Walpole, S., & McKenna, M. C. (2012). *Literacy Coach's Handbook: A guide to research-based practice*. New York, NY: Guilford Press.

Wei, R. C., Darling-Hammond, L., and Adamson, F. (2010). *Professional development in the United States: Trends and challenges*. Dallas, TX. National Staff Development Council.

Wertsch, J. V. (1991). A sociocultural approach to socially shared cognition. In L. B. Resnick, J. M. Levine, & S. D. Teasley (Eds.), *Perspectives on socially shared cognition* (pp. 85-100). Washington, DC, US: American Psychological Association.

Wilkinson, I. A. G., Reninger, K. B., & Soter, A. O. (2010). Developing a professional development tool for assessing quality talk about text. In R. T. Jimenez, V. J. Risko, M. K. Hundley, D. W. Rowe (Eds.), *59th Yearbook of the National Reading Conference* (Vol. 59, pp. 135-153). Oak Creek, WI: National Reading Conference, Inc.

Wilkinson, I. A. G., Soter, A. O., & Murphy, P. K. (2010). Developing a model of quality talk about literary text. In M. G. McKeown & L. Kucan (Eds.). *Bringing reading research to life: Essays in honor of Isabel L. Beck*, (pp. 142-169). New York, New York: Guilford Press.

Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry*, *17*(2), 89-100.

Yerrick, R., Ross, D., & Molebash, P. (2005). Too close for comfort: Real-time science teaching reflections via digital video editing. *Journal of Science Teacher Education, 16*(4), 351-375.

Yin, R. K. (2014). *Case study research: Design methods* (5rd ed.). Thousand Oaks, CA: Sage Publishing.

Yoon, K. S., Duncan, T., Lee, S. W.-Y., Scarloss, B., & Shapley, K. (2007). *Reviewing the evidence on how teacher professional development affects student*

achievement (Issues & Answers Report, REL 2007–No. 033). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southwest. Retrieved from http://ies.ed.gov/ncee/edlabs

Zhang, M., Lundeberg, M., Koehler, M. J., & Eberhardt, J. (2011). Understanding affordances and challenges of three types of video for teacher professional development. *Teaching and Teacher Education, 27*(2), 454-462.

Zwart, R. C., Wubbels, T., Bolhuis, S., & Bergen, T. C. (2008). Teacher learning through reciprocal peer coaching: An analysis of activity sequences. *Teaching and Teacher Education, 24*(4), 982-1002.

Curriculum Vitae