A MULTIPLE CASE STUDY EXAMINING INSTRUCTIONAL COACHING AND REFLECTIVE PRACTICES THROUGH VIDEO-BASED FEEDBACK SYSTEMS

by

Dennis A. Dotterer

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

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ABSTRACT

The purpose of this qualitative multi-case study was to examine the use of video-based instructional feedback models for three primary participants in a rural southern district. This qualitative study built upon the constructivist foundations of Mezirow's transformative learning theory and Kegan's constructive developmental theory, specifically connections to "ways of knowing" as it explored how the use of technology in teacher observations enhance adult learning and practice through enhanced reflection. This qualitative multi-case study sought to explain educators use video-based feedback to enhance teacher efficacy within the processes of instructional supervision. The focal participant of this study was one content-based classroom teacher at a primary school, elementary school, and high school from a southeastern rural school district. The examination included their experiences as well as those experiences through the lenses of their peers, instructional coaches, and administrators. The main sources of data included teacher observation artifacts, interviews for each participant, teacher classroom and post-conference videos, as well as video-based instructional feedback logs that accompanied those videos. Data analysis consisted of memoing, exploratory and descriptive coding, and sorting, allowing direct interpretation and synthesis for each case creating individual case themes as well as cross case themes.

Keywords: Video-based feedback, Adult learning, Teacher evaluation, Teacher reflection, Instructional coaching

Copyright Page

Dedication

The dedication of my dissertation is to my caring family. First, my loving wife was truly the perfect guide on the side. She knew exactly when to push and when I needed to be carried. Her emotional stability was the rock which anchored me in this process. Second, to my son. He always gave me pause to remember that he was watching me and would always point out when I wasn't quite to the level I needed to be. Third, to my daughter, whose sweet disposition reminded me that I always had the love at home, no matter how hard it became. Fourth, to my parents, who pushed me to be the best I could be and to never allow mediocrity to be the norm. And last, to Danny, my big brother. His spirt has been with me through everything I have done since that day. Knowing that I had eyes in heaven always watching over me and guiding me has been a blessing to my soul. But most of all, all praise goes to God, for without him I would not have accomplished anything!

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List of Abbreviations

Human Capital Management System (HCMS)

National Institute for Excellence in Teaching (NIET)

Professional Development (PD)

Professional Learning Community (PLC)

Student Learning Objective (SLO)

Formerly known as Teacher Advancement Program (TAP)

Video-Based Instructional Feedback or Video Feedback (VF)

CHAPTER ONE: INTRODUCTION

Overview

In school systems across the nation, school leaders, both administration and teacher leaders, are facing many challenges and hurdles to provide teachers with appropriate feedback based on classroom observations (Borko, Jacobs, Eiteljorg, & Pittman, 2008). As teacher quality has been consistently identified as the most important school-based factor in student achievement and teacher effects on student learning have been found to be cumulative and long lasting (Hightower, Delgado, Lloyd, Wittenstein, Sellers, & Swanson, 2011), it stands to reason that all teachers must be supported in the most effective yet individualized way in order to teach and meet the needs of all students. The development of video technology is reshaping the traditional methods of classroom observation (Borko et. al., 2008; Cuthrell, Steadman, Stapleton, & Hodge, 2016; Danielowich, 2104). In fact, the development of this technology has given rise to a wide range of new applications and possibilities for the use of video in professional development based on observational data (Danielowich, 2014; Kleinknecht & Schneider, 2013).

Over the last several years, teacher-education programs and professional development efforts have begun turning to video for several reasons:

(a) videos mitigate the inherent difficulty of identifying appropriate classroom placements for teacher candidates, an especially daunting task for large programs;

(b) they serve as a vehicle for sharing classroom interactions, exemplary practices, and specific learning experiences; and

(c) a growing body of research suggests that viewing videos focused on classroom interactions and instruction prompts teachers to reflect more deeply on classroom interactions and engage more actively and personally in the observation event (Cuthrell et

al., 2016, p.5).

One of the most significant applications is the establishment of remote video classroom observation, something that has meant that lesson observations are able to be conducted without visiting an actual classroom, through utilizing digital networks (Liang, 2015). In Wiesemes and Wang's research (2012), the principal interviewees stated that video observation allows every small detail about the lesson to be seen, the pupils and the classroom, which in turn allows the observer to relax and truly observe. With the emphasis on cognitive models in the late 1980s and 1990s, video-based research has refocused to using video to examine teacher thinking, decision making, and reflection (Rich & Hannafin, 2009). Furthermore, during recent years, video annotation methods have emerged that afford even greater power and utility for examining and improving reflective practices. Video observation tools allow an individual to both capture and analyze video of personal teaching practice, enabling teachers to review, analyze, and synthesize captured examples of their own teaching in authentic classroom contexts (Rich & Hannafin, 2009).

This dissertation explored the process of using video of these evaluations to provide opportunities to self-reflect and be provided feedback through video-based capture tools in a rural school district. The process of identifying best practices and self-reflecting on individual practices in relation to best practices was the focal point of this study. This study was necessitated due to the shortage of quality, empirically based research for the phenomenon of understanding the experience of classroom teachers using video-based feedback systems to enhance reflective practices in order to alter teaching practice within the classroom. Transformative learning and constructive developmental theories provided the framework for teacher learning in this study while social learning theory provided the framework for teacher

efficacy.

This chapter provides a thorough background regarding teacher observation practices as well as how the researcher was related to this particular research. Also within Chapter 1 is the description of the identified problem, purpose, significance of the study, and the central research question driving the study which seeks to find what factors are identified as central to the implementation of reflective practices through the use of video-based instructional feedback models. The research questions which guided this research focused on the effective use of video-based feedback systems to inform professional learning and coaching both in terms of pedagogy as well as understanding an individual's way of knowing. The chapter concludes with the definitions that will be vital to making connections across the various pieces of research.

Background

Teacher observations have long been considered the staple for supervision and reflection of teacher practice (Danielson, 2016). The generally understood purpose of these observations is to provide feedback to teachers to inform practice. The ability of teachers to receive this feedback on their teaching from observations, has been touted as one the most important factors for teacher development (Schon, 1983) and thus student achievement. As instruction has changed significantly over time, so has the supervision of that instruction as well as the purpose of said supervision. New research continues to emerge which in turn grows new practices of supervision and instructional feedback that allow teachers to hone their craft and create stronger instructional environments.

Historical

In its earliest days, teaching was not considered a profession, and therefore, no specific observation or evaluation structure was designed. This task was generally left to the local power

structures, which typically fell to the churches to assess the effectiveness of a school (Tracy, 1995). Teachers were generally considered a servant to the community, and therefore, the community committees were charged with nearly unlimited power to determine effective instruction (Burke & Krey, 2005). Due to lack of any agreement as to the importance of pedagogical expertise, teacher evaluation consisted mostly of monitoring the functions of the one room school-house, and not of the instruction that took place (Marzano, 2011). By the mid-1800s, the view of teaching saw it as a complex endeavor requiring complex feedback if expertise was to be fostered. Blumberg (1985) noted that it was at this time in history that supervision began to focus on improving instruction. The period from the beginning of formal education in the United States up to the mid-1800s saw the dawning of the awareness that pedagogical skills are a necessary component of effective teaching (Marzano, 2011).

In the early 20th century, a movement began that asserted scientific measurement into the assessment of teaching practices. Ellwood Cubberley published a book on *Public School Administration* (1929) that moved the concept of teaching practice from the supervision of factory management into what is now considered teaching best practices. Beginning at this time and continuing through the 1930's that began the tension of using standardized testing and data to form an opinion on the effectiveness of teachers (Marzano, 2011). Although designed in the late 50's, it was not until the mid-1970's that clinical supervision became the standard and what had begun as an opportunity to provide feedback to teachers quickly became the de facto structure for teacher evaluation. It was not until the early 1980s with the creation of the Madeline Hunter Model, that normed teacher observations and evaluation became the anticipated norm and thus the creation of a more universal observable evaluation model was implemented across much of the country (Fehr, 2001).

Dr. Carl Glickman (1985), in his book *Supervision of Instruction: A Developmental Approach,* was the first to address that observing for the purpose of improved practice must to take place in order to grow teacher effectiveness. By the fourth edition of his book (1998), he outlined a number of actions describing the purpose of supervision. They included: "(1) direct assistance to teachers, (2) group development, (3) professional development, (4) curriculum development, and (5) action research" (p. xv). It was at this point that the fundamental concept of supervision became apparent, "By understanding how teachers grow optimally in a supportive and challenging environment, the supervisor can plan the tasks of supervision to bring together organizational goals and teacher needs into a single fluid entity" (Glickman, 1998, p. 10).

In 1996, a seminal work on supervision and evaluation was published by Charlotte Danielson. *Enhancing Professional Practice: A Framework for Teaching*, which was updated in 2007, was based on her work with the Educational Testing Service that focused on measuring the competence of preservice teachers (Marzano, 2011). According to Danielson (1996), the intent of the framework was to accomplish three things: first, it sought to honor the complexity of teaching; second, it constituted a language for professional conversation; and third, it provided a structure for self-assessment and reflection on professional practice. Even though the research shows significant differences in teacher effects on student learning, teacher evaluations have historically categorized 98% of teachers as satisfactory, and teacher evaluation ratings have rarely been used to provide substantive feedback or inform districtwide, schoolwide, or individualized professional development or to make personnel decisions (Akers, 2016; Kane, 2012; Weisberg et al., 2009).

Social

In a study in one US district, Donaldson and Papay (2012) reported that teachers

believed that teacher evaluation can make them focus more on students' achievement. In a second study, Curtis (2012) found "The system's hope of raising expectations for teacher performance can be realized" (p. 20) through teacher observation and support. On the other hand, Hallinger, Heck and Murphy (2014) argued "there is remarkably little evidence that associates the new generation of teacher evaluation with capacity development of teachers or more consistent growth in the learning outcomes of teachers" (p. 18). Similarly, Bradshaw (2002) reported that without additional training and continuous support, teacher evaluation is merely a checklist policy. In addition, the study found little evidence that the evaluation policy led teachers to improve their instruction (Kim & Youngs, 2016).

There is a perceived lack of well-qualified teachers who are equipped with the knowledge and skills to improve student performance (Darling-Hammond et al., 2009). Therefore, there are two mechanisms by which one might improve the quality of student learning: first, selection, consisting of a combination of dismissing low-performers and improving the quality of individuals applying for and hired to administrative positions and second, development, of the capacity of the current teachers (Goff, Guthrie, Goldring, & Bickman, 2014). However, as stated previously, mere observation and evaluation will not be adequate for teacher growth. It is unlikely that providing teachers with feedback alone will induce behavioral change. Other systems and supports, such as leadership coaching and supported reflection, are needed to help make sense of feedback data and translate data into actionable behaviors (Goff et al., 2014).

The challenges of translating feedback into practice are not unique to education (Goff et al., 2014). In the private sector, coaching has been coupled with feedback to help give business leaders a better understanding of subordinate feedback (Thach & Heinselman, 2000). In these cases, coaches are able to help individuals receive criticism and to understand how to make this

feedback actionable. Showers and Joyce (1996) found that without coaching, only 5-15% of learning has been transferred from staff development programs into classroom teaching. Darling-Hammond (2010), found that educators most preferred form of professional development is coaching and onsite support. Although surprisingly little empirical support for the efficacy of coaching yet exists, many practitioners and scholars recommend coaching as a viable tool for improving educational practice (Wise & Jacobo, 2010).

Teachers and school leaders have begun to recognize videos as a form of professional development which provide opportunities to engage in these collaborative coaching discussions and develop shared understandings with colleagues regarding effective practices (Moyles et al., 2002). This practice is an extension of research identifying targeted reflection as a catalyst for facilitating professional dialogue, challenging teacher assumptions, and forging stronger links between theory, beliefs, and practice (Cherrington & Loveridge, 2014). It is no wonder then that video recordings of classroom practices are now being used in several ways to influence the reflection and collaboration of both pre-service and practicing teachers (Kennedy & Lees, 2016).

Studies implementing video across a variety of classroom settings demonstrate relatively consistent findings (Danielowich, 2014). Teachers who review their own videos tend to focus on similar aspects of practice, such as questioning, pacing, management, and modeling (Calandra, Brantley-Dias, & Dias, 2006; Harford, MacRuairc, & McCartan, 2010). Additionally, over time, teachers begin to shift their thought processes to exploring assumptions that underlie the practices seen on the video and suggest how to improve the teaching they see (Harford et al., 2010; Yung, Wong, Cheng, Hui, & Hudson, 2007). Danielowich (2014) concludes that although significant work describes *what* teachers learn from reflecting through video, little is known about *how* video-based protocols support learning, and in what settings. It is important then to

understand that while the use of video has shown to have significant effects on teacher practices, video will only reach its full potential in a well-conceptualized learning environment (Blomberg et al., 2014).

Theoretical

Transformative learning theory relies heavily on a constructivist view of knowledge and learning. A theory that is grounded in cognitive and developmental psychology, transformative learning is designed around the critical perspective of the world around and reflecting upon it to make changes. Within this view, adult learning is largely viewed as a means of adapting the needs and demands of the broader, socio-cultural context (Kegan, 1994; Mezirow, 1981). It is a process of making meaning from our experiences through reflection, critical reflection and critical self-reflection. It is through the need to find meaning in our daily construct that drives adults to seek learning opportunities.

It is argued that education, through praxis (action and reflection in transactional or dialectical relationship with each other) should foster freedom among the learner by enabling them to reflect on their world and thereby change it (Dirkx, 1998). Building on this assumption, the core learning process is mediated largely through the process of reflecting rationally and critically on one's own assumptions and beliefs (Mezirow, 1981). Reflection is therefore the intentional assessment of one's own action on their environment, including the consequences and opportunities which they present (Kitchenham, 2008). It is this reflective practice of one's self that is central to the critical reflectivity aspect of Mezirow's (1981) transformative learning theory.

While reflection is the key concept to enhancing change in teacher practice, this study also seeks to understand the various "ways" a teacher learns. Kegan's (1994) constructive-

developmental theory is composed of six qualitatively different stages or meaning-making systems. Following this theory, research suggests that adults today most commonly make meaning with one of three ways of knowing, which are referred to as the instrumental, socializing, or self-authoring (Drago-Severson, 2012). A person's way of knowing is not random. Rather, it is stable and consistent for a period of time and reflects a coherent system of logic that guides reflection. While context matters, a way of knowing might feel more like the way we are rather than something we have (Drago-Severson, 2012; Drago-Severson, Blum-DeStefano, & Asghar, 2013; Kegan, 1994).

Bandura's (1977) social learning theory suggests that people learn from one another's observation, imitation and modeling, specifically, through observing others' behavior, attitudes, and outcomes of those behaviors. Stated in another way, most human behavior is learned observationally through modeling: from observing others, one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action (Bandura, 1977). He continues, stating that social learning theory explains how human behavior is a continuous reciprocal interaction between cognitive, behavioral, and environmental influences.

Bandura's theory also explores the aspect of self-efficacy and its effect on instructional practices (Bandura, 1993; 1997). In his definition, teacher efficacy is a teacher's expectation that he or she will be able to bring about student learning. It is a specific case of self-efficacy; that is, "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 2) directed toward the teacher as an agent of student achievement. Teacher efficacy influences behavior through (a) cognitive processes (especially goal setting), (b) motivational processes (especially attributions for success and failure, (c)

affective processes (especially control of negative feelings), and (d) selection process (Bandura, 1993; 1997). Teachers who believe that they will be successful set higher goals for themselves which in turn requires students to try harder to achieve the set goals and persist through obstacles more than do teachers who are not sure of their success (Ross & Bruce, 2007). Ultimately, teachers develop through an appraisal of past experience with a task or with similar activities, although perceptions of efficacy can be modified by other sources of information, such as observing the performances of others (Bandura, 1997).

While each theory individually addresses a significant portion of this study, it is the interweaving of Mezirow's transformative learning theory, Kegan's constructive-developmental theory, and Bandura's social learning theory that build the foundational framework for this research. The study aims to make the direct connection between using video-based instructional feedback tools to enhance teacher reflection around their individual practice to inform more independent practice to inform how a teacher learns and how it transforms their individual efficacy. The depth of this research lends itself to a multi-case research study in order to truly understand the *how,* rather than continuing to inform the *what*.

Situation to Self

Through my time as an instructional leader at the school level as well as a co-designer for several new state evaluation systems, I have come to realize that there is a lack of human capital at the school level necessary to provide appropriate feedback in order to help teachers grow. This has prompted me to examine more effective ways in which teacher observations could be used as a tool for growth rather than simply a system of oversight. I recognized first hand that the lack of time spent enhancing teacher practice through the use of feedback is mainly due to time constraints, but this is a conscious determination made at the school level. It is this lack of

regard for focusing first and foremost on enhancing teacher practice that created the motivation that has brought me to this study.

These leadership experiences strongly influenced my reflexivity, as noted by Patton (2002) as self-questioning and self-understanding. This ongoing examination of "what I know and how I know it" (Patton, 2002, p.64) strongly influenced the development of my beliefs on teacher supervision and thus this epistemological study. The epistemological assumption that addressed my stance on the qualitative case study was defined by Creswell (2007) and required me as the researcher to get as close as possible to the participants being studied. This assumption focused me as a researcher to understand how I know what I know through collecting evidence of many individuals in the field (Creswell, 2007).

My interpretative framework was built through the various leadership experiences which created the paradigm that guided this study. The paradigm in this multi-case study is therefore social constructivism, which claims that truth is relative and dependent upon one's perspective (Baxter & Jack, 2008). This paradigm recognizes the subjective creation of meaning, which is based on the social construction of reality (Searle, 1995). Both Stake (1995) and Yin (2003) base the approach to case study on a constructivist paradigm with the close collaboration between the researcher and the participant, while enabling the participants to tell their story (Crabtree & Miller, 1999). The constructivist paradigm posits that learning is a process that is active and continuous through a process. The focus then is the construction of information by the participant where people construct or create their individual subjective representation of reality. It is through this paradigm that I was able to examine the complexity of viewpoints around video-based feedback and interpret the meanings of the participants.

During the research process, I functioned as a non-participant. Creswell (2007) noted that

"Researchers recognize that their own background shapes their interpretation, and they position themselves in the research to acknowledge how their interpretation flows from their own personal, cultural, and historical experiences" (p.21). Exploring and gathering the evidence through observations and interviews allowed me to funnel the evidence from a broad picture to a narrower one and helped me limit the assumptions and biases that I carried from my leadership experiences into the participants' educational setting (Creswell, 2007).

Problem Statement

Teacher observations provide a medium through which the process of reflection could support teachers throughout their teaching careers (Liang, 2015); however, due to the increased pressures infused into today's schools, teachers are rarely given the opportunity to reflect, receive feedback, or grow their individual practice outside of mass professional development (Visnovska & Cobb, 2013). A growing body of research over the last several years suggests professional development has begun turning to video to serve as a vehicle for sharing classroom interactions, exemplary practices, and specific learning experiences (Goldman, 2007; MacLean & White, 2007) as well as prompting teachers to reflect more deeply and engage more actively and personally in the observation event (Cuthrell et al., 2016). Video capture also offers the opportunity to modify and develop teachers' practice by offering a learner-centered form of professional development where the construction of knowledge and fresh frames of practice are mediated by social interaction (McCullagh, 2012). Even though most studies report that video analysis was beneficial for helping teachers evaluate their teaching (Tripp & Rich, 2012), few studies actually describe the impact on reflection using video feedback. Several studies concluded that future research is necessary to examine reflective change as well as investigate how videos could be used in various individual professional development settings (Kleinknect &

Schneider, 2013; Trip & Rich, 2012). The problem then is that there is minimal understanding regarding the reflective experiences that occur using video-based feedback as a tool to enhance a teacher's professional learning.

Purpose Statement

The purpose of this qualitative multiple case study is to examine the use of video-based instructional feedback models by K-12 teachers and leaders in a rural southern district. At this stage in the research, video-based feedback will be generally defined as teacher observation/evaluation methods offering teacher self-reflection and peer feedback using video observations and online coaching tools (Rich & Hannafin, 2009). The foundational theories guiding this study are Mezirow's (2006) transformative learning theory and Kegan's (1982) constructive-developmental theory, specifically connections to "ways of knowing" (Kegan, 1982) coupled with Bandura's (1977) social learning theory.

Significance of the Study

In recent years, classroom video has become an important reflective tool for teacher professional development (Kleinknecht & Schneider, 2013). The significance of the study is to shed light on the function of video-based tools in conjunction with observations to enhance teacher reflection within the K-12 realm of education (Baecher & McCormack, 2015), including teachers, instructional coaches, and school administration; therefore, the central focus of this research is to identify effective practices reflecting on self-teaching video in order to transfer the new pedagogical knowledge obtained through self-reflection as well as from the individual instructional coaching. The benefit for teachers will be the ability to implement a practice to self-identify the strongest aspects of implementation within the classroom level to change teacher practice. This study examines the abilities of the teachers to self-reflect as well as be coached,

with instructional lessons obtained and the classroom pedagogical practices shared as adult learners. This study will also add theoretical significance to the constructivist base by adding research on the use of technology based observation tools which may enhance adult learning and self-reflection through academic feedback practices.

Despite extensive use by researchers, few technological tools have been used in application in order to scaffold and support educational leaders to enhance teacher reflection. However, according to Sherin and van Es (2005), video based tools can direct analysis, implicitly or explicitly, using an appropriate lens of framework to guide interpretation, which is a position shared by the majority of video reflection researchers. This more in-depth form of self-reflection will allow teachers to identify various practices that could create a stronger learning environment. Grainger (2004) concluded that allowing teachers to view and discuss their teaching was the best way to access knowledge about what influenced the teachers' actions. Zhang et al. (2011) describe the use of video as a "window into practice" (p. 459). The main goal then of this research was to identify how video-based classroom observation could provide K-12 observers and teachers with information about their teaching skill, subject knowledge and attitude towards teaching and create a reflective environment which supports changing practice. The use of video observation thus enables schools to gain more credible information and hence make a significant contribution to teacher professional development (Liang, 2015, p. 250) and individual teacher growth.

Today's educational mindset has changed significantly over the previous fifteen years to focus more on supporting and improving teachers. The accountability for schools, teachers, and leaders is at an all-time high, and being prepared for all avenues will prove the most viable option for success (Pratt, 2014). This study may add to the existing research on the use of video-

based feedback by creating a greater understanding of both the process and reaction to using technology to enhance reflective practice at the teacher level as well as how instructional supervisors and coaches may use these tools to enhance reflective conversations. The results of the study will hopefully encourage other K-12 school systems to investigate their teacher observation models and restructure their designs of supervision to enhance opportunities for teacher self-reflection thus enhancing self-learning.

The key concepts of self-reflection and collaborative activities using video can both facilitate and constrain what teachers can learn by directly influencing what teachers reflect on within their own classrooms, their pedagogical approaches, the degree of specificity of teaching, and the kind of information that is shared about students (Levine & Marcus, 2010). Therefore, this research is designed for the K-12 education community, specifically, K-12 teachers, K-12 teacher leaders or instructional coaches, and school administrators. In addition, local and state teacher evaluation design teams will be able to utilize this pragmatically designed research in order to understand the depth of using teacher observations through video as a means to enhancing teacher feedback and incorporate these findings into evaluation methodologies. Therefore, this study stands to add practical significance in order to understand what a teacher experiences through effective guidance and reflection in using video-based instructional feedback and how it can be used to enhance both individual growth and professional development.

Research Questions

Given the purpose of this study is to examine the use of video-based instructional feedback models, the following questions frame this study:

Central Question

How do educators use video-based feedback to enhance teacher efficacy within the process of instructional supervision?

Pajak (2000) described five approaches to instructional supervision: (a) original clinical, (b) artistic, (c) developmental, (d) technical/ didactic, and (e) reflective and it is through the strength of the interaction with the video that determines the strength of the model (Chizhik et al., 2017). Therefore, it is necessary to examine this model of instructional supervision in order to explain how it can be used towards enhancing teacher efficacy.

Sub-Questions

Sub-question 1: What factors are identified as central to implementation of reflective practices through video-based feedback?

Video reflection can be implemented in several different ways based on the teacher and observer desires. Therefore, significant research is still needed to investigate: (a) the items which should be observed, (b) how the logistics of logistics should be carried out, (c) the most effective way to edit or provide feedback, and (d) are other factors needed to enhance the effectiveness (Tripp & Rich, 2012).

Sub-question 2: How do educators who use video-based instructional feedback tools design individual professional learning in order to enhance self-efficacy?

Teacher efficacy develops from a subject's appraisal of past experience with a task or with similar activities, although perceptions of efficacy can be modified by other sources of information, such as observing of performances of self or others (Bandura, 1997). Therefore, it is important to understand how teachers are able to use the video reflection process to enhance and grow

Sub-question 3: How does using video-based coaching feedback contribute to altering teacher pedagogical practices?

Mezirow (1981) identifies that a path to perspective transformation is movement in the same direction that occurs by a series of transitions which permit one to revise specific assumptions about oneself and others until the very structure of assumptions become transformed. Therefore, it is necessary to find how these series of video reflections are able to transform the thought process and ultimately the practice of the teachers using video-based instructional feedback.

Sub-question 4: How do teachers make the connection of this experience to understanding their individual "way of knowing?"

In any school or team, it is likely that adults will be making sense of their experiences in developmentally different ways (Drago-Severson, 2004; Kegan, 1994). Therefore, understanding the various ways that this new learning, or ways of knowing, can take place will enhance the understanding of factors that will have an impact on the implementation of video-based instructional feedback.

Definitions

1. *Academic Feedback* - Feedback has been defined as information provided to individuals about their performance and is considered an essential element of instruction and learning by both behavioral and cognitive theorists (Bangert-Drowns, Kulik, Kulik, & Morgan, 1991; Bardwell, 1981).
2. *Technology observation tools* – Any tool that captures the practice of teaching to allow for reflection to occur (van Es, 2012).

3. *Reflective practice* – Creative, self-critical, imaginative investigating process wherein teachers consider the effects of their pedagogical decisions on their situated practice with the aim of improving those practices (Norton, 1996; Tripp & Rich, 2012).
4. *Teacher supervision* - the school function that improves instruction through direct assistance to teachers, curriculum development, in-service training, group development, and action research (Glickman, 1985).
5. *Instructional Coach* – someone whose chief professional responsibility is to bring evidence-based practices into classrooms by working with teachers and other school leaders (Knight, 2007).
6. *Mentor Teacher* – a full time career teacher that serves as part of a school leadership team and is utilized to guide instructional decision making for new induction teachers (Knight, 2007).
7. *Student Learning Objective* - a tool for actionable reflection used in teacher evaluation systems as a student growth measure (SCDE, 2018).
8. *Video-based instructional feedback* – Any process of watching a classroom lesson on tape (digital, online, or other) and providing instructional feedback on that lesson for improvement (Kane et al., 2015).

Summary

The trend across public schools over recent years has been to observe and provide feedback to teachers to enhance practice. Despite this trend and research detailing how reflection enhances teacher practice, teachers still remain hesitant to engage in the process. Couple this with the lack of human capital to effectively engage in reflective practice, and finding ways to effectively provide teachers with the opportunity to self-reflect and receive

quality feedback based on visible evidence is vital to continue to enhance the supervisory process. To understand the central factors around implementing video-based instructional feedback models, this study will engage a district that has successfully implemented a video model at multiple levels. This qualitative multi-case study will ultimately focus on the teacher observations and the use of video to enhance teacher efficacy. It will expand on previous research of video-based instructional feedback studies that have been conducted with the focus of using video to provide specific, actionable, instructional feedback. The statement of problem, which showed the empirical significance and purpose of the study, demonstrate that this study will have a significant impact in the realm of K-12 education. The research questions guiding this study were introduced and detailed the direct connections to the theoretical frameworks which guides this study. Chapter two addresses the literature behind the use of video-based instructional feedback specifically examining the components of this supervisory practice such as teacher observations, coaching, reflection, and technology to enhance teacher practice.

CHAPTER TWO: LITERATURE REVIEW

Overview

An analysis of current literature was examined to provide a comprehensive background for the use of video-based instructional feedback. While video-based instructional feedback has been involved in education for the previous fifty years, it was not until very recently that this methodology has been seen as a constructive tool. While the research is growing around the use of video-based instructional feedback, most studies examine what type of feedback is being given rather than how the feedback supports teacher learning (Danielowich, 2014). A large number of studies are focused quantitative research that examined the various points of feedback or examine survey results in regards to using video-based feedback (Tripp & Rich, 2012).

The theoretical framework of this study focuses on constructivist learning, especially as it relates to adult learning. The central theory that provides the foundation for this research is Jack Mezirow's (1991) transformative learning theory. Robert Kegan's (1982) constructive-developmental theory and Albert Bandura's (1997) social learning theory also are woven into the various aspects of the research through the social context of adult learning and efficacy through modeled support. These three theories set the foundation for examining adult learning through social interaction with a focus on understanding how one learns and changes practice through experiential learning and critical reflective activities.

This literature review focuses on several areas which are directly connected to this research, including an examination of teacher observation, coaching instruction, teacher reflection, adult learning styles, professional development and video-based instructional feedback, concluding with a synthesis of this previous research to lay the foundation for this work. This chapter gives an all-inclusive review regarding all aspects of a comprehensive human

capital management system (HCMS) to encourage and grow teachers through dynamic reflection and individualized professional development through the use of video-based instructional feedback.

Theoretical Framework

This study incorporates three theories that build the foundation for the theoretical framework. The theories which frame this study come from a constructivist mindset and are designed around the central concept that learners actively construct their own knowledge through engagement which conceives the concept (Cunningham & Duffy, 1996; Fosnot 1996; & von Glasersfeld 1996). Mezirow's (1991) transformative learning theory and Kegan's (1982) constructive-developmental theory, along with an understanding of Bandura's (1977) social learning theory form the foundation of this study, as each seek to explain the learning process through social interaction. Each of these theories are directly connected to adult learning, understanding how adults make meaning of new knowledge, and how adults use this knowledge to transform themselves into stronger practitioners. When teachers are provided the opportunity of critical reflection (Mezirow, 1991) and understand how this effects their ways of knowing (Kegan, 1994), they are able to make sense of their teaching and create a stronger self-efficacy (Bandura, 1997), thus creating the most effective environment for teacher learning. It is the unification of these three theories where this study lies.

Constructivism

Constructivism has emerged as one of the greatest influences on the practice of education in the last twenty-five years (Jones & Brader-Araje, 2002). Teachers and leaders have embraced constructivist-based teaching and learning with an enthusiasm that is rare in these days of quick fixes to school improvement (Powell, Farrar & Cohen, 1985). While educators have long

embraced Piaget's cognitive constructivism, the work of Lev S. Vygotsky and his model of social constructivism have received significantly less attention until recently (Estep, 2002). The social aspect of constructivism, as identified by Vygotsky (1978), has been overtaking both classroom teaching as well as professional development in the field of education.

Social constructivism is both a social and cultural model of learning (Deulen, 2013). According to Hausfather (1996), social constructivism was designed so that learning is seen not as development, but rather a process that results in development. In addition, learning is strongly influenced by the culture and social process; in essence, learning takes place in the context of the community (Deulen, 2013; Estep, 2002). Vygotsky (1978) develops this social constructivism around three central notions that are vital to theoretical framework for this study. The core concepts within social constructivism are: zone of actual development (where developmental learning is actually taking place); zone of potential development (where learning potentially could or should be); and zone of proximal development (the amount of assistance that is needed to move from the actual development to the potential development). With the focus on moving adults forward through social interactions, Vygotsky (1978) points to the zone of proximal development (ZPD) as the key area to focus on for growth and defines it as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under guidance or collaboration" (p. 131).

Brofenbrenner (1979) argued that the capacity of the social context for development then depends on the existence and nature of the social interactions. Therefore, it is the responsibility of the facilitator of learning to create this context that will pull the learner from the zone of actual development to the zone of potential development (Miller, 2010). It is for this reason that

learning in a social constructivist model has a strong mentoring component (Vygotsky, 1978). Vygotsky's emphasis on the role of others, within the social context of learning has pushed educators to reexamine the extent to which learning is an individual process which is built within social constructs (Jones & Brader-Araje, 2002). It is this foundation of social constructivism that builds the theoretical framework for this study.

Transformative Learning Theory

Jack Mezirow's theory of transformative learning has, over the past three decades, changed the way we understand adult learning and by consequence how we do pedagogy for adults, often referred to as andragogy (Knowles, 1998). The transformational learning theory developed by Mezirow (1991) is described as being a constructivist approach which is further detailed to explain the way adult learners interpret experiences, which is central to making meaning and therefore learning. As Hoggan (2016) describes, transformative learning refers broadly to "processes that result in significant and irreversible changes in the way a person experiences, conceptualizes, and interacts with the world" (p. 71). Based on this view, the majority of transformative learning is then guided by an instrumental view of the learning process, which is largely understood as a means of adapting to the needs and demands of the broader, socio-cultural context (Dirkx, 1998). As with constructivism, adult knowledge is viewed as something outside of the learner to be taken in through the learning process, thus the meaning of what ultimately is learned then rests with the accuracy with which one internalizes and represents this knowledge within one's own cognitive schemes (Mahoney, 1992).

Mezirow's transformative learning theory is based on the transformative learning theory first developed by Paulo Freire (1970) in which he develops the concept of consciousness raising. For Freire, adult education aims at fostering this critical consciousness in order to build

new ideas (Spring, 1994). This critical consciousness refers to a process in which learners develop the ability to analyze, pose questions, and take action within their individual context that will influence and shape their lives (Dirkx, 1998). Mezirow (1991) moved from Freire's theory using critical consciousness towards the identification of a new process of perspective transformation which refers to the need to reflect changes within the core or central meaning structures through which ones makes sense of one's experiences. Mezirow adds on to Freire's critical consciousness in his transformative learning theory by identifying that the process of making meaning, or creating this critical consciousness, is based on one's experiences through reflection, critical reflection, and critical self-reflection. It is therefore that, according to Mezirow (1991), perspective transformation is about significant change in one's meaning perspectives, or those interpretive frameworks used in making meaning of our experiences and it is only by engaging in reflection and changing one's perspectives through critical reflection that one can reformulate assumptions on which our perspectives are constructed.

Mezirow's transformative learning theory also is strongly influenced by a similar theory put forth by Habermas (1984; 1987) called the theory of communicative action. Habermas (1989) concerned himself mainly with the conditions under which universally valid claims might be expected to emerge thus creating perspective transformation. The first of these conditions is that the members of a community are free to accept the proposed norms and procedures and must be rationally motivated by an internal need (Habermas, 1989). The second condition set forth is that all participants have an equal voice in the discussion regarding proposed norms and procedures or could be referred to as equality (Habermas, 1989). In particular, consensus emerges here and the un-coerced agreement of all who are affected by a proposed norm or procedure help define the perspective transformation or in other words, embed the new learning.

Mezirow (1991) explains that under these conditions detailed by Habermas (1989), adult learners will:

- have accurate and complete information;
- be free from coercion and distorting self-deception;
- be able to weigh evidence and assess arguments objectively;
- be open to alternative perspectives;
- be able to become critically reflective upon presuppositions and their consequences;
- have equal opportunity to participate (including the chance to challenge, question, refute and reflect and to hear others do the same); and
- be able to accept an informed, objective, and rational consensus as a legitimate test of validity.

Such conditions ultimately help adult learners become critically reflective of the meaning perspectives. They arrive at a higher level of development and advanced meaning perspectives (Calleja, 2014).

Learning, according to Mezirow (1996), is understood as the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one's experience in order to guide future action. "We accomplish this meaning making by projecting images and symbolic models, meaning schemes based upon prior learning, onto our sensory experiences and imaginatively use analogies to interpret new experiences' (Mezirow, 1996). Mezirow's rendering of transformative learning emphasizes the importance and centrality of experience, understanding one's frame of reference, the role of disorienting dilemma, the importance of critical reflection and critical self-reflection, the role of rational discourse, and of dialogue in communicating with others (Calleja, 2014).

Through perspective transformation, three types of learning can occur: (a) instrumental, (b) dialogic, and (c) self-reflective (Mezirow, 1985). Simply stated, learners find how they could best learn information (instrumental), when and where this learning could take place (dialogic), and why they are learning the information (self-reflective) (Kitchenham, 2008). He goes on further to state that central to the perspective transformation and the three types of learning are meaning perspective and meaning schemes. A meaning perspective refers "to the structure of cultural and psychological assumptions within which our past experience assimilates and transforms new experience (Mezirow, 1985, p. 21), whereas a meaning scheme is "the constellation of concept, belief, judgement, and feeling which shapes a particular interpretation" (Mezirow, 1994, p. 223). Further, within each of the three learning types, three learning processes operate: learning within meaning schemes (elaborating on existing frames of reference), learning new meaning schemes (new frames of reference), and learning through meaning transformation (transforming points of view or habits of mind) (see figure 1).

The first learning type, learning within meaning schemes functions with adult learners connecting to what they already know and by expanding on or revising their present assumptions (Mezirow, 1985). The second learning process, learning new meaning schemes, is created when the situation presents itself that allows the learner to connect new learning to an already existing perspective. The final learning process is learning through meaning transformation. This occurs when the learner is confronted by a situation where their current perspective does not hold based on the situation and it is necessary for the learner to use critical reflection to identify misassumptions and transform their learning by transforming their existing perspective (Mezirow, 1985). All adult learners then engage in one of these ways of experiencing transformation by the use and modification of their individual habits of mind. According to

Mezirow (2000), “The habits of mind are broad, abstract, orienting, habitual ways of thinking, feeling, and acting influenced by assumptions that constitute a set of codes (p.6).

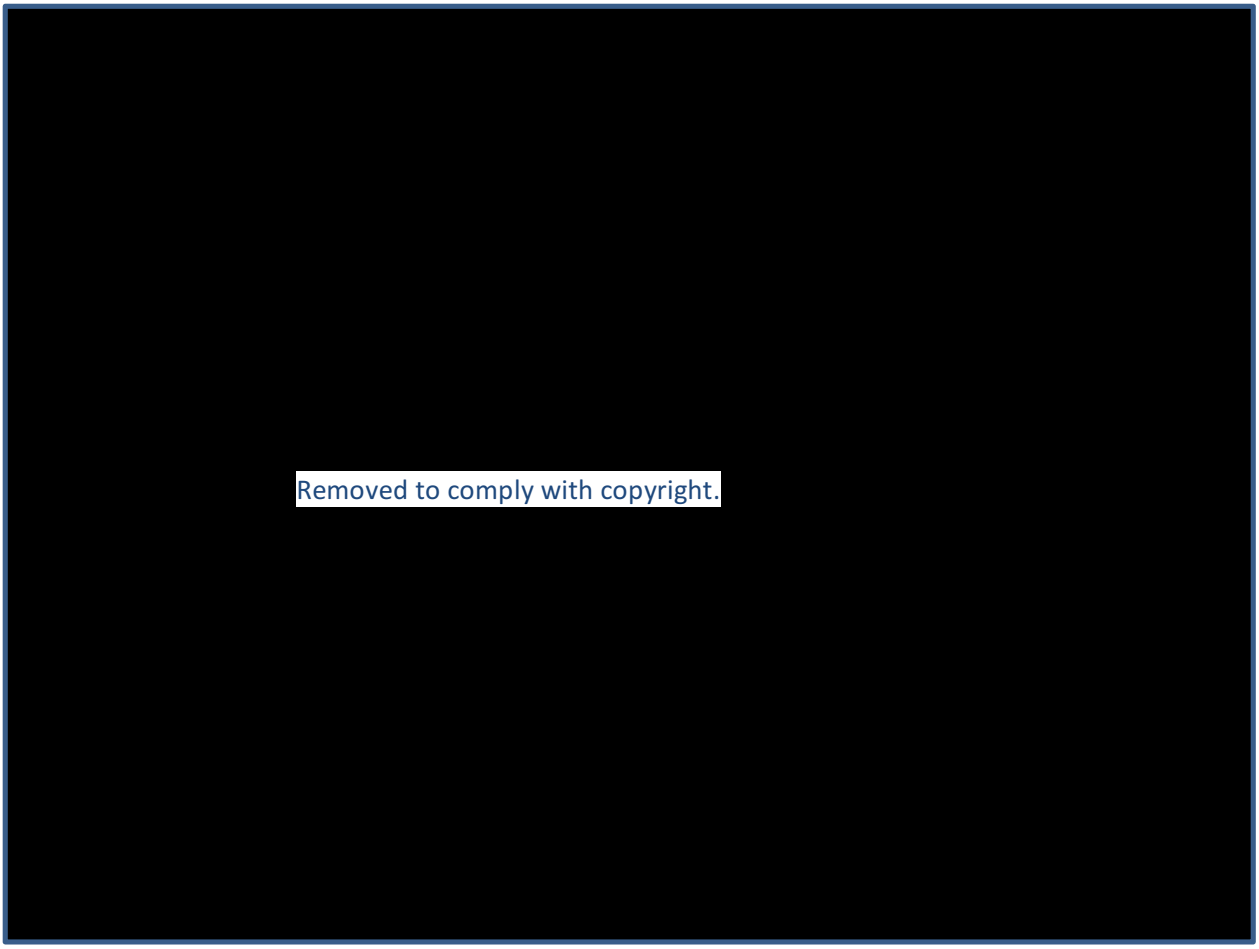

Figure 1: Diagrammatic Representation of Mezirow’s (1985) Revised Transformative Learning Theory. Reprinted from “The Evolution of John Mezirow’s Transformative Learning Theory,” by A. Kitchenham, 2008, *Journal of Transformative Education, 6*(2), p. 111. 2008 by Sage Publications. Reprinted with permission.

As previously noted, the concept of reflection, and in particular, critical reflection, is vital in the transformative learning theory in perspective transformation is to occur. Mezirow (1996) emphasized the importance of critical reflection through contrasting reflection as an act of

"intentional assessment of one's actions" (p. 44), whereas critical reflection not only involves the capture and consequence of one's actions but also includes the related social context of their origin (Kitchenham, 2008). Mezirow (1996) presented three distinct types of reflection and their role in transforming meaning schemes and perspectives: content reflection, process reflection, and premise reflection. Specifically, content reflection involves thinking back to the completed task, which may cause meaning scheme. Process reflection engages the learner in the casual relationship of one's actions and whether there are other factors that still may be discovered. Like content reflection, process reflection may also lead to transforming meaning schemes. It is with premise reflection that the adult learner must see the larger view of their habits of mind which in turn could create a greater change both in meaning scheme but also in meaning perspective (see Figure 2). Kitchenham (2008) emphasized that while learners can transform meaning scheme by examining actions (content reflection) or factors related to those actions (process reflection), it is only through the larger global view that reflection becomes deeper, more complex, and involves transforming multiple meaning schemes, thus creating true critical reflection.

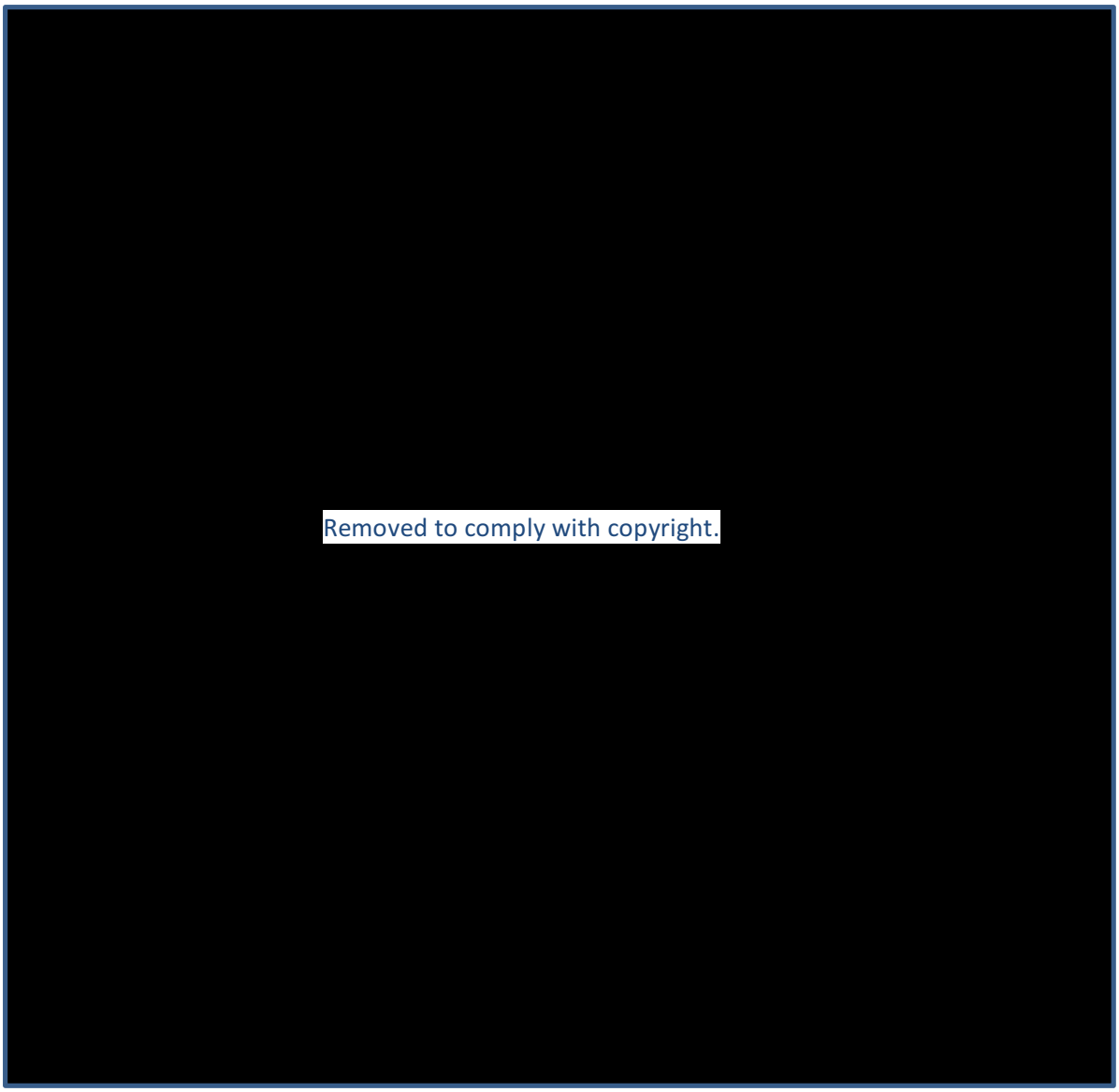

Figure 2: Diagrammatic Representation of the Three Types of Reflection, Their Related Actions, Transformation, and Depth of Change (Mezirow, 1995). Reprinted from "The Evolution of John Mezirow's Transformative Learning Theory," by A. Kitchenham, 2008, *Journal of Transformative Education, 6*(2), p. 115. 2008 by Sage Publications. Reprinted with permission.

Mezirow (1978) identified 10 phases in the process of transformative learning (see Figure 3). While the initial research demonstrated a more linear progression through these phases, it has

been more recently conceived that the process of perspective transformation follows a more recursive, evolving, or spiral form (Taylor, 2000). In addition, since these ten phases were adopted, the descriptions have been altered, including an addition to phase two to include more emotions such as surprise, fear, or anger (Coffman, 1989). Ultimately, perspective transformation is a cumulative process (Pope, 1996) that spreads over time "whereby many meaning schemes change over time culminating in a perspective transformation (Taylor, 2000). Mezirow (1990) also points out that perspective transformation may take place in many different ways, such as personally, collectively as a group, or through coaching and feedback. It was only later that Mezirow added a final phase between existing phase 8 and 9 regarding "renegotiating relationship and negotiating new relationships" (Baumgartner, 2012) because personal meaning is acquired and validated through human interaction and communication (Mezirow, 1991).

Figure 3: Mezirow's 10 Phases to Transformative Learning. Reprinted from "The Evolution of John Mezirow's Transformative Learning Theory," by A. Kitchenham, 2008, *Journal of Transformative Education, 6*(2), p. 105. 2008 by Sage Publications. Reprinted with permission.

Using the transformative learning theory research, Mezirow (1981) created a professional perspective for adult educators that can be directly applied to professional development which he calls the charter for andragogy. It is described as an organized, sustained effort to assist adults to learn in a way that enhances their capability to function as a self-reflective learner. The components of this charter are:

- Progressively decrease the learner's dependency on the educator;
- Help the learner understand how to use learning resources, especially the experience of others, including the educator, and how to engage others in reciprocal learning relationships;
- Assist the learner to define his/her learning needs – both in terms of immediate awareness and of understanding the cultural and psychological assumptions influencing his/her perceptions of needs;
- Assist learners to assume increasing responsibility for defining their learning objectives, planning their own learning program and evaluating their progress;
- Organize what is to be learned in relationship to his/her current personal problems, concerns and levels of understanding;
- Foster learner decision making – select learner-relevant learning experiences which require choosing, expand the learner's range of options, facilitate taking the perspective of others who have alternative ways of understanding;
- Encourage the use of criteria for judging which are increasing inclusive and differentiating in awareness, self-reflexive and integrative of experience;
- Foster a self-corrective reflexive approach to learning – to typifying and labeling, to perspective taking and choosing, and to habits of learning and learning relationships;

- Facilitate problem posing and problem solving, including problems associated with the implementation of individual and collective action; recognition of relationship between personal problem and public issues;
- Reinforce the self-concept of the learner as a learner and doer by providing for progressive mastery; a supportive climate with feedback to encourage provisional efforts to change and to take risks; avoidance of competitive judgement of performance; appropriate use of mutual support groups;
- Emphasize experiential, participative and projective instructional methods; appropriate use of modeling and learning contracts;
- Make the moral distinction between helping the learner understand his/her full range of choices and how to improve the quality of choosing vs. encouraging the learner to make a specific choice.

Mezirow's charter for andragogy gives a design of professional learning for adults that clearly matches his transformative learning theory in terms of learning through experiences to change one's perspective meaning. Through thoroughly designed experiences and reflection on those experiences, adult learning can reach a level of critical reflection that will allow adult learners to analyze current practices and adjust both their meaning and perspective schemes. It is clear that this is a continuous process which must be undertaken by a learner that is true to oneself as well as an educator that understands the dynamics of experiential learning and critical reflection.

Constructive Developmental Theory

Constructive stage theories emerge from the Piagetian (Piaget, 1963) tradition of positing universal structures of knowing that can evolve based on a person's encounter with challenging

environments and her or his subsequent accommodations to new ways of knowing (Eriksen, 2006). Stage theory is concerned with the regular and progressive changes in how individuals make meaning (Kegan, 1982, 1994). In *The Evolving Self* (1982) and *In Over Our Heads* (1994), Robert Kegan introduced his version of constructive developmental theory. His model proposes notions of changing meaning-making or evolving consciousness that extend Piagetian-style stages of development into adulthood (Eriksen, 2006).

The constructivist developmental theory focuses on the structure and process of an individual's meaning-making system. Stewart and Walodoko (2016) point out that there are three basic concepts which underpin this theory of increasing mental complexity:

1. It originates in constructivist philosophies where we actively construct meaning from our experiences and build the concept of self through interpersonal pathways;
2. It is developmental over time and throughout the whole of life, relying on appropriate supports and challenges to achieve each level; and
3. It balances the relationship between "what we can take a perspective on (hold as 'object') and what we are embedded in and cannot see or be responsible for (are 'subject to')" (Drago-Severson, 2008, p. 37).

Constructive developmental theory concerns itself with regular, progressive changes in how individuals make meaning or "know" epistemologically. "Knowing" is a personal internal construction of a lived experience linked to emotional responses that we express to an external world. It is the mental construction (synaptic network) a person creates with the sum of their biological, cultural, political, economic, and social experiences (Zull, 2011) within the context of other "knowers." "Knowing" in this manner is contrary to "the notion that our knowledge must

somehow correspond to a world thought to be [totally] independent of the knower" (Glasersfeld, 2000, p. 2).

People are seen as "active organizers of their experience" (Kegan, 1994, p. 29). In particular, Kegan (1994) indicated that the "deep structure of any principle of mental organization is the subject-object relationship" (p. 32). He considered those things "object" that people could "reflect on, handle, look at, be responsible for, relate to each other, take control of, internalize, assimilate, or otherwise operate on" (p. 32). He considered those things "subject" that people were "identified with, tied to, fused with, or embedded in" (p. 32). The process of changing one's mindset is one of managing to step outside a particular reactive point of view (subject-response) to look at the phenomenon from a different perspective—as an object. (Kegan, 1998, p. 32). People thus lack awareness of or behave automatically in relationship to those things to which they are subject. Mindsets remain hidden from knowing (Stewart & Wolodko, 2016).

Kegan (1982, 1994) outlined six stages, balances, or order[s] of consciousness in cognitive development, which, he indicates, affect all emotional and relational functioning. The stages are:

- The incorporative balance, in which reflexes are primary (Stage 0);
- the impulsive balance, in which knowing is only about one's own immediate impulses (Stage 1);
- the imperial balance, in which the individual is aware of concrete and durable categories, that is, her or his own experiences as well as others' experiences (Stage 2);
- the interpersonal balance, romanticism, or cross categorical knowing, in which abstractions and more mutual relationships become possible (Stage 3);

- the institutional balance or modernism, in which understanding of systems, greater autonomy, and self- authorship become possible (Stage 4); and
- the interindividual balance or postmodernism, in which people become the directors and creators of systems, understanding how systems fit together meaningfully (Stage 5).

The motivation toward evolution or development comes from people's need "to bring their organization into a coherence that can take account of the greater complexity with which they are faced" (Kegan, 1982, p. 84).

Figure 4: Stages of Kegan's Constructive Developmental Theory. Reprinted from "The Constructive Developmental Theory of Robert Kegan," by K. Eriksen, 2006, *The Family Journal: Counseling and Therapy for Couples and Families. 14(*3), 290-298. 2006 by Sage Publications. Reprinted with permission.

At the core of constructive developmental theory (CDT) are two primary aspects of development: (a) the sense-making system that regulates how people make sense of, and assign meaning to themselves and the surrounding world (i.e., developmental orders), and (b) how these

meaning-making systems are constructed and reconstructed over time (i.e., developmental movement) (McCauley et al., 2006). The sense-making system consists of principles, beliefs, thinking patterns, and assumptions that govern the way individuals experience their lives. Researchers term this framework "constructive developmental" because it is concerned with the way people use sense-making systems to construct their life experiences and the way in which these meaning-making systems can develop over time (Helsing, Drago-Severson, & Kegan, 2004). Research has suggested two primary reasons for a lack of advancement to higher developmental orders (e.g., Helsing et al., 2004; Loevinger & Blasi, 1976; McCauley et al., 2006). The first reason for the stability of developmental orders is a lack of challenge in one's environment. Without challenge, conflicting information is quite scarce and there is little reason to engage in individual development. Therefore, individuals simply assimilate new information within the current framework of thinking. In fact, Block (1982) suggests that people have a tendency to find and inhabit comfortable niches in their work environment where they do not experience challenges that might encourage further development. The second condition that thwarts developmental movement is an environment which has ample challenges but lacks sufficient support for developmental movement to occur. Changing a frame of thinking entails a fear of losing meaning and creates an immunity to change (Kegan & Lahey, 2001). Overcoming this immunity to change requires enough support in the environment to safely expose one's limiting assumptions and enable people to accommodate their current developmental orders to new information. In order for developmental movement to occur, a delicate balance of support and challenge to the current framework of thinking must be attained (Kegan & Lahey, 2001). New information may be resisted if it comes too soon or if it creates insecurity.

Related Literature

The purpose of this section is to introduce relevant literature related to the varying aspects of teaching and learning with adults. This section begins with a review of instructional coaching as it relates to enhancing teacher practice. Directly connected to this form of professional learning is the use of teacher observations which enhance both feedback and teacher reflection. This section ends with a review of how all these components are connected together through the use of video-based feedback.

Instructional Coaching

It is only through high-quality professional learning that the quality of teaching and learning can increase (Barth, DuFour, DuFour, Eaker, Eason-Watkins, Fullan, & Sparks, 2005). One of the most effective ways to address the issue of continued learning then is to engage teachers in meaningful, teacher development activities that match their identified need (Marzano 2003). However, Robb (2000) states that the common misunderstanding of teacher development it is often seen as an event or happening and for true teacher growth to occur, one must remove themselves from the mindset that professional learning takes place in a single experience or by a single expert. Webster-Wright (2009) contends that many professional development practices still focus on ‘‘delivering content rather than on enhancing learning’’ (p. 702) through ‘‘episodic updates of information delivered in a didactic manner, separated from engagement with authentic work experiences’’ (p. 703). As seen with the constructivist viewpoint expressed earlier, learning is not an event, rather a process in which learners reinvent, reorganize, or construct new perspectives based on multiple experiences over time (Graves, 1994).

As new research continues to address the challenges of teaching and learning and new, more innovative ways to teach adult learners come to light, experts have called for professional

development that is more intensive, sustained, and job embedded (Wayne, Yoon, Zhu, Cronen, & Garet, 2008). It is no wonder then that in an effort to address problems with traditional professional development and respond to federal accountability and school improvement requirements, schools and districts are increasingly turning to teacher mentors and instructional coaches to serve as ongoing professional development facilitators (Kowal & Steiner, 2007). Even though King (2002) found that collective teacher inquiry was rare, Vesico, Ross, and Adams (2008) suggests the key to understanding and growing teaching methods is the de-privatizing practice in which teaching is made public and the focus turns to one of collaboration.

In order to create this paradigm shifts in thinking, it is necessary to engage teachers with thought partners that allow and encourage one to reflect and grow from all previous experiences (Crane, 2002). One certain way to help teachers deal with uncertainties in their work is to provide them with guidance about what and how to teach, and regular, ongoing opportunities to develop their practice in accordance with this guidance (Camburn & Won Han, 2015). Coburn and Russell (2008) found that certain kinds of in-service, coupled with coaching fostered interactions around classroom instruction that had substantial depth and substance.

Interactions with colleagues and coaches that are embedded in teachers' workplaces often reveal tools and strategies that can be used to solve dilemmas that arise in practice (Camburn & Won Han, 2015). It is becoming increasingly obvious that learning experiences which are more deeply situated in collegial interactions among teachers are associated with greater reports of changed instruction (Putnam & Borko, 2000). One of the most important ways situated learning experiences can support reflection and instructional change is by exposing teachers to potential ''solution paths'' to resolve dilemmas encountered in their teaching as led by expert facilitators (Brown et al., 1989; Putnam & Borko, 2000; Rodgers 2002) and this can be best further

supported by the use of a mentor. The emerging consensus of teaching standards creates a case too powerful to ignore: We must not only enable all teachers to receive professional development in the building blocks of successful teaching and learning, we must support them with coaching and assess their individual capacity to use the skills properly after the training (Saphier, West, & von Frank, 2011).

Emerging from recent studies (Knight, 2007) is strong evidence that coaching contributes to improved teaching and student learning and serves as the most dynamic form of professional development. Coaching, according to Joyce and Showers (1981), "usually involves a collegial approach to the analysis of teaching for the purpose of integrating mastered skills and strategies into: a) curriculum; b) a set of instructional goals; c) a time span; or d) a personal teaching style" (p.170). Poglinco, Bach, Horde, Rosenblum, Saunders, and Suporitz (2003) defined coaching as a form of inquiry-based, adult learning characterized by the collaboration of teachers and equal or more accomplished peers. They went on further to state that coaching requires professional interactions, ongoing observations, supportive critiques, modeling, and support. Ackland (1991) categorized coaching into two separate categories: coaching by experts and reciprocal coaching. Coaching by experts is provided by "specifically trained teachers with an acknowledged expertise who observe other teachers to give them support, feedback, and suggestions" (p.24). Reciprocal coaching, on the other hand, has teachers observing each other to jointly increase practice. Whether one is considered an expert or a peer, the goal of transformational coaching is to assist teachers to enhance their effectiveness in a way that they feel helped (Crane, 2002).

Killion and Harrison (2006) identified several forms of coaching styles that include both expertise and reciprocal methods. These forms include:

1. Challenge coaching - "helps teams of teachers resolve persistent problems in instructional design and delivery" (Garmston, 1987, p. 21).
2. Cognitive Coaching – "A simple model for conversations about planning, reflecting, and problem solving" (Costa & Garmston, 2002, p. 5).
3. Collegial coaching – "is used to increase teacher professional dialogue and help them reflect on their work" (Pogolinco et al. 2003, p. 2). Garmston (1987) states collegial coaching is "to refine teaching practices, deepen collegiality, increase professional dialogue, and help teachers to think more deeply about their work" (p. 20).
4. Content-focused coaching – is "zeroing in on the daily tasks of planning, teaching, and reflecting on lessons suggesting a framework and tools for addressing standards, curriculum, principles of learning, and lesson design and assessment. It does not prescribe particular methods or techniques of teaching" (West & Straub, 2003, p.2).
5. Instructional coaching – described by Clutterbuck and Sweeney (2003) as occurring when a coach models new strategies and provides feedback when the teacher begins to use the strategy. "Instructional coaches customize professional development to match each teacher's needs and interests while they help the school establish a common understanding across all teachers" (p.50).
6. Mentoring – a form of coaching where experienced teachers work closely with novice teachers.
7. Peer consultation – According to Blasé and Blasé (2006), "includes informal and emergent interactions and relationships among teachers that significantly facilitate and influence teachers' classroom instruction across school levels and governance structures. There is no formal leadership given" (p.14).

8. Peer coaching – "is commonly define as two or more professional colleagues working together to improve their professional knowledge and skills" (Poglinco et al., 2003, p. 2). Valencia and Killion (1988) define it as "the process where teams of teachers regularly observe one another and provide support, companionship, feedback, and assistance" (p.170).
9. Technical coaching – "is typically used to transfer new teaching practices into teachers' regular repertoire" (Poglinco et al., 2003, p.2). Garmston (1987) adds that technical teaching "helps teachers transfer training to classroom practice. It generally follows training on specific teaching methods; this model pairs consultants with teachers" (p.18).

Regardless of the format of coaching, the common understanding is that coaching is a highly effective, individualized professional development model used to enhance teaching practice through the interaction of professionals in a manner consistent with growing skills and knowledge to better serve classroom instruction (Kilion & Harrison, 2006). Alexander Russo (2004) states that conventional professional development such as conferences and lectures are often seen as unpopular because they are led by outside experts who tell teachers what to do but are never heard from again. To be effective, Russo continues that professional development must be ongoing, deeply embedded into a teachers' classroom work with students and open doors to create more collaboration and sense of community. Murphy (2005) points out that a synthesis of research suggests that teacher leadership and coaching influences a teacher's sense of professionalism including empowerment, commitment, and view of their work as a professional, but most of all, it increases the teacher's ability to focus and reflect on quality instruction.

Teacher Observation

Research on teacher effects, learning theory, and relationships between teaching practices and the acquisition of basic skills have led to the development of more precise observation instruments and clinical-supervision practices (Brophy & Good,1986; Danielson & McGreal, 2000). At the same time, cognitive-learning theory has emphasized the social nature of learning and learning context; higher order thinking skills led to an expanded view of good teaching (Marzano, Frontier, & Livingston, 2011).

Research on teacher effects and cognitive-learning theory began with the suggestion that teacher-evaluation systems should measure a variety of proven teaching practices, engagement in professional discussion and reflection, and provision of targeted professional development (Danielson & McGreal, 2000). The immediate challenge became how to ensure what good teaching in schools looked like in order to differentiate great teaching from that which is merely good, or perhaps even mediocre (Weisberg et al., 2009). Aside from the new research and theories, the federal government further influenced many of the recent changes to teacher evaluations (Akers, 2016). In 2011, the federal government incentivized the use of new, more rigorous teacher evaluations that include student-achievement data as a new strategy to improve public education (USDE, 2016). Even though the research shows significant differences in teacher effects on student learning, teacher evaluations have historically categorized 98% of teachers as satisfactory, and teacher evaluation ratings have rarely been used to provide substantive feedback or inform districtwide, schoolwide, or individualized professional development or to make personnel decisions (Akers, 2016; Kane & Staiger, 2012; Weisberg et al., 2009).

There is no shortage of observation instruments on the market or available from researchers. Most assess the degree to which teachers perform according to a set of standards (Gargani & Strong, 2014). Means of assessments range from individually designed portfolios to observable frameworks such as the aforementioned Danielson (1996). The simplest form of an observation instrument comes in the form of a checklist (Darling-Hammond & Snyder, 2000). However, Hoover and O'Shea (1987) found that when teachers were given an evaluative checklist, they focused only on the elements within the list and thought about teaching in the narrowest sense. Danielson (2007) moved beyond the checklist to develop a framework that reflected the complexity of teaching. These frameworks are not just a set of observable behaviors, but encompass many aspects of planning, preparation, instructional, reflection, and interaction with colleagues, among other facets of the profession. Similarly, Marzano's (2011) and NIET (1992) both created tools for teacher evaluation which include domains on planning, instruction, environment, and collegiality and professionalism. Unlike checklists of the past, these more recently developed frameworks aim to support teachers in thinking more expansively about their practice beyond a limited set of strategies or behaviors (Roegman, Goodwin, Reed, & Scott-McLaughlin, 2015). Using frameworks such as these offers the benefit of providing formative feedback to teachers, which can support them in the complex process of learning to teach (Tillema, 2009).

Currently, there is no agreement among educator stakeholders about how to identify and measure effective teaching. While the observation tools have grown considerably since their inception, teacher observation tools are typically designed to meet the expectations of the community, and therefore, no one set of teaching standards or observation model can be universally applied (Kane & Cantrell, 2010). Even with the individualized nature of teacher

evaluation systems across districts and states, research has shown that multiple measures of effectiveness, including student growth measures, student surveys, and teacher observations give the most accurate account of a teachers' abilities (Kane & Cantrell, 2010). Further, even though teacher observations are less reliable as a predictor of student success, the observation process is the strongest method in providing teachers with feedback suitable to change their practice (Kane & Cantrell, 2010). Ultimately, both principals and teachers must engage in sense-making processes to co-construct a system that works (Datnow, Hubbard, & Mehan, 2002; Neumerski, 2013; Spillane & Diamond, 2007).

Teacher observations typically fall into one of two categories, summative or formative. Glickman et al. (2014), for example, made a distinction between summative (judging teaching performance) and formative (assistance and support for teachers' professional growth and improvement). The authors added that formative evaluation focuses on teachers' needs whereas summative evaluation relates to the organization's need for accountability. Moreover, formative is continuous improvement, whereas summative is more concerned with standardization and judgment. Concisely stated: summative summarizes past performance; formative shapes future performance (Darling-Hammond, 2013). While formative and summative observations typically do not mix well (Glickman et al., 2014), the criteria used to assess teachers' work could be used to shape professional learning opportunities (Darling-Hammond, 2013). Tuytens and Devos (2014) argued that teacher evaluation and effective feedback link teachers' professional learning and practice, which then becomes the main purpose of teacher observations. Consequently, the results from formative data collection is to assist in improving professional learning opportunities (Zepeda, 2012). According to Maslow and Kelley (2012, p. 600), '... evaluation has

the potential to provide meaningful feedback to teachers to improve teaching practice and to be an important source of data to inform organizational systems that support teaching and learning.'

In current practice, school principals are the most common evaluators in teacher evaluation (Peterson, 2004). The findings on the reliability and validity of principal evaluation, however, are mixed and inconclusive. Earlier studies tended to show low accuracy of principal judgment (Medley & Coker, 1987; Peterson, 2000). Some studies also found that principals are often lenient and tend to inflate their ratings of teacher performance, especially for high-stakes purposes (Milanowski, 2004). Teachers' colleagues (e.g., mentors, coaches) may also serve as important evaluators. In a longitudinal case study of one urban school district in California, Goldstein (2007) found that teachers identified for excellence may serve as consulting teachers and effectively conduct evaluations of their peers. These master teachers may have more time to support and evaluate the participating teachers and their evaluations are often more transparent. In addition, a good teacher evaluation system may involve outside experts (Peterson, 2000) such as independent observers from another school district. Their credentials and expertise may help increase the credibility of the evaluation.

Educational leaders are increasingly viewing teacher evaluation as a powerful means of identifying low quality teachers and stimulating instructional improvement among all teachers (Kane, Mcarthy, Miller, & Staiger, 2013; Heneman, Milanowski, and Kimbrell, 2007; Odden & Wallace, 2008). In this vain, it is now commonly thought that no matter what the instrument, performance evaluations should provide teachers with meaningful feedback, thereby resulting in improved quality of instruction and growth in student learning (Kane, Mcarthy, Miller, & Staiger, 2013; Heneman, Milanowski, & Kimbrell, 2007; Odden 2004; Wright et al. 1997).

Teacher Reflection

One mode of thought associated with educative experience is reflection (Dewey, 1933). For Dewey, reflection is defined by one's ability "to look back over what has been done so as to extract the net meanings which are the capital stock for intelligent dealing with future experiences" (Dewey, 1938, p.110). Likewise, according to Schon (1983), a reflective practitioner is one who not only plans before taking action and looks back over events to consider alternative choices but also is capable of reconsidering a course of action midstream. It is commonly thought that a way in which the uncertainties of teaching might be reduced is to provide teachers with opportunities to regularly and critically reflect on their teaching, either while it happens or after the fact (Camburn & Won Han, 2015).

Crockett (2002) found that analyzing teaching assignments and student work both prompted reflection on the part of teachers, but that the latter activity was more likely to generate critical reflection than the former. Many models of adult learning posit that adults learn through experience, and most so-called experiential learning models identify a central role for reflection as a process that helps practitioners make sense of and attempt to resolve dilemmas and challenges that arise in their work (Kolb 1984; Marsick & Watkins 1990).

Numerous scholars have made a distinction between ‘‘reflection in practice’’ and ‘‘reflection on practice.’’ Reflection in practice refers to ‘‘thinking on your feet’’ and involves noticing and attending to what one is doing while doing it (Boud & Walker 1990; Schon 1983; Tremmel, 1993). Reflection on practice involves looking back at past experiences and re-evaluating them by considering what worked, what did not, and how one might approach similar situations differently in the future.

Another concept that is directly related to teacher reflection and has had an ever-increasing exploration is the construct of teacher noticing. Because teachers must attend to some elements of teaching while basically ignoring others, teachers are faced with a dilemma (Sherin & Star, 2011). Research indicates that noticing is consequential for teaching; when teachers pay close attention to the details of their students thinking, there are increased opportunities for student learning (Russ & Sherin, 2013). Video is a vital resource for the successful developing of noticing (Borko, Jacobs, Eiteljorg, & Pittman, 2008). Sherin and Han (2004) identifies that because video is a permanent record of the classroom, it is capable of being viewed several times with different lenses, thus promoting ways to see different things taking place.

Teacher reflection varies based on the skill of the teacher and the available experiences they have to draw from. Miller (2011) explains that for novice teachers, they will experience "cognitive tunneling" in which they are only able to attend to a small subset of what is available to them. In contrast, Gusky (1986) describes experienced teachers as being able to draw from much of the available phenomena, identify what is most relevant, and "mark" the experience. As part of the growth of noticing with reflection, teachers are able to identify how they can attend to key events, interpret key events or the create the highest level of reflection by planning to respond in future events (Jacobs, Lamb, & Phillips, 2010; Sherin, Jacobs, & Phillip, 2011).

Although considerable literature has been published, research on the outcomes of reflective practice on teacher effectiveness and student achievement has been scarce. Reflection was not addressed in the 800+ page report published by a comprehensive review of research in teacher education spanning the preceding 25 years (Cochran-Smith & Zeichner, 2005). In a criticism of reflection as practiced among teacher educators, Zeichner and Tabachnick (1991) noted that in some extreme cases, the impression is given that as long as teachers reflect about

something, in some manner, whatever they decide to do is all right since they have reflected on it (p.2).

Feedback

Joyce and Showers (2002) proved three decades ago that workshop-based professional development, no matter how well designed and delivered, had little effect on classroom practice. They also found that this outcome could be changed dramatically if participants actively practiced new skills in the workshops and then were given feedback and coaching on-site in their classrooms on the application of the skills. Numerous studies indicate that feedback is an important learning tool and an essential element in learning (Hattie and Timperley 2007; Hattie 2009). Feedback between learners can be defined as information that allows for comparison between an actual and a desired outcome (Mory, 2003). There is ample evidence that suggest that different feedback methods such as devil's advocacy, dialectical inquiry, role plays, and expert opinion aid in reevaluation of assumptions, improvement in cognitive processes, better conceptualization of problems, and improvement in quality of decisions (e.g., Cosier, 1978; Nemeth, Connell, Rogers, & Brown, 2001).

Thurlings, Vermeulen, Kreijns, Bastiaens, and Stijnen (2012) categorize the types of feedback regardless of the definition used. They state that feedback consists of at least one of the following four elements:

1. data on the actual performance of the learners
2. data on the standard of the performance
3. a mechanism for comparing the actual performance and the standard performance
4. a mechanism that can be used to close the gap between the actual and standard performance.

Thurlings et al. (2012) synthesized the literature around six dimensions of feedback. First, they identify that task or goal oriented feedback is considerably stronger than person-directed feedback (Hattie & Timperley, 2007). Second, specific feedback is more effective than general feedback, although general advice on how to improve one's actions in the future is effective (Black & Wiliam, 1998). Third, feedback that focuses on specific details is more effective than vague feedback (Scheeler, Ruhl, & McAfee, 2004). Fourth, corrective feedback tends to be more effective than non-corrective (Scheeler, Ruhl, & McAfee, 2004). Fifth, although some researchers argue that feedback should be positive (Scheeler, Ruhl, & McAfee, 2004), others argue that negative feedback can motivate learners (Schelfhout, Dochy, & Janssens, 2004), and some even argue that feedback is more effective when it is balanced between positive and negative comments (Weaver, 2006). Lastly, immediate feedback is considered to be more effective than delayed feedback (Mory, 2003).

Receptivity to critical feedback, meaningful interpretation of feedback data, and setting actionable goals based on feedback are attributes and skills that mediate the utility of a feedback system (Bickman, Goldring, DeAndrade, Breda, & Goff, 2006). To develop these attributes and skills that maximize the potential of feedback, additional systems, such as coaching, may be needed. This coaching facilitates the active engagement, learning, and internal reflection on the experience and a future course of action (Bacon & Spear, 2003). Teachers who worked with coaches following feedback improved more than those who did not work with coaches (Smither, London, Flautt, Vargas, & Kucine, 2003). Above all, coaching helps individuals to deal with negative feedback more constructively (Brett & Atwater, 2001). Thach (2002) found that the combination of feedback and coaching increased effectiveness by up to 60 percent. This is one

reason that the combination of feedback with coaching has become one of the fastest growing leadership development strategies in private sector (Luthans & Peterson, 2004).

Coaches have been shown to help teachers focus their strategic efforts based on feedback to specific areas or domains of need. Simply put, feedback and coaching may provide actionable information for strategic, focused action (Goff, Guthrie, Goldring, & Bickman, 2014). Additionally, the literature suggests a dissonance factor in understanding the effects of feedback and coaching. The fundamental premise behind a dissonance explanation is that a discrepancy or dissonance between behavior and a standard increases motivation to reduce the dissonance by bringing feedback from others in line with self-view (Goff et al., 2014). The comparison between self-ratings and feedback from others can challenge behavioral patterns and provide motivation to rethink behavior and its impact on others (McCauley and Moxley, 1996).

Video-based Instructional Feedback

Video-based feedback models are often used in various higher professional education and training courses to improve communication skills of a broad group of interpersonal professionals, including teachers, psychologists, social workers, doctors and nurses, for whom effective communication plays a vital role in their work (Fukkink et al., 2011). Attention of video-based models lies in the comprehensive application focusing on verbal aspects (i.e., what is being said), paralingual aspects (i.e., intonation, pacing, volume, etc.), and non-verbal aspects (i.e., body posture, eye contact, use of gestures) (Fukkink et al., 2011; Hargie & Dickson, 2004). Each aspect is vital as the various communication skills play a significant role in professional practice, including receptive skills, informative skills, and relational skills (Duffy et al., 2004; Hulsman et al., 1999; Fukkink et al., 2011).

Specific to education, as stated earlier, feedback and teacher reflection play a vital role in

skills teaching (Klugger & Denisi, 1996; Shute, 2008). What makes the use of the video feedback method unique in this scenario is that it allows participants to look at themselves "from a distance" and with space for reflection, thereby giving themselves a realistic picture of their own skills, or self-image (Fuller & Manning, 1973). This initial research demonstrated that video was a truly meaningful way to help teachers reflect on their teaching. As technology is becoming more readily accessible and user friendly, there has been renewed interest in using video for teacher development (Grossman, 2005). With the emphasis on cognitive models in the late 1980s and 1990s, video-based research refocused to using video to examine teacher thinking, decision making, and reflection (Rich & Hannafin, 2009, p.53). They go further to say that during recent years, video annotation methods have emerged that afford even greater power and utility for examining and improving reflective practices.

The use of video to assess teachers has been well documented for over 25 years (Tripp & Rich, 2012). Based on this growth in usage, video analysis is now being used as part of teacher credentialing and evaluation processes in many areas. For example, the National Board for Professional Teaching Standards (NBPTS) requires educators to engage in video analysis procedures to obtain a prestigious performance-based national teaching certification. To date, more than 110,000 teachers have completed video analysis procedures to obtain national board certification (Cowan & Goldhaber, 2015). In addition, the American Association of Colleges for Teacher Education (AACTE) collaborated with Stanford University's Center for Assessment, Learning, and Equity (SCALE) to develop edTPA, which requires pre-service teachers to demonstrate target knowledge and skills specific to their credentialing area, in authentic settings while being video-recorded. These videos are then watched by experts to assess the quality and effectiveness of instruction and feedback is presented to these candidates to identify areas of

growth as they enter the profession. Currently, 626 teacher preparation programs across 41 states with more than 18,000 candidates are using edTPA (Pearson Education, 2014). Ten of these states have adopted specific policies requiring teacher candidates pass the edTPA as a prerequisite for teaching licensure and include both video observation as well as self-reflection documentation.

Video-based coaching involves the adult learner watching a film of themselves and receiving feedback on their performance. During video analysis, teachers video record their own teaching in authentic settings and subsequently, review the video evidence, and take note of their own abilities (Nagro & Cornelius, 2013). One example of an activity commonly used for teachers called microteaching requires teachers to record a video of themselves teaching and then later analyze the video with peers. A microteaching video offers the teacher an opportunity to reflect on their lesson and receive constructive feedback. Data support this video-based review as a useful strategy for teachers to both improve the ability to evaluate teaching and make changes to teaching practice (Tripp & Rich, 2012). Wang and Hartley (2003) best summarized the uses of video analysis as an activity that can both transform existing beliefs and practices as well as support the acquisition of new teaching knowledge and skills. Teachers involved in microteaching also reported aspects of the video review that helped them to change their own behavior, including a focus on key behavior, the opportunity to see themselves teaching (new perspective), and see their own progress (Tripp & Rich, 2012).

While the development of video technology is reshaping the traditional methods of classroom observation (Sherin and Star, 2005) studies have begun showing that the use of video identifies that teachers can learn and change practice and shows promise to be used as a tool to enhance teacher reflective practices (Trip & Rich, 2012). Video observation tools allow an

individual to both capture and analyze video of personal teaching practice, enabling teachers to review, analyze, and synthesize captured examples of their own teaching in authentic classroom contexts (Rich & Hannafin, 2009, p.53). However, according to Sherin and van Es (2005), video based tools can direct analysis, implicitly or explicitly, using an appropriate lens of framework to guide interpretation, which is a position shared by the majority of video reflection researchers. Grainger (2004) concluded that allowing teachers to view and discuss their teaching was the best way to access knowledge about what influenced the teachers' actions and Zhang et al. (2011) describe the use of video as a "window into practice" (p. 459) thus allowing reflection to occur.

When teachers see themselves teaching on video, they report that this tool provides an anchor for their reflection and inquiry and thus contributes to the ability to develop functional habits. In a study by Harlin (2010), most of the teachers were surprised by their actions when they saw themselves on video. They drew attention to new aspects which they had not noted in the reflection paper they had written from memory alone. It is in this way that reflection through video analysis has been shown as a more effective method for developing reflective abilities when compared with traditional forms of reflection from memory or alternative forms of reflection including watching videos of other teachers (Borko, Jacobs, Eiteljorg, & Pittman, 2008; Calandra, Brantley-Dias, Lee, & Fox, Kobarg, & Schwindt, 2011).

In a similar study conducted outside the field of education, Stokes, Luiselli, Reed, and Fleming (2010) compared the effects of (verbal) descriptive feedback alone and (verbal) descriptive feedback in combination with video feedback on high school football players' pass-blocking skills. In the descriptive feedback alone condition, football players were not able to improve their pass-blocking skills. Once shown a video of themselves and then given descriptive feedback, their pass-blocking skills improved.

Teachers state that they wanted to be more active participants in their learning process and with support from the video, these teachers had become aware about their actions and expressed their intention of changing some of their habits. Various other research articles state that the use of video as a tool contributes to their ability to make themselves an object of observation and to see things in a more concrete way rather than based on their memory which is flawed and sees only what it chooses to see or what it thinks it sees which is many times not reality (Calandra et al., 2009; Lazarus & Olivero, 2009; Wright, 2008).

Lazarus and Olivero (2009) showed that video work enhanced teachers' ability to notice how they teach and served as a tool for the teachers' self-reflections. Calandra et al. (2009) and Harlin (2010), reported that when teachers watched themselves on video, they wrote longer and more multi-faced reflections than without the video tool. Wright (2008) showed that teachers increase their capacity for self-reflection when supported by watching their own actions on film, leading to the development of more effective habits in their teaching. In another study (Beardsley, Cogan-Drew, & Olivero, 2007), pre-service teachers who recorded their teaching were asked to select clips from their videos in which they in some way were surprised by their own actions and they then reflected on this. The results showed improvements in teachers' ways of reflecting on their classroom practice as they see themselves on video stimulated their reflections.

Teachers mention that these professional experiences create the courage to let go of some of their control allowing them to take greater responsibility of their learning process (Hauge & Norenes, 2009). Not only did they benefit from the increased level of control, the teachers also stated that they benefited considerably from discussing their teaching with each other, using the videotaped sequences as a basis for the dialogue (Sherin & van Es, 2005).

Reviewing video-recorded lessons from internship activities allows teacher candidates to rewatch a single lesson multiple times to develop the ability to identify effective instruction during real-time classroom situations without having to simultaneously teach (Martin & Ertzberger, 2013; McDuffie, Foote, Drake, Turner, Aquire, Bartell, & Bolson, 2014; Sherin & van Es, 2005; Wang & Hartley, 2003).

One of the more significant applications is the establishment of remote video classroom observation, something that has meant that lesson observations are able to be conducted without visiting an actual classroom, through utilizing digital networks (Liang, 2015). In Wiesemes and Wangs research (2012), the principal interviewees stated that video observation allows them to see every small detail about the lesson, the pupils, and the classroom, so he could just relax and observe. Principals see the use of video as a tool that will alleviate significant strain on human capital as it can both support the evaluation process while also support the coaching and teacher reflection process. Grissom, Loeb, and Master (2013) found that principal "time spent on teacher coaching, evaluation, and developing the school's educational program" predicted positive student gains (p. 433). Although it is clear they have a significant impact, only 10% of their time on teacher observations and professional development and the use of video as a tool can significantly alter this percentage (Khachatryan, 2015).

Summary

This chapter was structured to review both the theoretical frameworks underpinning this research as well as an extensive review of all related research around areas that effect video-based instructional feedback. The literature focused around the supervisory practices of teacher evaluation and how they relate to mentoring teachers and using video to increase teacher effectiveness, growth and reflection. Stemming from pedagogical data-gathering through video,

related literature around teacher professional development and coaching connect the ideals of promoting reflection through the use of coaching. The chapter concludes with connections being made across all domains directly into the use of video-based feedback systems, focusing on the areas of teacher reflection, and teacher professional development enhancement. Tripp and Rich (2012) point out, most studies that have examined the impact of using video analysis to reflect on teaching reported that video analysis was beneficial for helping teachers evaluate their teaching, yet, few studies actually describe how video impacted the teacher change process. A significant and concrete step, then, for future research addressing this dilemma is the implementation of video-based observation coupled with professional development and coaching for its use targeted at teacher reflection (Baecher & McCormack, 2015). These concepts relate directly to the research questions found in this study regarding using video feedback to generate teacher reflection and professional growth, while holding true to the constructivist adult learning styles.

CHAPTER THREE: METHODS

Overview

The purpose of this qualitative multi-case study was to examine the use of video-based instructional feedback models in a rural southern district. During this research, video based feedback was generally defined as a teacher observation/evaluation method offering teacher self-reflection and peer feedback using video observations and online coaching tools. The foundational theories guiding this study were Mezirow's (2006) transformative learning theory and Kegan's (1982) constructive-developmental theory, specifically connections to "ways of knowing" as well as Bandura's (1997) social learning theory. Yin (2009) summarized that one should move to a multiple case study if different cases will bring to light further information and not merely be a replication of data. As reflective practices are different among all teachers, especially at different academic levels, it was necessary to involve multiple cases to ensure the depth of data across the K-12 educational field. This chapter details the design of the study, including the research questions, setting, participants, procedures, data collection, data analysis, role of the researcher, and trustworthiness, which were all centrally focused around exploring the phenomenon of video-based instructional feedback.

Design

The issue of video-based feedback needs to be further explored in relation to reflective practices through the use of instructional coaching. Due to the complex and detailed nature of changing effective teacher practices (Creswell, 2013), and seeing that this study seeks to gain meaning and understanding with phenomenon which takes place in a natural setting, a qualitative approach was most appropriate. McMillan (1996) identified that when one wants to gain a level of specificity through detailed interactions and examine multiple perspectives, a qualitative

approach is the most appropriate methodology. The appropriate methodology will then be driven by the research question that one wants to use to focus the research. "How and why questions tend to be more explanatory and likely will lead to the use in case studies as the preferred method" (Yin, 2009, p.9). A case study is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and larger bounded system are not clearly evident (Yin, 2009). Video-based instructional feedback is a relatively new phenomenon being utilized for the larger context of instructional supervision. This real-life use is neither mandated nor expressly for the purpose of feedback; therefore, individuals that are exposed to this phenomenon offer a unique individual perspective within a bounded system of the district. This, then, created an opportunity to triangulate within and across cases which increases the transferability of the research findings (Patton, 1990).

Stake (2010) explained that if a study is exploratory in nature, while the purpose is pre-established and guided by existing research, the focus of themes detailed by the research questions will drive the case. As the themes in this research go beyond the specific grade levels or district where the research occurred, the purpose of case study also goes beyond the case, so it was determined to be an instrumental multi-case study (Yin, 2009). Specifically, the data collected was holistic in nature in order to gather a clear understanding of the phenomenon of video-based instructional feedback across the span of grade levels from multiple perspectives, including the teacher, coach administrator and district level coordinators. This, then, was defined as giving attention to the whole rather than to one or more parts, which defines the study further as an instrumental study (Stake, 2010). Stake (2010) further described the case study process as holistically detailed, rounded, and contextual. As such, the research only tells the

details of the story needed for the audience to understand the process of video-based instructional feedback in the context of the K-12 setting, thus creating the instrumental nature of the case study.

As this research "attempted to explain the 'why or how' behind the phenomenon, the next step was to determine one's control and access to actual behavioral events" (Yin, 2009, p.11). With case study research, the investigator is unable to manipulate the behaviors of the individuals directly, so unlike laboratory experiments, the multi-case study method is the preferred methodology to gain a larger perspective. Stake (2010) described the power of a case study to be in the researcher's situational attentiveness, and saw the purpose of multi-case research as illuminating contextual problems while constructing experiential knowledge. The design of a qualitative multi-case study thus allows the investigator, myself, to explore a real-life, contemporary bounded system of video-based instructional feedback, through a detailed, in-depth data collection (Creswell, 2013; Stake, 1995; Yin, 2009). As the study itself explored in great detail the personal experiences of individuals from several sites who have utilized video-based instructional feedback, the most appropriate design must have been considered a multi-case instrumental case study.

To address the challenges of both validity and reliability, Yin's (2009) three principles of data collection were used: multiple sources of evidence, which will develop converging lines of inquiry; creation of a case study data base which will organize and document the data collected for triangulation purposes; and maintaining a clear chain of evidence so that an audit trail can easily follow the derivation of any evidence from the initial research questions to the ultimate case study conclusions. Highly effective case studies provide multiple sources of evidence that are both deep and varied (Yin, 2009). Data collection and analysis associated with multi-case

studies corresponds with those of other qualitative research designs and this study will follow as it will include interviews, observations, existing/archived documents, and researcher-created materials (Merriam, 2009; Patton, 2002; Stake, 2010; Yin, 2009). All of these data points were triangulated to support greater validity and reliability as well as transferability (Yin, 2009) through the documentation procedures. To ensure appropriate data collection and analysis, linking the data and identifying the criteria for interpretation structured the study to allow definitive analysis procedures which supported what data, how much data, and how it was to be used to define the conclusions (Yin, 2009).

The data analysis began using the research questions as the initial themes to be examined (Yin, 2009). The key to case study research, unlike experimental research, is the use of analytical generalizations, which allows previously generated theories to be used as a template from which to compare the empirical results of the case study. As the research questions were directly correlated to the various theories that guided this research, generalizations from theory were the main vehicle for analyzing data for this case study (Yin, 2009). As further data were collected and analyzed, new themes emerged and were then analyzed for further data collection. Through the collection, transcription, member checking and external audits, original and new themes were continually analyzed to further define interview questions which ultimately continued to refine the data analysis. These data were then analyzed within and across the cases, resulting in strong comparisons, which is essential in a multi-case study (Yin, 2009).

Research Questions

Central Question: How do educators use video-based feedback to enhance teacher efficacy within the process of instructional supervision?

Sub-Question 1: What factors are identified as central to implementation of reflective practices through video-based feedback?

Sub- Question 2: How do educators who use video-based feedback tools design individual professional learning in order to enhance self-efficacy?

Sub- Question 3: How does using video-based coaching feedback contribute to altering teacher pedagogical practices?

Sub- Question 4: How do teachers make the connection of this experience to understanding their individual "way of knowing?"

Setting

Low Country District (pseudonym) is a small, rural school district located in the southeastern United States. The enrollment within the district is 2,403 students housed with seven separate schools. There are currently 168 classroom teachers employed in the district. On the state's accountability report card, the district has been "average" (3) to "good" (4) over the previous five years. The poverty index for the district is 75%. Seventy-seven percent of teachers are on continuing contract and 64% of teachers hold advanced degrees. The teacher attendance rate is 93.4% and 85% of teachers are returning teachers from the previous year which are both significantly higher than comparable districts. The overall student:teacher ratio is 14:1 within the district and due to a board mandated policy, no classroom in this study can have more than 23 students. The racial makeup of the student population is 56% Caucasian, 31% African-American, 17% Hispanic, 2% Asian, and 4% other. One primary school, one elementary school, as well as the comprehensive district high school were the sites that were utilized for this study.

This district was chosen for the study because the district has been using video-based coaching tools for the previous three years. The turnover rate for teachers, principals and coaches is well below the average for the state, and therefore will allow for a more in-depth, longitudinal examination of teacher practice from all those interviewed. The average rating of

both the district and schools demonstrate the capacity of teachers to examine practice and understand potential modifications using best-practice strategies. The schools have been involved in comprehensive reform projects from the state dealing with coaching teachers through rubric based evaluations for the previous seven years and teachers, coaches, and administrators have all demonstrated capacity to coach and be coached. This district is one of only seven which have utilized the new state evaluation rubric previously.

Participants

According to Creswell (2013), "The idea behind qualitative research is to purposefully select participants or sites (or documents or visual material) that will help the researcher understand the problem and the research question" (p. 185). To this end, the study utilized purposeful sampling through maximum variation as well as critical case in Low Country School District to ensure that the participants best informed the research within this study (Yin, 2009). At each school, a list of teachers was identified that have used video-based feedback procedures for two years or more. Teachers on this list were continuing contract teachers who have had the same instructional coach for more than one year, which allowed the researcher to verify that the participants have met the minimum standards of practice, according to the state. The teachers were all core content teachers. Once the pool of potential teachers had been gathered, an interest letter was sent to the potential participants. Based on the level of interest, the researcher determined one case per school which was unique and able to give a maximum variation to the phenomenon while holding tight to the specific problem of the study around using video-based feedback coaching. One teacher per school level was chosen to focus on one critical case per grade span. Each teacher was also directly connected to a peer (mentor), an instructional coach, and an administrator. Through these connections, multiple perspectives were gained broadly

across the grade span while more in depth analysis within one grade level allowed for greater cross case analysis in the final analysis. This allowed for what Geertz (1973) considered a thick description, while keeping the study to a specific, unique, bounded system (Stake, 2010) as much as possible. District level assistant superintendents and instructional coaches were also part of the data collection to gain a more comprehensive view of how these practices translate to the district vision of teacher reflection (Darling-Hammond & McLaughlin, 1995; Danielson, 2013).

Procedures

At the onset of the process, a review of literature was completed on all aspects regarding video-based instructional feedback. This review included all current research as well as the foundational research that was initially conducted on this phenomenon. After concluding that this phenomenon was worthy of further study, an outline was produced that explored the most appropriate methodology for this research. Once concluding that a qualitative case study was the best fit exploring in further depth the understanding of using video for instructional feedback, the theoretical framework was constructed, along with the initial purpose, research questions, site preparation, including potential participants, as well as the data collection and analysis methods. The initial proposal was defended and the research plan was submitted to the Institutional Review Board (IRB) at Liberty University. No research took place until approval had been granted by the IRB.

Interview questions were created and piloted among individuals who mirrored the participants to minimize the ambiguity and interpretation of results (Yin, 2009) at the same time the initial selection of the potential teachers at each school site occurred. In order to effectively identify that the questions pointed directly to the theoretical framework as well as directly support the research questions, the investigator piloted these questions to a group of non-

participants that have similar experiences (Yin, 2009) from a different, yet similar district. Once the final sites were approved, the researcher worked with the proper chain of command at the district to identify the final cases properly prior to formal data collection (Yin, 2009, P. 91). This identification of the potential participants was based on content and years' experience using video-based instructional feedback systems. Upon receipt of the potential participant list, a brief survey was sent as an initial screening procedure which entailed querying people knowledgeable about each candidate in order to collect limited documentation about each potential candidate. The goal of this initial screening procedure was to be certain that one can identify the final cases properly prior to formal data collection (Yin, 2009, P. 91). Once final selection of participants were made, consent forms, including the description and purpose of the study as well as data security and confidentiality agreement, was distributed to all participants (Stake, 2010; Yin, 2009). At the initial meet and greet, demographic data was gathered and a schedule was created to identify the follow up meetings, observations, and procedures that were followed regarding further data gathering.

Each identified participant was observed multiple times, both through video as well as onsite by the investigator. Face to face interviews were conducted with all participants, peer teachers, instructional coaches, and administration. Multiple documents were also collected that further created a more concise picture of the teacher growth, reflection, and professional development. This data was collected and analyzed simultaneously to allow for refinement of interview questions based on newly arising themes (Merriam, 2009). A thick description (Patton, 2002) of each case, participant, documents, and cross-case analysis was developed during the study. The final data was run through several member checks as well as through the external auditor to ensure the saturation of and accuracy of the data. Once the final transcription

of each interview was completed, the researcher furnished the interviewee with the transcribed interview in an effort to ensure the validation of the answers. I final member check was completed once the final themes had been created to gather any final thoughts from the participants. Upon final review of the data, the final dissertation was completed and once defended, the data was disseminated to the participants.

The Researcher's Role

I am a state level director for human capital management systems in South Carolina as well as a professor and director at a small University in Georgia. I am a former elementary and middle school principal in South Carolina. I am entering my 21st year in education, my 9th year involved with teacher evaluation at the state level, and my second year as a professor and director for my university dealing with K-12 partnerships, induction, and teacher and principal development. I am pursuing this form of qualitative research as a human instrument. I wanted to understand the opportunities to utilize tools to better enhance the teacher observation process as well as enhance teacher reflection. Through the years of my tenure as principal and in the State Department, I have experienced numerous methods for observing and providing feedback to teachers. The one aspect of the process that remained constant was teachers providing feedback on themselves through various formats.

This is considered a bias and assumption from personal experience; however, a teacher can only grow when they see and understand what is truly occurring in the classroom. No matter what observation tool is used, unless teachers internalize the occurrence and make connections to differences that could have occurred, no growth will occur. I wanted to collaborate with participants in either rural Georgia or rural South Carolina due to the concerns of stress on human capital when it comes to teacher observations. While I have had a relationship with this

district and schools as part of my position at the state department, I have not specifically worked with these teachers nor do I hold any rank of position over them. I am not a participant in the study; however, I observed the three primary participating teachers as well as conducted a post conference with them as a data collection tool. I conducted individual interviews as well as focus group tool. I embraced the role of a human instrument (Creswell, 2013; Patton, 2009) as a data collector and an analysis of data.

Several assumptions and biases will be presented in this case study including the basic definition of teacher observation as well as what constitutes appropriate feedback. With several years of experience in education, I brought to the study my personal assumptions and biases. It was a difficult task to observe the teacher and analyze their self-reflection without giving them feedback. Another view I bring is the basic understanding of teacher evaluation processes, as well as working within a rural school system. Many schools adopt various evaluation tools that help guide the observation process. This is a concept familiar to my years in education both at the school and state level, so I came into this study with this particular bias. The observation process is one that should be completed with the teacher and not for the teacher and should be applicable directly into their classrooms. The concept that all teachers will each have a voice and be intricate members of their observation team is not an assumption that is easy to put forward in public education.

Data Collection

A critical aspect of qualitative inquiry is rigorous and varied data collection techniques. Data collection procedures are vital to increasing the reliability of the research (Yin, 2009). Also necessary within the data collection procedures is the assurance of at least three sources of data to enhance triangulation and allow for trustworthiness, credibility, dependability, and

transferability (Lincoln & Guba, 1985; Patton, 2002; Stake, 2010; Yin, 2009). The data collection performed in this study was typical of multi-case qualitative studies (Stake, 2010; Yin, 2009) and included interviews, observations, and document reviews. This data was compiled and analyzed concurrently to ensure the fluidity of themes in order to generate the richest and deepest data collection possible (Stake, 2010).

Interviews

While one is not able to observe all details in a phenomenon, there are many others who have (Stake, 2010). With qualitative case studies, the most important source of information and evidence is the interview (Yin, 2009). Therefore, the use of interviews was an extensive portion of this research and stemmed from the theories which this research was built upon (Yin, 2009) as well as the data that was collected throughout the research. I interviewed select individuals that allowed for the greatest depth of knowledge and understanding about the use of video-based feedback systems. As the interviewees were the central to the study by providing insights into all aspects of the events, the selection of the participants was most important (Yin, 2009; Stake, 2010). From each school, the three primary participants and their instructional coaches took part in in-depth interview protocols, taking place both with individual time-sensitive conversations as well as mini-conversations over an extended period of time (Yin, 2009). The interviews with the peer teachers and administrators were more focused interviews, with open-ended questions derived from the case study protocol directly correlated to the research questions (Yin, 2009). All interview questions were piloted with several similar non-study participants to ensure clarity of the questions.

Focused interviews lasted between 45 minutes to an hour. These interviews were captured both with video recording as well as note-taking during the interview process to allow

the interview to have a conversational feel while staying on topic (Yin, 2009; Stake, 2010). The use of video not only captured what is being stated, but also the body language of the participants which furthered the available evidence gathered. All interviews were transcribed by the researcher or a professional transcriptionist.

Open-Ended Interview Questions

1. Please introduce yourself to me as if we have never met.
2. Describe your view of integration of technology in the educational field.
3. Please describe the observation/evaluation process that occurs at your school.
4. Please describe your experiences with coaching or being coached.
5. How long have you used video-based feedback systems?
6. In your view, what are the strengths and weaknesses of the system?
7. How has the use of video-based feedback helped you grow as a teacher?
8. How has it limited your view of being coached?
9. What has the leadership done to strengthen the use of video-based feedback? What have they not done in your opinion?
10. Has the system allowed you to reflect more as a teacher? If so, in what ways?
11. How has the use of video-based feedback supported your growth goals?
12. How does the self-reflective nature support your professional learning?
13. Does the feedback within the system support your growth?
14. How does the system help you identify changes you want to make in your teaching?
15. What is different between the use of the system and traditional observation feedback?
16. How does coaching via video compare to real life coaching?

17. There are a variety of learning styles that have been identified in education, how does this system support your individualized learning style?
18. How does this system help you identify the direction you want to take in your professional learning?
19. How does this system support your identification of new learning compared to other models you have been involved in?

Questions one through four are simple knowledge questions (Patton, 2010), and were designed to create a background for each interviewee in terms of their teaching and practices as well as their understanding and comfort level with both evaluation practices and coaching. These questions were designed to be straightforward and comfortable which helped develop rapport with each participant (Patton, 2010). While these questions were used as the basis for the opening portion of the conversation, varying follow up questions were asked based on the conversation in order to make the tone conversational while gathering more in-depth answers as needed.

Video is a powerful tool for teachers to hone their expertise, share best practices, and receive feedback. However, the potential will not be realized if the right technology and infrastructure is not in place (Quinn et al., 2015). Zhang et al. (2011) described the effectiveness of using video as much as how it is implemented as to if it is implemented. Tripp and Rich (2012) stated that significant research is still needed to investigate: (1) the items which should be observed, (2) how the logistics of logistics should be carried out, (3) the most effective way to edit or provide feedback, and (4) are other factors needed to enhance the effectiveness. With these in mind, questions five through ten are structured around the initial research question and were designed

to investigate the factors that are central to implementing a highly effective video-based feedback model that supports coaching and reflection.

Questions 11 through 13 focus on Bandura's (1997) concept of self-efficacy and one's ability to manipulate and change that perception based on reflective feedback. When teachers reflect about their own classroom videos in more flexible ways (Calandra, Gurvitch, & Lund, 2008), they may be less likely to only temporarily reconstruct their existing beliefs, acquire 'one-shot' kernels of knowledge, or express their thinking in ways that are tightly bound to the video context (Danielowich, 2014). In this way, these three questions were central to gathering participant perceptions on how using video-based feedback models supported their reflection through the feedback that they receive.

Emphasizing contextual understanding, critical reflection on assumptions, and validating meaning are crucial to seeing transformation in adult learning (Mezirow, 2000). He further stated that "learning is understood as the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one's experience as a guide to future action" (p. 5). Video technology makes it possible for teachers to video their instructional strategies for self-analysis and self-reflection. It also can enhance face-to-face professional development sessions when professional developers or coaches review classroom video and provide feedback to teachers online (Saphier, 2011). With this transformative learning as the core, questions 14 -16 focus on the differences between traditional coaching and video-based coaching in order to examine the enhancement of instructional transformation.

The final three questions get to the heart of the research and focus on not only transformative learning, but teachers understanding on how they are learning and applying this new learning.

Change in subject-object relationship is progressive in that it represents individuals' taking increased responsibility for the sense that they make (Kegan, 1994). As meaning-making evolves, thinking becomes less rigid, exclusive, simple, and dogmatic and more flexible, open, complex, and tolerant of differences (Eriksen, 2006). A person who makes meaning mostly with a socializing way of knowing has an enhanced capacity for reflection. Unlike instrumental knowers, socializing knowers have the capacity to think abstractly and to consider other people's opinions and expectations of them (Drago-Severson, 2008). Therefore, the final questions, as the most difficult, attempt to push the participants to become metacognitive and identify the how and why (Yin, 2009) regarding video-based learning enhancements to their understanding of self within their own situation.

Observations

Observational evidence is useful to witness the phenomenon being researched as well as provide additional information that may not be captured through the interview process (Yin, 2009). As the evolution of teacher practice is the pragmatic outcome of using video-based instructional feedback, observing the teacher in action as well as examining the teachers' reflections of the performance is a vital aspect of the research. Each primary participant received a full class period, announced observation of their classroom, by the researcher during the data collection phase. The primary participant teacher also was asked to video themselves twice, at the onset of the research and at the conclusion of the research. In addition, each primary participant teacher was observed once by an administrator, an instructional coach, and a peer teacher during the data collection phase. Lastly, the administrator, instructional coach, and peer teacher was asked to observe the video-taped lessons on the feedback system and provide the participant teacher with feedback through the system and in person if desired.

The observers utilized the district observation tool, which is also the new state mandated 4.0 observation rubric, in order to ensure consistency with gathering evidence that the teacher will feel comfortable with. The self-reflection rubric was also based on the same state mandated teacher observation rubric. All observers, including the researcher, are fully certified on this instrument and all teachers have been trained and have used this instrument since its inception six years ago.

The researcher observed the teacher during one of their self-reflection sessions which was captured through the video-based feedback system as well as a coaching session using the video-based instructional feedback performed by the instructional coach or administration. All reflection and coaching sessions were video-taped as well to ensure accuracy. All field notes were also included to describe the culture of the classroom, subjects, and events preceding and after the actual observation and coaching session.

Document Analysis

Relevant documents are an important part to reflect the overall nature of teacher observations (Yin, 2009). Documents examined prior to the observations and interviews included the teacher handbook and district evaluation protocol. This allowed the researcher to gain an understanding of the requirements and recommendations for the use of video-based instructional feedback. After the observations were complete, the researcher gathered the teacher evaluation rubric results for the prior three years (one year prior to the start of video-based feedback modules being used). In addition, the researcher gathered the documentation from the video-feedback system, including all feedback produced from self-reflection as well as by peer, coach or administrative reflection and coaching. Further documentation was collected regarding the professional learning communities led by the instructional coach specific to the participating

teacher, leadership team logs which included professional development design, and leadership professional development plans and corrections.

Data Analysis

According to Stake (1995), there is no right way to analyze data and each researcher must determine the way that works best to answer their research questions. However, Stake (1995) does define four aspects that are necessary for data analysis: categorical aggregation, direct interpretation, pattern identification, and naturalistic generalization. Using these four aspects of data analysis, the researcher will analyze the data both within and across each case for commonalities and differences in each piece of data collected. While analysis of each set of data collection will be addressed individually in this study, analysis will not be complete until the data is triangulated (Yin, 2009); that is, the data from each method of collection provides assurance that important themes have been generated, given meaning and interpreted correctly (Stake, 1995) both within the individual case and across all three cases.

The researcher specifically used categorical aggregation and direct interpretation when analyzing data in order to form themes (Creswell, 2013). The most desirable technique of pattern matching was the primary form of analysis (Yin, 2009). These patterns took the form of nonequivalent dependent variables, rival explanations, simple, and precision patterns. Under the correct circumstances, computer assisted software designed for qualitative data analysis was used to assist in the data analysis (Yin, 2009). The use of NVivo, in which repeated words and phrases were grouped and analyzed for deeper understanding, assisted in identifying relevant big picture themes which guided more individual analysis by the researcher (Yin, 2009). The researcher then continued to use the computer generated results as well as the transcribed documents themselves to search for meaning. The final analysis was completed using the

traditional paper and pencil method, highlighting and marking the transcribed texts. According to Yin (2009), there are four things the researcher must do to have the highest quality data analysis: (a) attend to evidence, (b) address rival interpretations, (c) address the most significant aspect of the case, and (d) use prior, expert knowledge in the analysis. Upon analysis, conclusions were drawn and then used to form the identified themes.

Another primary technique which was used was explanation building (Yin, 2009). While this is mainly relevant for explanatory case studies to build an explanation about the case through data, it is appropriate for this instrumental study to explain how the phenomenon of video-based reflection creates a different model with different results. In order to explain this phenomenon, the investigator created a presumed set of causal links about how and why something happened (Yin, 2009) based on the various forms of data collected throughout the research and drew conclusions based on this data.

Open Coding

Coding of the participant's responses were conducted in cycles. Stake (2006) presented three tracks for cross-case analysis. The first track focused on each case individually; the details of each case are analyzed completely separate. Second, it is necessary to merge case study findings. The final step then is finding the similarities and differences amongst the studies in order to help guide generalizations. All initial data collection occurred at the first site, and initial codes were generated. As data was initially collected at the second site, some codes were revised to more accurately reflect interpretation of meaning, and to identify more overarching initial themes (Yin, 2009) unidentified at the onset of the first site data collection, which then developed subsequent levels of coding (Merriam, 2009) for the second cycle. The protocol for analysis of the initial case began with the first participant's and connected member's interviews,

observations, and document review. The initial themes for coding were identified. Each individual participant case culminated in a summary report, using word tables. After initial analysis of the first participant, the next participant was analyzed and the analysis continued across each individual case.

Within Case Analysis

Frequent member checks occurred with all participants, both after interviews and document review, as well as through external auditors. Yin's (2009) four strategies for high quality analysis guided the case analysis: attending to all the evidence, addressing rival interpretations, focusing on the most significant aspect of my case study, and drawing upon my own expertise, prior knowledge, and experiences in the field of teacher observation, coaching, and reflection. Focusing on one case at a time and then comparatively across cases helped triangulate the data to ensure important themes were identified which supported replication (Stake, 2010; Yin, 2009).

Each case's data, including: observations, video-taped recordings, reflective journals, interviews, and document attributed to each case were examined individually and word tables for each case will be created (Yin, 2009). As interpretation is the key to understanding word tables, not frequency, detailed descriptions of each case was summarized from the word tables to fully capture the uniqueness of the individual case, which then was used for the cross case analysis (Yin, 2009).

Cross Case Analysis

The investigator used pattern matching (Yin, 2009) to build internal validity. After analyzing the first case, the data was then compared to the analysis of the other two cases. Using the themes from the first case, the data was compared to the themes identified in the two other

cases to construct a stronger correlation of evidence or identify rival explanations (Yin, 2009). Throughout the examination, as additional patterns emerged, the new patterns were applied to the previous cases to examine whether additional information was required or if the pattern was simply overlooked. The examination of the word tables from each case was then compared to the focus group interviews as well to further examine across all cases as well as across all views of the cases. The conclusion of this analysis resulted in all identified patterns being explored at all sites and allowed for greater interpretation.

Trustworthiness

Trustworthiness in qualitative research is comparable to validity of quantitative research (Patton, 1990). The following methods were used to increase the trustworthiness of this study: credibility, dependability, and transferability. In line with the criteria of trustworthy qualitative research, establishing the trustworthiness of a multi case study was achieved using measures such as multiple methodology for sampling of participants, multiple sources of data collection, and multiple sources of analysis (Lincoln & Guba, 1985; Patton, 1990; Stake, 1995; Yin, 2009). The related issues of credibility, transferability, and dependability and confirmability are further discussed below.

Credibility

The consistent use of member checks with participants and my expert external auditor was consistently used throughout the data gathering process and analysis. The external auditor was the third committee member of the dissertation team, Dr. Ashely Gess. She is an expert in supervision, coaching, and efficacy building and works within a teacher prep program focused on these ideals. She does not work in the Lowcounty Schools. This was important for the review and response to ensure reliability of the data collected from the participants.

To be defined as robust evidence, it must be established from three independent sources, and the three sources coincide (Yin, 2009). In this vain, the use of interviews and single case documentation along with the data gathered from four different user groups (teachers, peers, administrators, and coaches) was the source of triangulation. In addition, the use of documents/artifacts across all cases as well as observations served as part of the triangulation method. Inherent in any study is the potential for researcher bias (Stake, 1995; Yin, 2009). A suggested procedure for establishing validity in qualitative research (Moustakas, 1994) as discussed in earlier section, was the self-disclosure of the researcher's role in regards to personal experiences with the topic, established beliefs, and existing assumptions with potential to bias the study. Additionally, as recommended in Patton (1990), the data was cyclically reviewed for emerging themes, completeness, and disconfirming.

Dependability and Confirmability

In order for an independent auditor to review all phases of the study to check for reliability, I used an audit trail to detail all procedures, data collection, and data analysis methods and document them in a dissertation notebook. The audit trail contained the researchers' documentation of how the study was conducted; including what was done, when, and why (Donald et al., 2006). The independent auditor for this case study was an educational consultant at the South Carolina Department of Education who recently completed her case study dissertation from Liberty University. As Yin (2009) stated, it is necessary to organize this documentation to maintain the appropriate chain of evidence which creates the link between the proposed research questions, the data collected, and the conclusions drawn. I also journaled in a dissertation notebook and keep all notes, questions, and correspondence with participants, members of my team, and the expert and independent auditors.

Transferability

Through a process of continuing to perceive and reflect upon acts of research, one comes to know the meaning of experiences and the relationship to others, so one is able to relate the process to other individual studies (Moustakas, 1994). In order to allow the results of this research to be transferred to other schools or districts, the study used thorough descriptions of the data collection and analysis procedures. The total replication of the study will not be needed to allow for transferring of knowledge; however, the methodology and procedures are detailed if replication is desired. As identified earlier, participants were selected for their ability to maximize the variation among participants for transferability. This final report includes participant sampling limitations and the procedures used in this research. Any aspect of this multiple case study could be used to examine or assess the use of video-based instructional feedback.

Ethical Considerations

Within any study, the issue of ethical conduct on behalf of the researcher must be considered (Creswell, 2013; Moustakas, 1994; Rossman & Rallis, 2003). Stake (2010, p. 29) stated that qualitative studies involve "the issues of other human beings," noting that "privacy is always at risk and entrapment is regularly a possibility." After successfully defending and receiving approval, an application for the proposed research was submitted to the Institutional Review Board (IRB) at Liberty University, Lynchburg, Virginia. The study procedures were reviewed to ensure ethical conduct of research. The researcher waited for final approval from IRB before conducting any research or taking any further steps into the research process (Bickman & Rog, 2009; Stake, 2010; Yin, 2009).

The protection of participants' confidentiality was first and foremost in this research. Informed consent was gathered by all participants prior to the start of any research and met the criteria checklist as identified by Patton (2002), including the statement of purpose as well as the voluntary nature of the study and adherence to detailed confidentiality rules. Confidentiality was maintained by giving all participants pseudonyms. To ensure alignment to the correct participant, all data was correlated using an alphanumeric system for the researchers purpose only. For example: "School 1, Case 1A" represents a participant from the first site. "School 1, Case 1B" represents the administration connected to the first site participant. As evidenced in the results and conclusion sections, participant pseudonyms were the only identifying factor used.

To provide maximum protection of participants' confidentiality and minimize risk, the interview recordings do not contain any personally identifiable information (Bickman & Rog, 2009) and were stored on a removable data storage USB drive (Merriam, 2009). The evidentiary documents were secured in a locked file cabinet and have all identifiable information replaced with alphanumeric values that represent the pseudonyms used for each school and participant. All information stored on a computer are password protected and are made available to the researcher and, as needed, to the dissertation committee and auditors only.

Potential issues included teachers not receiving the quality feedback they desired from the process and feeling that the research was the cause of them going down an improper instructional path. A second consideration was that teachers could potentially see this process as a more effective process than that of the one designed by the school/district, which could ultimately put the teacher at odds with the school. Clarification on both aspects was

communicated up front prior to the start of the research to ensure that teachers and district fully understood the purpose of the study.

Summary

This study aimed to examine the use of video-based instructional feedback on teacher reflection. The research design involved multiple cases which best supported finding a general explanation both within cases as well as across cases. The methodology chosen for this study ensured that data was collected and analyzed to understand both the unique case as well as the generalization of multiple cases (Stake, 2006; Yin, 2009). Through this data collection and analysis, the research met the exemplary level of case study research by supplying a complete, significantly relevant research study that considers all perspectives through the analysis of a wealth of data (Yin, 2009).

CHAPTER FOUR: FINDINGS

Overview

The purpose of this qualitative multi-case study sought to examine the use of video-based instructional feedback models by K-12 teachers and leaders in a rural southeastern school district. This study used various data collection methods including interviews with primary and secondary participants, document review, which included video segments for both lessons and post-conferences, and artifacts to search for codes, themes, and patterns. The data collection allowed the examination of video-based feedback systems in an effort to provide instructional feedback and guide professional development for career teachers within the K-12 system.

A central question and four sub-questions guided the study with the exploration of how educators use video-based feedback to enhance teacher efficacy within the process of instructional supervision. The first sub-question identified the factors that were central to implementing reflective practice through video-based feedback systems. The second sub-question focused on how educators who use video-based feedback tools design individual professional learning to enhance teacher efficacy. A third sub-question sought to understand how using video-based feedback tools contributed to altering teacher's pedagogical practices. A final sub-question examined how using a video-based feedback tool connected to teachers understanding their "ways of knowing."

Participants

This qualitative multiple case study included three primary participant teachers, one each from a primary school, elementary school, and high school. Each primary participant teacher was also connected to secondary participants that included an administrator, an instructional coach, and a peer teacher. In addition, a district office official serving all three schools also

participated as a secondary participant. A total of 12 primary and secondary participants agreed to be part of this study. Each participant shared his or her individual role-based experience with implementing various aspects of video-based feedback within their school. To protect their identity, each participant was assigned a pseudonym, and each secondary participant was also referred to as the primary participant's administrator, coach, or peer while the district office official merely is referred to as district office personnel. Actual participants included three female primary participants, three female administrators, two female instructional coaches, two female peer teachers, one female instructional coach who also served as a peer, and one male district office official. All participants were appropriately certified by the state sanctioning agency in their roles at the time of their interviews, and all secondary participants have worked with the primary participant for multiple years as shown in Table 1.

Table 1

Participant Demographics

Pseudonym	Role	Overall experience	Experience with primary participant
Molly	Primary Participant Primary School	7 years	N/A
Annabelle	School Administrator Primary School	18 years	3 years
Claire	Instructional Coach and Peer Teacher Primary School	25 years	4 years
Patty	Peer Teacher Elementary School	11 years	11 years
Tammy	Primary Participant Elementary School	22 years	N/A
Amy	School Administrator Elementary School	23 years	2 years
Cathy	Instructional Coach Elementary School	13 years	6 years
Sally	Primary Participant High School	13 years	N/A
Alyssa	School Administrator High School	27 years	3 years
Christine	Instructional Coach High School	21 years	5 years
Peggy	Peer Teacher High School	18 years	6 years
David	District Office Official	25 years	12 – 22 years

Molly

Molly is currently serving as a third grade teacher at the primary school. She has taught for seven years, and all have been at the third grade level. She began her career at a different

elementary school in a separate area of the state; however, she has been at the primary school in this district for the previous five years. She currently teaches math, science, and social studies but has taught English language arts in the past as well. In addition to her teaching, she has served as a mentor teacher as well as a member of the school leadership team. She also serves as both the school and district STEM coordinating teacher.

Molly describes herself as a leader in the use of technology and teaches her class with a one to one initiative to integrate technology into all aspects of her classroom. This initiative allows each student to work with a dedicated laptop computer throughout the day and incorporates technology into all aspects of instructional throughout all lessons. In addition to the desire to integrate new and different items into her classroom, her colleagues as well as herself, describe her as a reflective person by nature and feel that her ability to reflect is one of her most robust components as a teacher and leader.

Annabelle

Annabelle is a first-year principal at the primary school, although she was at the school for ten years before becoming its principal. Prior to serving as principal, she served as an instructional coach at another elementary school within the district as well as a teacher at various levels at the primary school. Annabelle indicated that technology has its place in education as a tool to move instruction to the next level, "while not as a replacement for our human capital." Annabelle has a unique view on coaching as she feels that "everyone is a coach on some level. This is a cultural shift that has taken place over the last 15 to 18 years." Her feeling is that as an administrator, it is necessary to be the instructional leader of the building and to accomplish this task, it is necessary to be a coach and support all teachers to become better at coaching.

Claire

Claire has been a public school teacher for 25 years. She was a fifth grade teacher her first year in the classroom and has been a kindergarten teacher for the last 24 years. In addition to teaching, Claire has taken on additional roles as a mentor teacher/instructional coach because she felt like she was an excellent teacher and had the expertise to offer. She describes herself as a "worker bee" who is a reflective person that is capable of giving constructive criticism and modeling in a way that teachers can understand. She has served as a coach for the previous six years.

Claire feels that technology has a place in education, but it can never replace a teacher. She feels that "the most important aspect of any classroom is the teacher, so I like technology, but I do not think it should be a high percentage of the classroom." She did state, however, that she felt that her age and years of experience have led her to that decision because she is not a digital native.

Tammy

Tammy has taught for 23 years. Originally from out of state, she moved to Low Country School District to begin her teaching career. She began teaching special education with an out of area certificate at the middle school level where she taught for three years. She then moved to a different elementary school within the district where she taught various subjects each year at third and fourth grade including math, science, English Language Arts and finally a full self-contained classroom to include all subjects. Because of a master's degree in the arts, she moved to her current elementary school where she taught Pre-K, first grade, second grade, third grade, and fourth grade before becoming an instructional coach. She finally settled on a kindergarten position where she is currently teaching. Tammy felt that while she was a capable coach, she

was a stronger teacher so while she maintains a position on the school leadership team as a mentor, she says her calling is to serve as a full-time classroom teacher.

Tammy describes herself as "not very tech savvy but a hard worker and learner." She believes that technology must be infused into education and while students need to be using technology as much as possible, the use of video coaching has found a strong place in her practice. Because of her time as an instructional coach and mentor, Tammy feels that the more observations and reflective opportunities one can have, the stronger a teacher becomes. Tammy ultimately describes herself as "reflective but [I am] not a perfectionist. If I identify that there's failure, then it's an immediate reflection on how can I fix it. Otherwise, I do not necessarily go back and reflect."

Amy

Amy is the principal at Tammy's elementary school. She is a first-year principal but has worked at the elementary school for five years. She has been in the public education system for 23 years. During her career, Amy has taught in Pre-K and then worked as a literacy coach within this district. She left the district to serve as an educational consultant and trainer for eight years but returned to be an assistant principal at both the elementary and high school levels before returning to the elementary school as the principal. Amy's feeling on technology is that it "has finally shifted from stand-alone to being integrated within education. It is a powerful tool that is growing rapidly." Amy's background as a literacy coach influenced her feelings now towards observation and evaluation; "It is about creating time and space to allow teachers to reflect. This time and space allow teachers to work through the process." Ultimately, Amy describes how the use of video creates "another point of access to allow for that time and space, as long as it is used purposefully."

Cathy

Cathy has been involved in education for the past 13 years. She began her career as a primary Montessori teacher for nine years in a different school district in a separate area of the state. She transferred to this school to become an instructional coach at the primary level where she focuses on reading. As the instructional coach, she serves multiple roles on the school leadership team. Cathy feels that over the last ten years, technology has grown significantly with its integration into the classroom and this latest step with using video-based feedback systems is "a huge step forward to help teachers reflect." Cathy's view on coaching is to ensure that all teachers not only receive coaching but serve as peer coaches because "their view on instruction is vital to the leadership team."

Patty

Patty is a peer teacher to Tammy and teaches fifth and sixth grade English Language Arts and Social Studies at the elementary school. She began her career 11 years ago at an elementary school in another district and moved to her current school ten years ago. She has taught fourth, fifth and sixth grade as well as gifted and talented classes. Patty views the integration of technology as a tool that enhances engagement and attention within education. Patty has had opportunities to serve both as a teacher as well as a mentor and has a firm belief that coaching is about developing relationships with peers so that everyone has an opportunity to find someone they can work together with and grow. She also stated that she has used video-based feedback for three or more years, "and feels like this is the next step in coaching."

Sally

Sally is currently a US History teacher and part-time coach at the high school. She taught at the high school immediately after the completion of her bachelor's degree in education. After

teaching for seven years at the high school, she moved to an elementary school within the district for five years to serve as an instructional coach until she moved back to the high school to serve in her current role. While Sally is currently serving as a classroom teacher, she has a long-standing background in instructional coaching, serving in some capacity of coaching for the last seven years. As she described it, "The biggest shift for my teaching came from serving as a TAP master teacher. And now, being in the classroom, I haven't lost the feeling for what others felt in regards to coaching and growth." She professes that she is a stronger teacher now because of her former role of instructional coach and while she was always reflective, the coaching role helped enhance her ability to reflect.

In regards to technology and video-based feedback integration, Sally feels that technology integration within her classroom has been a challenge over the years. Sally began her career student teaching in a school where technology was integrated into everything they did. However, Low Country School District has not embraced nor can afford to embrace technology integration in either teaching or professional growth. However, in the last few years, they have begun to see how to utilize technology both with instruction and observation, and it has become a process of "growing a bit each year." In regards to video-based feedback, Sally feels that it has been part of her reflective practices for many years. Beginning 13 years ago, she used video to self-reflect or "self-critique." Through the years, she began using video to field test student and teacher strategies as well as to model strategies for teachers, and that has led her to "using video reflection two to three times a week for the last two to three years." Sally brings a unique perspective to video and reflection because of her consistent use of this video-based feedback technology both as a teacher and former coach.

Alyssa

Alyssa has served in Low Country School District for 27 years. In the latter half of her career, she has served as a principal for previous 14 years at three schools: one primary, one elementary, and now at the high school. Prior to serving as a principal, Alyssa was a high school English teacher for 13 years. Alyssa has served as principal for Sally at both the elementary level and high school level. She initially hired Sally as the instructional coach at the elementary school and the rehired her at the high school when an opening became available. Alyssa feels that technology integration "is critical as it is part of the world around us and certainly part of all teachers and students lives." As an administrator, one of the main aspects of her position is to evaluate teachers, but she feels that "the real goal is to grow our teachers, not just evaluate them." Over the past six years, she has used video-based feedback as part of her observation process because she feels that "an educator, certainly a principal, should always be striving to be more effective in what they do. And if you want teachers to grow, the coaching piece of it is so significant."

Christine

Christine is serving both as an instructional coach as well as a US History teacher at the high school. She has been in education for 21 years and worked with Sally for three years in her current position. Her first two years of teaching were teaching middle school social studies, but has been at the high school for the last 19 years. Christine feels that "while technology is needed to enhance collaboration, it does not happen as fast as it should." Christine also stated that even as a coach, she is continually growing and that while she has grown significantly over the previous four years, she still has more to go. Even though she indicated that video is a needed process, she has not used it much in her teaching or coaching. As she affirmed, "it is just

something I need to get over. There are a lot of strengths to it, but I do not like to see myself, so I have not used it much."

Peggy

Peggy has been a high school science teacher in for 18 years. She taught in the district when she first started for eight years, left to pursue a different option outside education but came back to the high school two years ago. While biological sciences are her strength, she teaches all sciences at the high school. Peggy feels that integration of technology into education is necessary. "As time goes on, more and more advancements occur and incorporating these ideas into the classroom is needed." However, when using video for coaching, Peggy stated that while she does not think coaching is a normal process, she does "think that is one of the goals and vision that we are pushing towards. Everyone needs to have these coaching opportunities and that reflection piece that's so important."

David

David has worked in this district for 23 of his 25 years in education. As director of special projects, he is responsible for coordinating professional development, fine arts, human capital management including human resources, and other special projects implemented across the district. David served as a teacher and fine arts coordinator in the district prior to his current role. Because technology is one of the many aspects he oversees, David affirmed that technology enhancement and integration both at the student and teacher level has been at the forefront of district integration for the past six to seven years. He feels that is it his responsibility to ensure that teachers have the proper training to integrate technology in all aspects of education. However, with any project such as technology integration and even other aspects within human capital management and resource allocation, David feels that it is vital that it not

be a top-down approach but utilize the expertise within the district to build training and identify what works and should be replicated. As he stated, "there are different levels of understanding, so the district's responsibility is to provide ongoing support for the schools to allow all of this to integrate seamlessly to support teacher effectiveness and ultimately student achievement." He summarized his position regarding human capital management as supporting the efforts of all projects to allow "feedback from others to occur as well as to allow teachers to personally reflect and provide their own individual feedback to ensure all students are growing."

Individual Cases

In this qualitative multiple case study, each of the three schools followed the Low Country School District procedures in regards to human capital management. For the previous seven years, the district participated in a school reform model called TAP, formerly known as the Teacher Advancement Program. This model utilizes coaching protocols connected to multiple teacher observations around a 5-point rubric coupled with embedded professional development to increase teacher efficacy with the ultimate goal of raising student achievement. Within the TAP model, each school had a leadership team that included: all school administration, at least one instructional coach, and multiple mentor teachers that served as grade level or content teacher leaders who also taught full time. Each teacher in the district was evaluated a minimum of four times per year by a pair of observers in the classroom as well as receiving multiple follow up weekly observations from the leadership team. Weekly professional learning community (PLC) meetings were led by members of the school leadership team and utilized student achievement and teacher observation data to drive professional learning topics.

At the conclusion of last year, the district moved from the TAP model to a district created model that mirrored the state HCMS model while adding some additional requirements at the school level. According to the David, the district administrator:

> Now that we are not a TAP district, we have tried to maintain that degree as much as possible. Of course, some of the resources are no longer in place, but we have made an effort to keep many of the structures in place as well as the same mindset for providing observations with feedback for teachers. It's about trying to support the teachers in what they are doing and providing instruction and curriculum assessment for children.

This revised district protocol included as much of the former TAP model while allowing for greater flexibility at the school level.

The district moved to the use of the state 4.0 rubric which was created from the TAP rubric and required that all teachers be observed a minimum of twice per year by a certified, school-based observer. In addition, each teacher was required to create a student growth document called a Student Learning Outcome sheet (SLO) that demonstrates expected progress for all students within each class. Each building continued to have a school leadership team, created by each building administration and allowed for variance as needed at the local level. Each school was given free rein to choose the focus for their professional development topics as well as how often the grade levels or content teachers would meet through local PLCs.

A significant focus for the Low Country School District over the previous five years has been an increase in technology presence and usage, both at the teacher and student level. As part of literacy and math/science partnership initiatives, each school received multiple robotic cameras as well as flip cameras to support the use of video observations within the classroom. The use of this technology was dependent on the building level administration as well as teacher

desire. In addition to the technology, each school leadership team was also trained on internet-based platforms that allowed video observations to be uploaded and shared across schools. Again, the use of this platform was based on the interest level of the school. Specifics related to the differences in implementation at each school participating in the multiple case study is detailed below.

Primary School

Low Country Primary School continues to maintain as much of the TAP structure as possible in regards to their human capital management system. While the school no longer has a dedicated instructional coach, it does maintain a strong leadership team with three mentors and a principal that continually observe and coach teachers as well as conduct weekly PLC meetings to focus the professional development around teacher and student growth. The leadership team continues to have the expectation of multiple career teacher observations, both formal and informal, that are directly tied to feedback through coaching sessions or model lessons completed by members of the school leadership team.

In the 2017-2018 school, much of the professional development and coaching was focused on small group reading structures for all teachers. As explained by Annabelle, the Primary school principal, "This year, we were really intentional about looking at the reading blocks because our reading data was not where we wanted it. Based on all of the data and the first evaluations, we saw, as a whole, that guided reading was very weak across our building, so this immediately became our coaching focus for the year."

The use of video to capture observations as well as for coaching also has been a trend for many years with this leadership team. Even though it was the principal's first year as the leader

of the school, as a former instructional coach, she has used video with teachers for the many years. Annabelle explained:

> The use of video goes way back, 13 or 14 years ago. It was an innovative thing for us, but it didn't really stick then, because it was time-consuming. Now it is much easier, and I have been able to draw on that experience and how powerful it was, so that's why I embrace it now.

Three of the members of the leadership team discussed how video has become a common occurrence since started TAP and is generally "a mainstay of professional growth within the school."

Elementary School

Low Country Elementary School also continued as closely to the TAP model as possible after the transition to the new district model and similar to the primary school, the leadership maintained the focus on observations, coaching, and reflection. The Low Country Elementary leadership team is comprised of the principal, a literacy coach, and two mentor teachers. The school maintained both the PLC model of professional development as well as the previous observation model of having pairs go into the classrooms for formal observations. In addition, the school added a peer observation program to support the idea of coaching and reflection further. Amy, the elementary principal, stated, "We have focused a lot on peer observations but not for a formal write up. Teachers go in, watch each other, talk about it, and bring that back to PLC where we can further conversation."

Following the lead of the district, the elementary school has stressed a focus on the use of technology, especially when observing as well as following up on those teacher observations. Amy discussed how for many years, even with minimal technology, the focus had been on

capturing evidence in the classroom through video. "In the classroom, we always have a cell phone on us because you never know when something starts up and you want to pull it and see, take pictures of the work or the interaction and use it later." The leadership continues to push the use of video as a team to support teachers in an effort to effect continual student growth. "It is such a valuable piece to be able to show and demonstrate. I think it's a great tool for capturing evidence, going back, and then using it to support. It gives a visual to teachers."

High School

The Low Country High School is made up of many part-time coaches in the forms of mentors or partial instructional coaches who also teach one or two specialized classes. The high school has a 4 x 4 block schedule structure, so the principal stated that "having multiple part-time coaches fits our model to support teachers more than one full-time instructional coach." The high school follows the district model closely and according to some teachers has steered clear of the old ways of TAP. The principal at the high school discussed how they tried to maintain the structures that mattered:

> We switched to the state's 4.0 rubric (Appendix A), which was very similar to the rubric we'd use previously and all been trained on it, so it was an easy switch for us. We trained all of our people on it, so they know the expectations and the quality of the teaching that we're looking for. We try to do three observations on every teacher but can't say that happens every time. Some of our more outstanding teachers may have gotten less, but others, because they needed more of the coaching, would get more. It is not about evaluation, but it is much more important to be about the coaching piece of it.

However, Sally, the primary participant, discussed how TAP was not seen as an overly favorable model, so transitioning away from TAP to the district model was best for the school. "Teachers

saw TAP as a 'gotcha' and not as a coaching or reflective program, so while there are pockets here at the school that want to build and reflect, there are many teachers who want to be left alone."

The high school has been the slowest to implement video usage with all teachers. As the principal stated, "I'm just going to have to force it. Nobody is going to volunteer, well I won't say that, maybe a handful of people, but not many." There is a sense of reluctance in the building because of the "gotcha" mentality discussed by Sally; therefore, as a member of the leadership team stated, the mentality of the building is "you go first and we will see if we follow." Also, due to the size of the school, there are not enough cameras and robots to allow all teachers to efficiently use the equipment which has caused some additional reticence.

In this qualitative multiple case study, each of the three schools followed the district designed HCMS plans. While each school had similar processes that pertain to their respective school observation, evaluation, reflection, and professional development and coaching design, they also provided a unique context for implementation. These similarities, as well as variances, allowed the multiple cases to give an array of evidence that provided the rich context for this study.

Results

The results for this qualitative multiple case study are reported in detail using a systematic approach that assists in clarifying the exploration regarding the use of video for feedback. The research process for this study included an analysis of 12 in-depth interviews, documents, video recordings of lessons and post conferences, and other artifacts from multiple sources. The findings are presented first with a description of the coding process (Appendix D) that ultimately created the themes from the data. These themes are presented in depth followed

by the within-case as well as through a cross-case analysis. Lastly, an examination of participant answers to the central question and four sub-research questions are presented.

Themes

Several themes emerged from interviews, documents, and artifacts from each of the three school sites and the respective participants. Initial coding of the all interviews using NVivo resulted in 19 codes (Appendix D) that were garnered from the answers to questions related to how video is used in conjunction with coaching, professional development, and overall reflection. After the initial coding phase and the first round of member checking, an analysis of these 19 codes narrowed them down into four major themes: Training, Garnering Evidence, Multiple points of view, and Flexibility (Appendix E).

The training theme focused on all aspects of supporting instruction with the concentration on enhancing teacher effectiveness. The initial codes that created this theme were comprised of: coaching, professional development, reflection, support, training, efficacy, purpose, and implementation. The initial codes of support, coaching, and reflection focused on the individual aspects of support through coaching or reflective conversations. Training and professional development concentrated on supporting teachers through either ongoing, PLC development work or outside training that furthered their ability to teach through enhancements of either content or pedagogy. The final codes of efficacy, purpose, and implementation focused on how the systems allowed teachers to change their mindset of reflective practices based on how implementation occurred.

The second theme of garnering evidence was identified through the lens of obtaining specific evidence from observations and documents that were used during any aspect of the schools HCMS. The codes of evidence, growth, instruction, look-fors, and

observation/evaluation were initially designed to identify data that supported recognizing evidence of instruction through the use of the system in order to support growth of teachers. This theme also incorporated technology as that related directly to implementation as well as some aspects of implementation regarding how the system was used to support identifying instructional or coaching evidence.

The third theme of multiple points was generated through the data to demonstrated the ability to examine instruction and coaching through various lenses. The initial code of multiple points of view was first created with the concept of seeing oneself teach or through the lens of the students. The other code of time management that ultimately created this theme was focused on the ability to use the system to gain time or do multiple tasks at one time. These two codes combined to form the larger theme as it became a broader identification of using video-based feedback systems in order to see instruction or gather feedback from various points of view which would have otherwise been unable to occur due to common constraints within the educational system.

Lastly, the theme of flexibility was created through the use of two codes, flexibility and value. This theme was produced to encompass the value in using the system to complete administrative or observational tasks on one's own schedule. While the identification of flexibility was apparent at the onset of the data analysis, the theme incorporated the concept of value as it created opportunities for observers and reflectors to work outside of typical time-constraints to create a stronger base for reflection.

Theme one: training. Throughout the study, all participants repeatedly focused on the benefits the use of video supplied to training at the school and district levels. Depending upon the role of the individual, the perception of benefits may have been different, but the data demonstrated

a prominent connection of video to the implementation of training. This training can be seen at the school and district level in the form of coaching, self-reflection, and professional development/professional learning, all of which were initial codes.

Use of video created support structures for both primary and secondary participants to enhance both the number of observations as well as the quality of observations. At the elementary school, Patty talked about how the observations are significantly more relaxed because of the technology available. She stated, "Being able to pause that video and type in just a five or six words really quickly, or even keep watching the video while you're typing really was a strength for me." She continued by saying that "to have those notes throughout the video and then can go back through the rubric and match up those pieces" are opportunities that are not present in traditional observations. Christine discussed the same idea that observations now become interactive with the teacher rather than something that is done to the teacher. "You can take them to the lesson, watch this and then talk about it." Amy best summed it up by stating, "I think that you're actually a better observer when you have a tool to support you."

The actual training from these observations occurred on an individual basis when observers moved to the coaching or reflection portion. Across the board, video was seen as an opportunity to enhance coaching conversations about instruction by watching the video and engaging in reflection. Christine listed a set of questions that she used when watching the video which focused teachers on what they should be seeing through this video reflection; "What is my growth goal? Let me go back and see, did I meet? Can I see that I've met it? Have I changed from this lesson to this lesson? Have I grown in that goal?" The use of video allowed coaches and administration to focus on evidence to build instructional conversations through highly effective questions. In addition to the actual coaching in a conference, Tammy discussed how it

provided the opportunity for the next follow up conversation after the initial post-conference in regards to what was initially coached. "I'm able to send it to that observer so that they can see what a benefit they added to my room by just me tweaking one little thing that they suggested." The goal then of the video coaching session was to enhance a teacher's ability to identify strong pedagogy, areas to grow, and practices to change.

Another aspect of training comes when teachers begin driving their own individual professional learning. Tammy pointed out that she "videoed her lessons because I wanted to watch what happened." This level of reflection and growth is the primary goal of all training involving teachers commented one principal. Similarly, Molly discussed how knowing what to look for or where to grow based on conversations is needed and video-enabled teachers to ask for specific help in regards to their pedagogical needs. She discussed how being able to ask, "Can you come help me, can you come watch me? Because I'm doing this today, simply brought the excitement back."

Actual professional development using video was also a focus on how to grow and train teachers. Tammy discussed how she was asked to use her videos of a writing program throughout the district to build visual understanding of expectations regarding that curriculum. Tammy expounded further on how video can help provide that support; "We can video someone that's doing it well, and we can use that for professional growth without having to bring a trainer in. It basically becomes train the trainer." Cathy also discussed this idea of showing model lessons to professional learning groups to enhance understanding. She specifically focused on the ability to use video in "PLC meetings where you're trying to train or model something."

From a principal's standpoint, Annabelle discussed how, "teachers would go back to their class and try things, video, and send it back to us again. We found the commonalities over the

videos, and that became our goals for our PLCs." She went on further to discuss how video was able to provide a vision for greater individualization of the new learning by sharing; "We also differentiated those PLCs because the goals in our kindergarten and first grade were really different from our second and third." Amy furthered this thought by sharing, "although we are always working toward that common goal and vision, video let us differentiate with what we needed individually." She ended her interview with this simple statement, "I love the possibilities of it, and it will make my life, and I think the teachers lives so much stronger because they will be growing themselves as well as growing each other. I think this is a tool that's going to make that happen."

Theme two: garnering evidence. Identifying effective practices as well as areas to improve is an essential part of any observation if it is to be useful to grow teachers. Many times, however, observations can be seen as subjective. Christine summed up the reason for this by stating, "When you're up there teaching, you might not realize what you say or do or if you just did this a little differently how that would affect things because when you're in the moment, you just are in that moment." However, with the use of video, she continues, "Now when you can take a step back and see what you did in that moment." Peggy added to this as she said, "It's not my version of what I got down during that lesson. It's you in that moment, right there." She continued with how video allows a teacher to "reflect upon what you're actually doing versus what you're saying you're doing and seeing something you did that you would've never intended to do and wasn't the best option." In the end, it was seen that video becomes the scripted evidence that creates less subjectivity as it shows precisely what occurs without bias.

In addition to removing the subjectivity of the observation process, the video system allows the observer and the teacher to gather more evidence that could otherwise be captured. Patty stated:

> Whether it's handwritten or actually typing, there are times were you miss components of things, because your eyes and ears can't be everywhere at one time. With the video being there, it brings you into being able to see all the things that you might otherwise miss.

Sally surmised that even though one can try to capture everything, it is possible. "I'm trying to type everything. I'm trying to type what kids are saying and what teachers are saying. You can't do both, so you're not collecting everything." These gaps in gathering evidence are what make post conferencing more difficult and create the subjective nature as discussed above.

Conversely, while video created evidence to help teachers identify areas to grow in, it also allowed evidence to be gathered to support the demonstration of growth. As Sally stated:

> It's also sometimes good to see what did go well, because a lot of times in any kind of evaluative system, teachers automatically go to the what they would do differently. It's nice to look at how many positives came out of the lesson.

Patty concurred with this idea by saying, "Having the video will give you the evidence that you need so you can see you're advancing toward the goal. It's like a puzzle you get to put all those pieces together and voila, there is the growth!" From an administrative perspective, the video allows a principal to assess the growth of both teachers and students. Annabelle stated, "The videos show whether those baby steps are being reached or not. Video is really the evidence of growth." She also added that in any post-conference, the focus cannot stay entirely on changing one's pedagogy, and using the video allowed teachers and coaches to reinforce practice as well as refine.

Theme three: multiple points of view. While coaching and reflection are necessary for teacher growth, it is necessary to gather multiple points of view to sustain overall growth. The participants in this study resoundingly discussed that video enabled teachers and coaches the opportunity to gather feedback from multiple individuals as well as see the lesson through multiple lenses. Thus, it was found that the use of video allowed both teachers and coaches the ability to gather significantly more evidence from significantly more points of view.

Christine stated:

> With this platform, it's not just me and Sally. We can pull in different teachers. It allows them to see much more in the school, instead of just two people. It allows for you to share it with whomever you want to share it with. You can get feedback not only from instructional coaches and mentor teachers, but you can get feedback from a science teacher, for example. Just to get their perspective on what you might have done differently is something that's huge.

The use of video allows more than one individual to view the lesson and then gather information or coach from it. From an administrative viewpoint, Alyssa discussed how:

> You can get feedback now from multiple people because now it's not trying to get four people in a room. I can send it to people that I have confidence in being able to coach me and get feedback from several people. That would not have been an option previously, because I can't, yet four people in a classroom necessarily on a continuous and regular basis.

Amy also said that when we can "invite other people like my third and fourth grade math and science teacher, they'll pick up on others things that only they notice."

Molly noted that what can be learned from coaching:

> Depends on what coach you're talking to. When I'm talking to the reading coach, we're focusing on the reading things. But when I'm talking to someone who's stronger in math, they had a whole different view on it. It's nice to be able to have multiple perspectives look at one video.

She also noted that "as a leadership team, we are all able to watch the same lesson. We were able to identify what was missing from a couple of classrooms." Sally echoed these sentiments when she stated, "sometimes I want coaching on certain things. Different coaches don't have to watch the whole video. They can offer their interpretation if something is different on small segments." Both administrators shared that by having multiple perspectives, teachers can gather a variety of feedback from peer and instructional coaches rather than receiving the same traditional feedback from one individual because others see things differently and can provide the differing points of view.

Video also allows for the capture of more than one viewpoint within the classroom. Traditional observational methods allow the observer to focus on one aspect of the classroom. This view can account for the teaching methods, the students working, small group instruction, or other group work while the teacher is engaged in small group. However, with the use of video feedback systems, the video can be viewed multiple times to allow the observer to capture all parts of the classroom and with the ability to watch it multiple times, it allows the observer to watch the lesson from multiple points of view.

Cathy provided a strong example of this during her interview.

> With these new workshop models that most teachers are implementing, video is great because you want to see also what's going on in the other groups. The video can stay with

> the teacher, on the teacher, and then at the end, you could go back and see what you missed.

This example illustrates how video can enhance the observational process. Amy followed up on this conversation by discussing how the video allows the observer to see the student work as well. "I do think that it's more powerful from the student lens. We really do not get to see in detail what they're getting and what they're not unless one uses the video." Alyssa discussed this concept as well as she stated, "We've also come to realize when you're videoing the students, you're videoing the evidence of what the teacher has taught. It's not just about the adult in the room; you can get just as much from what children are working on." All participants concluded that through the use of video, one could see both the teacher and student point of view.

Theme four: flexibility. The final theme of flexibility presented itself by both teachers and administration. This theme focused around supporting the human capital needs within the building. Teachers talked about the opportunities provide by video to free up time to reflect while coaches and administration discussed how video allowed them to observe teachers while being able to continue to provide administrative oversight.

> Claire stated that video saves time, which is what is most desired by teachers.
>
> Teachers in this building teach with such a sense of urgency, so when you give them one extra thing to do, you're just taking away from their instructional time. Video wouldn't take away from it. Slap the camera on and let them do their thing.

She continued to discuss that video is the only option to help teachers own the process while still allowing the coaches to be part of their growth. Amy also focused on being able to use more video to find more time. "Using a tool like this is giving us more time beyond the eight-hour day, or those two hours that I might have that block of kids. That's something that you don't get

often." Cathy agreed with gaining time, but she examined this from the instructional point of view. "It may cut out the need for a co-observer to go, so leadership team will miss less of their instruction time with their own students."

Molly also focused on finding time availability for her to reflect. "You can reflect, I can do a self-reflection, we can already do our pieces at our own time, our own convenience, and then when we come together and have this conversation." She continued as she talked about availability outside the classroom. "I can watch it at home at 11 o'clock at night if I want to make comments as I'm watching it. This allows me to reflect on my own learning, on my own teaching at a convenient time. It's a 24-hour system."

Sally also discussed how the video systems allow her to reflect and be coached by others that generally could not support her. "We have totally different schedules, so it's not always conducive for her to come so being able to video it has probably given me more opportunity to be coached." She also discussed how this allowed her to get further support from her administrator as well. "It can be, 'hey, I did this today. I know what I think, can you watch it?' I'm more able to do that. Alyssa was able to go home and watch this and lend her support on her own time." She continued to focus on garnering support from administration as she mentioned:

> She can't be in every classroom every day. She gets pulled out all the time. But if we are working on learning targets for the day and how quickly to release kids, can she watch that in a snippet? She could probably watch it for every teacher in the amount of time that she didn't have before.

Molly also took a more holistic view, combing both the teacher point of view as well as the leadership team point of view.

Obviously, with education, scheduling and timing are the two most significant concerns, if you talk to any teacher in America. Video observations have helped with both because every school is pretty much understaffed, so now we don't have to have a leadership team member right there when they could be doing something else. I feel like because of scheduling and time and purposes, three of the leadership team members were able to watch quickly, we were all on the same page, it was a scheduled function where nobody was missing instructional time.

From an administrative point of view, Alyssa reflected on the lack of time an administrator has to do observations, especially at the different levels.

> There's a big difference even for me from being primary, elementary and high school, and how busy I am, and how many more demands on my time. So as I have teachers video, then anytime of the day that I have time or a lot of times, it's in the evening or the weekend, or five in the morning for me, typically is when I'm doing this. I can pull up the video and watch it, as where that wasn't an option for me before.

She also discussed how the use of video could help pinpoint her observations to focus her support on what is needed. "It doesn't necessarily mean we spend an hour and a half trying to watch this video. It is in this 10-minute section, what are you noticing, what are you seeing?" Amy reiterated this sentiment as she talked about being pulled in multiple directions. "Even with the best-laid plan, something's going to happen and pull me out. With this tool, at my convenience, I could pull it up and look at it." She continued:

> I also found it helpful that I could sit at my desk and if somebody walked in and needed me, I could pause to go back to it. Video is very easily accessible, and it fits in your schedule versus you trying to fit into that schedule.

Within-Case Analysis

As previously mentioned, all three schools in this qualitative multiple case study followed the district protocol in regards to performing observations and evaluations that supported the state model. However, each school was given the autonomy to differentiate concerning the number of observations, how the observations were conducted, who conducted the observations, and how the data from the observations would be utilized. The within-case analysis explored the uniqueness of each case and identified the various components that were implemented regarding using video-based feedback systems to enhance reflection, coaching, and professional development. Each school was presented with their individual case analysis as a second member check to ensure the accuracy of the representation of the data.

Primary school case. The use of video-based feedback within the primary school is widespread. All teachers in the building utilize video throughout the year for multiple purposes. The primary school used video to support several efforts including observation, coaching, individual growth goals, professional development, model lessons, and student growth evidence. The leadership has become accustomed to using video for a variety of purposes, but the primary focus is on using it to identify needs within the building, follow up from professional learning communities, as well as observe and coach. Annabelle summed up the use of video within the school through this one example:

> We decided to do a pre-assessment of what guided reading looks like in the building. We asked teachers to video themselves. The teacher video herself and bring it back to us. This allowed us to do side-by-sides, sit with the teacher and go through the critical attributes of an effective lesson in guided reading or guided math. We made some Glows and Grows, reinforcements and refinements, as well as some Look Fors for next time.

> We then differentiated the PLCs because the goals in our kindergarten and first were really different from our second and third. We found that our kindergarten and first just needed more depth, more strategies. It was all going on. We found second and third weren't doing it on a regular basis, so we ended up partnering people from second and third with K and 1, and they all got in pairs of two, and created a video relationship with the two of them to see what it looked like across grade levels.

The primary school emphasized the use of video in an effort to enhance coaching and reflection. As stated by Claire, "I really found the video to be easier to coach with." The school saw video as an opportunity to build upon the work which they were currently focused. As the leader of the school, Annabelle felt "that my job is trying to make more coaches, trying to make more teachers that are excellent at what they do in the classroom." To that end, she continued that, "Some people just have to be taught how to reflect. You've got to get there. That's where the coaching comes in, and the video allows that to happen in much greater depth." Claire also stated:

> The video really helped us grow. When you see yourself on video, you can really reflect and say, 'why didn't I do that? I could have easily done this there', or 'I liked when I did ... That was a home run. I can really tell I know my students.' Video simply has made us reflect more.

While Annabelle believes that they have moved the needle in getting teachers to reflect through video-based coaching, she does not yet believe it is inherent in the culture. "I think eventually teachers will see the power in it as they watch a video and are able to reflect on their own without you, which is your end goal." However, because teachers are at all different levels

when it comes to coaching and reflection, the leadership team felt that the use of video allows a much greater level of differentiation. Annabelle stated:

> Some teachers can already reflect and write you a wonderful reflection, or tell you without the guide. Others still need the guide on the side to say, "Why did you choose to pull this particular student?" or "What will you do next with that student now that this lesson is over? Why was this student successful? Why was this student not?" Some of them don't think of those questions on their own. Video allows you to meet all their needs.

Molly went into greater detail to explain how using video has allowed her to see more of "the trees as well as the forest. Looking back at the video and how much growth has actually been made, it's nice to be able to see personal goals that I've set be accomplished." Molly described herself as a natural teacher but one that struggled with some of the instructional components. She understood why it was important, but needed to become more intentional as she mentioned:

> This allows you to build trust with the leadership team. There was a purpose now. I couldn't wait to get back; I couldn't wait to see how much growth was made. This has been a huge transition and shift with our coaching experiences here.

Molly continued to emphasize that video allowed her and other teachers to have in-depth conversations about what we watched. "You can replay it over and over again. It is much more natural and authentic, and it's not people versus people, it's evidence right in front of you. There's no arguing; there's no opinion, it is what it is."

Based on what has occurred over the previous few years, Annabelle talked explicitly about what the future will look like.

> Next year, we will continue to use our goals based coaching and observation model to allow the teachers to set individual goals. As they set their goals, we can then use video to assess them. This will allow us to help them with guiding questions so they can come up with their Glows and Grows or what their next steps are on their own. Individualizing it more is going to help the leadership team get more accustomed to seeing if teachers actually meet their goal and if they didn't, where their next steps lie and what they'll actually need to video next to demonstrate effectiveness. It will create a win-win for both the teacher and the leadership team.

Elementary school case. While the implementation of the use of video is robust within the elementary school, unlike the primary school, the elementary school has limited implementation with the use of video feedback systems in the classroom. Amy, the elementary principal, has chosen to keep the implementation small due to the significant number of changes that have occurred at the school over the past few years. Even though she has used video in a variety of scenarios, the leadership team concluded that it would be necessary to become experts before rolling this out to the full faculty, at least concerning observation of classroom practice. She commented that:

> My biggest thing is that we want to work out the kinks so this can become a breathing life of the building and it's not there yet because we have to figure these things out but I can ... I love the possibilities of it and it will make my life and I think them, the support that I'm able to give them so much stronger because they will be growing themselves as well as growing each other and it's about them, and so I think this is a tool that's going to make that happen.

While the full implementation is not to the level that it could be, the administration is looking forward to the future.

Throughout all of the interviews as well as the video documentation of post conferences and journal entries, receiving feedback from coaching was at the forefront of using video in the classroom. Cathy stated, "Anyone who is doing the job for the right reason wants that feedback so that they can be as best they can for their students." Amy added to this by stating, "You're never there, you're always working on refining that and I think that is the thing about a coach." Tammy talked specifically about how being coached through video allows for clarity that often cannot come through with typical coaching conversation. "From the perspective of being coached, it's been very beneficial because sometimes there are things that you might want to ask help for and you're not exactly sure how to say what you need." This statement also connects directly to what Cathy discussed when talking about coaching through video. She commented on how through the use of video, she was able to replay certain sections of the video "while she and I sat together. I was able to stop and give her feedback."

The data from the elementary school also pointed to how video allows for observers to gather evidence which otherwise may be missed. Cathy stated that using video gave a stronger opportunity to capture evidence as "than a human just going in and watching it one time as then it's only what you scripted. Now you can go back. It's like watching a movie. You're going to catch something different every time you watch it." Further expounded upon by Patty, she explained that the video could allow time to stop and process what the observer is seeing. She continued to explain that video "Lets me hone in on this part, where this happened, or where that happened. It gives you more details than what you can script or type." Tammy took the concept of evidence in a slightly different direction by discussing how it showed items she never knew

existed. "I saw little glitches in my instruction that I was not aware of that I thought I was doing right." She continued, "Video is documentation in itself without even having to have a script."

Tammy continued to focus significantly on how the use of video supported her individual growth and professional development as well. She provided the following example:

> It's amazing. I've seen a difference. For example, I addressed a student in a particular way, and when I saw their reaction it made me realize that's not the way I should address it, and at the time I didn't realize the student reacted that way. I tried something that one of my observers said might help, and it was miraculous of the benefits, so I videoed it because I wanted to watch what happened.

She further explained that watching video was, "like professional development for me, because it helped me to see things in higher grade levels, lower grade levels, and things that connected for me." She summed up the concept of growing through video by saying, "The more I watched myself teach, the more those little things started to pop out at me. Just the little, fine nitty gritty things, and when I changed them, it was a success. I know that kind of reflection cannot happen without the video."

Connecting to Tammy's discussion on professional development, other members of the school leadership team also addressed this. Cathy stated that using video allowed teachers to engage in professional learning on their own time. "It's hard to get teachers out of their own classrooms to go see other teachers, but I think that is one of the strongest things you could ever do as a professional." She continued to explain the strength of professional learning as "being able to use videos as models in a PLC or in a post-conference" to best support a teacher's new learning. Patty added to this point by stating, "being able to visually see exactly what I've done and hearing what's going on. Everyone can take from that, tweak it to what he or she needs. It's

spreading like wildfire." Amy followed this up by stating, "It will let us differentiate with what we need individually and then get support on that. That is different than just looking at best practices."

High school case. As mentioned previously, the high school was looking to expand the positives of previous systems and programs while minimizing the concerns the faculty had around the use of observation and evaluation. While all faculty did not hold this view, the administration was cautious with implementation in regards with using video. Alyssa plainly stated:

> The hardest part is just getting used to it. Anytime there's a camera there, and you feel like people are going to watch it, it's like anything else that's new, you're nervous, but once you get past that, then it's just a part of what you do.

For this reason, the high school moved slowly with implementation and focused on using the part-time coaches and interested faculty when beginning implementation.

While the past created some animosity around observation and evaluation, the concept of coaching and reflection still rang true within the school. Even though there was hesitancy among the faculty to move into a new model, those that started the process focused on the promise of coaching and reflection. Peggy, the peer teacher at the high school stated video allowed "the coaching where one could really dig into the lesson itself instead of being distracted about the other things going on." The administration also agreed that coaching must be the focus of any model that is put forth to work with teachers. "An educator or anyone should always be striving to be more effective in what they do. And if you want teachers to grow, the coaching piece of it is so significant." Alyssa continued with the idea that video allows for more direct coaching. She focused on the concept that coaching is often vague with broad references, but when one

gets the chance to use video, “a teacher can watch a section, answer some guiding questions, have them reflect, and then watch the video where the two of you reflect together.” She further expounded on this as an opportunity to create specificity when coaching as she stated, “It might be a small section, it doesn't necessarily mean we spend an hour and a half trying to watch this video. ‘In this 10-minute section, what are you noticing, what are you seeing?” Peggy also described this intentionality of coaching through video as a need to increase the goals of the school. “The vision that we're pushing towards is that everyone has those coaching opportunities and that reflection piece, but if it's not meaningfully done, or intentionally done for every single person, it won’t be worth it.”

Sally continuously stated that the video allowed her to see what was indeed occurring and be coached on what she saw rather than what she felt. She explained that this tends to be an issue when trying to coach or be coached. “They still see observations as an opinion of a person. They see it as subjective, versus going in having a video and now being coached from that evidence.” She continued to discuss how the video allowed teachers the opportunity to reflect on what they see and if that self-reflection was done prior to the coaching session, it could streamline the coaching process. As she stated, “If they self-reflect before coming into the post-conference, that can make a huge difference when we're talking.” Christine, the instructional coach, also associated with this concept:

> Instead of in the coaching sessions when you're saying, ‘okay, remember in the lesson? Remember this in the lesson,’ you can take them to the lesson. ‘Okay, let's watch this and then talk about it.’ Generally, what I've seen is that when you take them to that video evidence, then they're able to pinpoint exactly what you were going to point out.

Even though the high school was hesitant to build new models of observation, it is apparent that those who began implementation did so because of the coaching and reflection aspect.

Joining with the concepts of coaching and reflection, the high school also focused on how the use of coaching and reflection through video allowed the coaching session to be more teacher-centered or teacher-led. Those involved stated that by using video, they were enabled to see evidence they would not have thought of but were able to notice themselves, rather than being told what to think. "Because I've already reflected one time, and focused on what I would do differently. It's very, very teacher-led, versus let me tell you ..." stated Sally. She continued with this thought by stating "in post-conferences with video, I was able to say, 'Here's what I would have done differently,' and most of the time, it was in line with the coach. So then it's not their idea, I came with my own idea." Alyssa also felt that video allowed teachers to own more of the process. While coaching tends to be a demonstration of what was seen by the coach, video reflection allows teachers to identify more of reflective elements. As she stated,
"I think it can make them think more about their focus, and be able to really pay attention to that, and video those pieces and get feedback." Alyssa continued by describing how she used the video to enhance teacher control. "Now, as we watch the video together, we discuss it, then I have that person reflect on it, notice what they see, and then I can coach from that standpoint. It's no longer just; this is my thought or my opinion." Christine echoed these thoughts, "Generally, what I've seen is that when you take them to that video evidence, then they're able to pinpoint exactly what you were going to point out." As the administrator, Alyssa wanted to take this focus into the implementation within the building. She felt that one major hurdle to overcome would to support the new implementation so "that they don't see it as somebody just watching them and judging what they're doing. That's what you have to get past, the fear of the judgment."

She mentioned that if she can get teachers away from the fear and more towards ownership, this will be able to take off as a tool for growth.

Cross-Case Analysis

The cross-case analysis sought to illustrate the perceptions regarding the use of video-based feedback systems across the three schools included in this study. Using the coding that was initially created within NVivo, the cross-case analysis examined the relationships between schools and their respective use of video to support observations, reflection, and professional development. Each role was examined using the themes and associated codes to probe for depth. The roles of each participant across cases were further analyzed to seek similarities and differences between the various roles. In this multiple case study cross-case analysis, three primary participants, three instructional coaches, three administrators, and two peers were analyzed. Each of these individuals was compared and contrasted as part of this analysis.

While each school has its own unique culture, much of that culture can be traced back to the leadership, both at the district level as well as at the school level. In this study's case, this is quite apparent. While there are many similarities across schools when it comes to the implementation of video-based feedback systems, there are also several variations.

As evidenced previously in each case, coaching and feedback are seen as key benefits to growing reflection by using video-based feedback systems. In each case and with each participant, the central theme that was discussed was the benefits that video brings to enhancing teacher reflection. The district office spoke directly to this when David stated that the benefits, "will be the feedback that teachers receive from others, but also the chance for personal self-reflection. I think that personally, reflection will be one of the biggest strengths that will occur." The concept of building personal reflection was reiterated by Tammy at the elementary school

when she stated, “even if I don't have an observer coming in my room, but I want to see if something works, I'm going to video myself.” Christine unequivocally stated, “Those who have used it have reflected more.” She continued to say that “video allows them to record themselves, to go back, and then to pinpoint those things that they've been reflecting on.” Tammy furthered the idea that video helps one self-reflect by stating, “I'm not even aware of things because either it happens naturally or I'm in a different state than the student, and I don't see what I really need to see. You don't know if you're not aware. That has made me aware.”

Two principals who were former coaches took the concept of reflection one step further to discuss how the use of video not only helped them coach but helped them reflect on how effective their coaching was. Alyssa described how the use of video allowed her to see herself coach and that aided her with identifying different ways that she could modify her practice to better support her teachers with more effective coaching. She stated, “So even though you're trying to coach the teacher, you're also trying to coach yourself. It gives you that opportunity as a coach to reflect upon yourself. It's not just for the teacher, it's also for the coach and looking at themselves.” Amy followed the same line of thinking when she stated, “it was multi-layered in that, and I probably grew the most as a coach during that” when she was talking about being able to reflect upon the coaching itself through the use of video in the post-conference.

Each school talked in length regarding how the use of video allows for greater specificity concerning gathering evidence. Each discussed how being able to stop the video and rewind allowed the teacher or observer to identify items that would have otherwise been overlooked. For example, Cathy states:

> When you go in there with no videoing and that technology is not there, you're only there one time to script what you see that one time. You can go back through your script, but

> with your video, you can go back and repeatedly watch it and catch different things each time.

In addition, much discussion centered around the difference between what they thought they said or did and what they actually said or did. Interestingly, this concept took on different slants at different schools. For example, the elementary school saw this as an opportunity of proof as explained by Cathy where video can "go back and point out proof to a teacher that you've observed, that you got that video there to back you up." At the high school, however, Christine discussed how "I can take you to that moment in your class when x, y, or z happened, and we can reflect on it together. It's not my version of what I got down during that. It's you in that moment right there."

While examining the data, another trend demonstrated itself across all schools. Not only did the video allow teachers and coaches to see finite details, it allowed them to see success. At the high school, Sally stated, "It's also sometimes good to see what did go well because a lot of times I think any kind of evaluative system, teachers automatically go to the what I would do differently. And it's nice to say, but look at how many positives came out of this lesson." Similarly, the primary school teacher discussed how:

> The video is really the evidence of growth. Then the videos show whether those baby steps are being reached or not. Instead of just numeric progress for children on data, you have that progress that you can see. Even though some students still don't score where you want them, you have proof of that progress of students if you continuously use that video and keep it.

And at the elementary school, the principal talked about how "you could actually show them pieces so they could see specifically what they did well." While coaching and reflection tend to

be seen as methods to evoke change, the use of video allowed just as much ability for the demonstration of success.

The general trend in modern day education is that educators are being asked to do more with less. This includes the ability to do more within the building without allowing for more time. This particular concept came through in all three buildings. At the primary school, Molly discussed her level of stress over not having enough time to do what is necessary, let alone adding additional coaching conferences and reflection. However, she mentioned that video allows for:

> So much difference, because we have been able to schedule where I've already reflected, or the coach has already reflected, so we're able to schedule something actually during a school day, during my planning where I'm not worried about anything else. I'm 100 percent focused on what we're doing. I've already watched it, I've already seen it, I think the flexibility component is the number one piece for busy people like me.

This idea of flexibility was prevalent within the administration at both the elementary and the high school as well. At the high school, Alyssa discussed how the flexibility to observe teachers was the most critical benefit of using video-based feedback systems:

> There's a big difference even for me from being primary, elementary and high school, and how busy I am, and how many more demands on my time. So I have teachers videoed, then any time of the day that I have time, or a lot of times it's in the evening or the weekend, or five in the morning for me typically is when I'm doing this, I can pull up the video and watch it, as where that wasn't an option for me before.

Amy discussed the same concept but identified more with the flexibility that she to find openings during the day to allow her to fulfill her observations:

> In this small school, I wear so many hats at that point. I don't have an instructional coach, so that's me. I really don't have assistant principals that discipline me. All of those pieces are going to fall on my hands and when something, even with the best-laid plan, something's going to happen and pull me out. With this tool, at my convenience, I could pull it up and look at it. I also found it helpful that I could sit at my desk for that moment and pause if somebody walked in and needed me and then go back to it. So very easily accessible and it fits in your schedule versus you trying to fit into that schedule.

This same concept was reiterated by the primary principal as well. "I can't be in all rooms at one time. As an administrator, you never know what's going to happen that's going to pull you from something you really wanted to go see. The video captures it for you and frees you up."

As Annabelle discussed being able to see all reading classes from one day with video that she would otherwise not have been able to see, she also connected the use of video to professional development in the building. She explained how having all teachers video themselves in reading, the leadership team "found the commonalities over the videos, and that became our goals for our PLCs." Molly also discussed the idea of professional development through video with her role as STEM coordinator in the district. Because she is only one person, she talked about how she can do "a STEM lesson and share it with everyone in the district, even though I couldn't get to your school and I couldn't be there with you, here's an idea of what it looks like." She went on further to say that video will allow her to see the professional development implementation at a greater level while giving examples of what that PD should look like. The high school touched on the use of video in PLCs to "bring snippets of five or six classrooms at one time," but for the most part, neither the high school nor the elementary school focused on the use of video for PD.

The primary participant in this multiple case study was the focal point because of their role as a content area teacher. As the content teacher's primary objective is to implement instruction in the classroom, it is no wonder then that when looking across all three teachers, the central focus of each interview stemmed around support, either through coaching or professional development, to provide growth with instruction. The first comment that was made in an interview with Tammy at the elementary school was that "It's been very beneficial already instructional wise in my classroom." She connected this directly to the immediate growth she has seen in herself as a teacher, "I have seen some successes that I probably wouldn't have seen had I not videoed myself." Molly also focused on this concept of changing instruction as she explained:

> As I'm struggling with it in the classroom, I knew that I had made a little bit of growth, but looking back at the video, I really saw that, and then I'm like, no, that's what you want, that's what you've been working for. So for me, it's been nice to look back on that.

Sally also had a significant discussion about changing instruction, but as a high school teacher, she focused on changing practice from one period to the next:

> I've already looked at it. I know what I needed to change. I can say this outcome was not what I wanted to get. What would I do differently next time? And if I was able to look at it from a second period, and then go to my fourth period and make immediate changes, that was really nice.

A building administrator is ultimately responsible for implementation of all items within any given building. It makes sense then that a primary focus of the administrators in this study was around the implementation of video to create support for both coaching and professional development. At the primary school, Annabelle discussed several situations about how teachers

could or do react to change as well as what is needed to help support that change. She talked about how "an important thing we did do is try it with the leadership team first. We shared their videos first with others, so it was just sharing Claire's or just sharing Molly's, and then we expanded it to others." She focused continually on how they needed to move methodically to ensure they were able to get the buy-in needed from the teachers. As mentioned previously, Amy chose to have a slow and deliberate implementation for this exact reason. She stated, "What can we do up front that's going to make it easier for them because if you can eliminate the obstacles, they will use it." And similarly at the high school, Alyssa took an even broader picture when connecting the concepts:

> I'm just going to have to force it. Nobody's going to volunteer, well I won't say that maybe a handful of people, but not many. So it's going to really be, 'here's the expectation, I want you to do this, I want you to video yourself and send it to me.' But I think initially and probably ongoing, it really can't be the evaluation piece. That probably still needs to be more focused on the coaching piece, so that people are more willing to do it and feel at ease with it, and not that I'm going to be evaluated, by jobs on the line.

The role of the instructional coach is to give support to the teachers in an effort to allow them to reflect and grow. This notion was continuous throughout the conversations with the instructional coaches. When speaking about how to support instruction with video, Claire identified that coaching is about understanding the individual. She consistently reiterated that "you have to find what makes people comfortable to get to know what they want." She continued with, "I think the video tends to lend itself to opening up for growth or letting a teacher be comfortable to say, okay, now I get it." Cathy also talked about supporting teachers with post conferences, but it was more in line with having a difficult conversation through video.

"If you're addressing a hard situation sometimes having that distance in the video you can say what you need to say and then there's not these tough feelings, or when it's all said and done, I think it'll turn out to be more of a pro than a con." Christine also talked about how video supports her efforts with helping teachers see what occurred. "Because when you're in the moment, you just are in that moment. Now when you can take a step back and see what you did in that moment, that's huge."

Peers in this study took on many different perspectives. Patty felt that her role was building collegiality and supporting her fellow teacher, "I've been able to help support them in something they felt like maybe I can do. From the perspective of being coached, it's been very beneficial because sometimes there are things that you might want to ask help for and you're not exactly sure how to say what you need." She connected to what she felt her role was as a peer, "coming up with that solution, and also it's just reassurance." However, at the high school, Peggy continually went to being a spokesperson for implementation. She continually referred to what the strengths and areas of concerns were. She moved from topic to topic discussing the fact that some teachers do not like having cameras in their room, to the concept of technology does not lend itself to everyone's strengths. At the primary school, Claire focused on differentiation of needs and allowing teachers to determine the best way to implement how to use video.

Answers to Research Questions

The research questions were developed from the literature review exploring constructivist learning through coaching and reflection from observations coupled with feedback using video. The central question (CQ) sought to discover how educators use video-based feedback to enhance teacher efficacy within the process of instructional supervision. Together, the sub-questions (SQ) sought to explore specific factors that examine further depth to the central

question. The answers to the sub-questions provide details that support the central question through the four themes that materialized.

CQ: How do educators use video-based feedback to enhance teacher efficacy within the process of instructional supervision? The concept of instructional supervision is often seen very differently by different people, especially when examining this from various roles. However, through this multiple case study, the use of video appears to allow coalescence of thought regarding how its use can support the overall concept of using instructional supervision to support teacher growth and efficacy. Video was clearly seen as a tool that enhanced the ability to generate evidence from observations to create coaching reflective conversations. In addition, it offered the flexibility to both the teacher and observer to better meet their growth needs while additionally allowing multiple points of view to become present to enhance those reflective conversations.

While the roles of the participants gave slight variations to the overall rationale on how video can enhance teacher efficacy, all participants focused on how video gives greater depth of evidence which allows for greater reflection on practice. From a teacher's perspective, Tammy discussed how "the more I watched myself teach, the more those little things started to pop out at me, and when I changed them, it was a success. I know that kind of reflection cannot happen without the video." From a coach's perspective, video allowed teachers to not just hear what they need to reflect on, but rather, see it in real time. Christine stated, "Instead of having coaching sessions when you're saying, 'okay, remember in the lesson?' you can take them to the lesson, watch it, and then talk about it." Looking at the gathering evidence from an administrator's lens, video allowed her to identify more finite details about what she can offer to the teacher to enhance her effectiveness in the classroom. Amy stated, "The good thing about

the video is I could go back and watch it again, and it led to thinking about what might be a logical next step that's really going to push in the classrooms." Having greater specificity of the evidence on video allows for greater clarity to support teacher efficacy.

The use of video also presented new and different models of coaching compared to the more traditional model of gathering evidence from a classroom observation and discussing that with the teacher at some point after the lesson. Peggy detailed how the video feedback system itself allows for this different model of coaching. She stated, "I was able to write those comments in there [feedback system] that had come to my mind, or questions that had come to my mind." Cathy also discussed how the use of video not only enhanced the observation process but also enhanced the post-conferencing that took place after the observation through the video feedback system. As a teacher, Tammy discussed how with an effective coach, the system would allow the teacher to control the reflection. "When you're coaching, you could say whether you did well, talk about it, and then could actually show pieces so they could see specifically what they did well and coach them into what you need to work on." Annabelle examined how video has become the catalyst to enhance reflection from the teacher. "It's forced them to have to reflect because we come up with guiding questions for the reflections. Those guiding questions guide our conversations together." Like Amy mentioned previously regarding how video can give you evidence to alter your focus on coaching, Alyssa also discussed how video could be used to enhance coaching, and create a coach-the-coach model to better support teachers. "When I watched it, and I coached, it was about coaching the person. Now, this allows me to go back and reflect and coach myself as well."

From a district perspective, David talked about how by gathering "feedback from others and feedback from themselves, reflection will be one of the biggest strengths that will occur."

All roles identified that reflection is the most significant change that occurred with using the video feedback systems. Cathy felt that the strongest aspect of the system was the ability to "Go back and watch herself, which is something you can't do if observed and not recorded." Claire also discussed how video not only allowed one to go back and see what had actually occurred, but it did so in "a non-threatening environment." The use of video then allows a teacher to create their own reflection in a safe environment, which in turn helps them identify more with the content being viewed.

The ability to reflect on one's own time also supported teacher efficacy. At both the primary and elementary school, time and space were a primary concern for teachers. Both schools identified that having time to reflect on one's own practice when convenient provides a more significant opportunity than attempting to force reflection during a traditional post-conference. Patty said, "having the video there to go back to in your quiet place at the end of the day when no one else is around can definitely help you to be more reflective." The concept of having tools to support and enhance reflection at a convenient time was a common theme throughout Molly's interview. She echoed Patty's sentiments that video allowed her the opportunity to remove herself from the situation, relax, and then "reflect on my own learning, on my own teaching at a convenient time." Amy also followed up on the convenience aspect and discussed how this is no longer a one-size fit all model of reflection. "Share the video. This allows me to sometimes sit with them and watch it, so I can whisper coach, and sometimes I coach straight from it. It's very personalized for the teachers."

SQ1: What factors are identified as central to implementation of reflective practices through video-based feedback? Each role participating in this multiple case study had similar views on factors that would be considered central to the implementation of video-based feedback

systems. While the focus for these factors appeared universal, each role examined this concept through their own lens. Teachers tended to focus more on individual personalities and to meet one's needs while coaches and administration tended to focus more on implementation timelines, details, and requirements. However, while the focus shifted by role, the overall concept of how to implement did not change.

The single most important factor noted by all roles was that because of the significant change this has on observations, it is necessary to roll the process out in small doses and ensure that members of the leadership team are the first participants. Sally expressed concern from the beginning that by being at the high school, teachers would be naturally reluctant to implementing the system. "Our leadership team, and our administration especially, see this going through our leadership team at first. Me being the first one to go, show it in PLC, show them how I'm using it. How I've reflected." Christine also stated that at the high school level, "The leadership team must go first. We have to be the ones who upload our videos first. We have to send them out to our career teachers, let them give us feedback." At the elementary school, Tammy also talked about how once the leadership team was able to begin implementation themselves, "all of them have seen the benefits from it. Not total buy-in yet, but the more they use, they're going to be hooked on it like I am." Amy also discussed the idea of a controlled implementation. She focused on how the leadership team is the most important factor in gathering the "buy-in" from the faculty. She said the focus of implementation need to be on, "what can we do up front that's going to make it easier for them because if you can eliminate the obstacles, they will use it." This sentiment of ensuring that as many "kinks" were worked out and providing strong examples from the leadership teams were reiterated by every participant in the study.

In addition to having leadership team members going first, another central factor was ensuring that first uses by all faculty concentrated on safeguarding that those implementing had strong support as well as positive initial experiences. While Alyssa felt that she may have to force teachers to get started, she also felt that "initially and probably ongoing, it can't be the evaluation piece. It needs to be more focused on the coaching piece so that people are more willing to do it and feel at ease with it." She continued to express that the key was to remove all anxiety related to what consequence the video could have and ensure "the message says to them is it's just about coaching, that it's not about evaluation." Amy had similar feelings as Alyssa that it may have to be forced at some point, but it was important "to be embedded into our PLC's in both ways. Not only as resources to use in PLC but also requirements for them to be able to support each other." Building this collegiality was seen as a positive support that would be necessary to generate success. Claire recognized that while support and smaller assignments would help with implementation, she felt that in the first year, it was almost as important to have it be a teacher choice. She sensed that if teachers were given a choice and the positives were discussed throughout PLCs and other conversations, teachers would naturally gravitate to it. Patty summed up this idea by stating, "As leaders of the school, it's our responsibility to show the value in it because once everyone accepts the process, it will be valued."

The Low Country School District had several concerns with the technology behind the implementation. As a rural district, many of their concerns came from the lack of infrastructure to run such models. Several primary participants discussed how it was challenging to upload videos or reflect on them from the school site because of the lack of infrastructure. This concern was echoed by many of the other participants, and while it did not become an issue with implementation, it was a critical factor that was must be explored before undertaking a project

involving such technology. In addition, the fear of non-digital natives implementing technological aspects into traditional practices causes concern. Sally stated, "it will be the technology piece that hinders people from doing it." Tammy also recalled, "that the technology end needs to be a significant part of the professional development for anyone that uses the system because if you get frustrated, all people just give up." Several other participants also discussed the fear of technology.

The final factor for implementation was to ensure that is adequate professional development and time to practice. While many administrators discussed needing to force the hand, teachers tended to focus on ensuring that there is adequate professional development that embeds the initial training into an ongoing PLC model. Peggy insisted that before starting, it would be necessary to get significant training for the leadership team and then "it needs to be a kind of gradual release model." Several gave suggestions on how to create the embedded model of rolling this out with initial training, but the most prevalent was round initial training and webinars followed by leaders running PLCs to support immediate implementation. Sally talked about the need to:

> Show it in PLC, show them how I'm using it, how I've reflected. Have Peggy and Christine come back in and say this is how it made me feel as the coaching side of it and here's how I felt as the teacher. By just showing I was willing to share mine in PLC, will allow them more time to get in and just play with it."

While the biggest fear of needing professional development with the technology and creating the drive to want to reflect more, across the board, all participants felt that with adequate training and significant support, teachers at all levels will support video-based feedback systems above traditional observational methods.

SQ2: How do educators who use video-based instructional feedback tools design individual professional learning in order to enhance self-efficacy? Professional learning in the field of education can take on many forms. In the course of this multiple case study, professional learning was identified through self-reflection, coaching sessions, professional development, and individualized professional learning modules. While professional learning occurs within all levels of education, the learning itself for the teacher using the video feedback systems became somewhat role defined. Teachers tended to look at professional learning through the reflection lens, while instructional coaches saw coaching as the professional learning method. Administration identified professional learning as professional development offerings provided through various sources, with significant emphasis put onto PLC development.

Low Country School District is a one that is focused on the use of embedded professional development through Professional Learning Communities coupled with instructional coaching. Through either model, all participants identified that video strengthens professional learning by creating models that enable teachers to identify best practices. Cathy talked about how the use of video has enabled her to build models so "other teachers are able to see models in PLC meetings." She continued that "being able to use videos as models in a PLC or in a post-conference enhance my ability to show what best practice looks like." Another instructional coach, Claire, focused on how she is extremely comfortable using video to capture effective models to use a demonstration, but even though she feels she is a powerful teacher, she is never comfortable teaching in front of other teachers. Therefore, she said, "We use my videos in PLC, which I'm completely comfortable with. I wouldn't be comfortable standing up and telling them, but if they video me and just show me in my element, I'm fine with it." This ability to use the strengths of teachers in their element rather than forcing something was seen as a definite

strength of video. Patty also talked about now that the technology is available, they could create multiple videos where you have a clear model for almost any pedagogical need. The strength with this, according to Patty is that "anytime there's a model there that you can show to your peers to that demonstrate mastery doing X, Y, and Z" gives schools more opportunity to mimic effective teaching and move all teachers forward.

In a similar light, video also enhances the ability to plan and execute PLCs. Connecting to what Patty said previously, she stated that video allowed teachers to build from others. "Everyone can take from that, tweak it to what they need and then it's going to blossom so that ideas go from this teachers room all the way down the hall and spread like wildfire." Molly talked about how the leadership team was able to use video to not only identify what the issues were in classrooms, but also design professional learning in PLCs to combat those issues. Because of video, she stated, "We were able to plan accordingly." The use of video with that leadership team then allowed "teachers to do small group instruction with reading, reflect on it, we then reflected on it with them and brought it back to our PLC." Annabelle also discussed video use in PLCs that allowed them to differentiate based on needs of teachers but also "to use PLC to put teachers together in groups where they're naturally going to reflect with the people around them. Our PLCs are led together now because of the reflection becoming stronger." Amy put all this together as she discussed how video allows the PLCS to differentiate based on needs identified over time. She stated:

> It will let us differentiate with what we need individually. And then give support on that. That is different than just looking at best practices in general from a rubric or working on what we need to increase our scores. It meets the professional needs of our teachers in a much stronger fashion.

Providing models for teachers as well as PLCs give the broader scope of professional learning, but on a much smaller scale, teachers also can create individual professional learning through video-based feedback systems. Amy talked about the need to, "really think and reflect as a teacher, what is it that I need to grow and that's going to be different than my colleague next door." This level of self-reflection to guide individualization of professional learning is connected to increasing the level of reflection through the use of video. Tammy talked about an example of how watching the video allowed her to see a minor error that was made during a handwriting lesson. She followed that up by stating, "but when I went back and looked at the actual document that tells you what to say and how to do it, I had missed that part of the connection." She attributed her need to go back to the professional learning books she received in training to the fact that she saw that minor error that had such a profound effect on student learning and that she would have never seen that had it not been for the video because "scripting could never have caught that."

Molly also gave an example of how video has allowed her to personalize her professional learning. She discussed that:

> My small group is something that we've been working on for a while, and I personally videoed a lot more small group than whole group approach, because I feel like whole group approach is cookie cutter, I do, we do, the whole thing. Where my small group is so much more individualized, and each person is on a different skill, each person is on a different level. I was able to use the video to help me see, how can I differentiate this a little bit more.

She connected this example to how she sent her videos to multiple individuals to gather feedback from multiple points of view. This enabled her to identify what was successful and what was

not as successful in small groups and what would allow her to grow in that specific area, which was not one that was being worked on either in the school or the district. Molly summed up the effectiveness with professional learning using video-based feedback systems by simply stating, "it opens up doors for so many different professional development pieces, depending on what your position is and what your role is. You can use this to either grow, to teach, or to coach, whatever may be needed. It is a system that allows it all to take place."

SQ3: How does using video-based coaching feedback contribute to altering teacher pedagogical practices? It has been said that it is not the action rather the reflection upon that action that creates change. Through this multiple case study, this concept of change due to reflection became clear when using video-based feedback systems. Through the use of video, teachers can gather specific evidence regarding instruction that allows them to reflect on their practice and identify changes that need to be made to enhance that practice.

The first aspect that played a part in altering pedagogical practice was the fact that Low Country School District has spent several years working on an instructional rubric that details nineteen indicators on five levels. Claire specifically talked about the benefit the rubric has in moving forward with video-based observations. She said:

> I think now that we know that rubric so well, that's what we're looking for in those videos. It's so much easier than to go in and to watch a teacher for 45 minutes to an hour, do the write-up, go to the post-conference. Whereas, I could sit there with that video and coach her right there. You're going to have to have people that are familiar with that rubric to be able to come up with their coaching points because you can quickly see instructional practices.

Through the use of video, teachers and coaches readily identified needed changes in their practice by merely seeing what they have done. Tammy talked about how her instruction changed significantly by being able to watch herself in several situations with the same students. After explaining what she saw from herself, she was able to accurately identify what needed to change to serve her student better. As she stated, "I'm going to be so much more intentional in my instruction. I'm going to be so much more intentional in student mastery and looking for it now that I have video."

From a coaching standpoint, Cathy felt that video allowed the teacher to see a window of time regarding instruction that she would have otherwise had to piece together for her. She stated that video allows the teacher to see what is occurring pedagogically and identify ways for her to change it. She explained on particular post-conference where "her and I both caught something in that video that she would do totally different the next time. Similarly, Molly discussed how during a coaching conversation, she was "able to use the video to figure out a way to better differentiate in the class." Sally also talked about how during a video coaching session, she felt "the biggest strength of watching the video is changing how I conduct interventions for kids." Patty summed up that ability to use video to change pedagogy by stating that, "They can take that, redirect their instruction which is ultimately going to help students be able to gain mastery, which is the ultimate goal of all this anyway."

SQ4: How do teachers make the connection of this experience to understanding their individual "way of knowing?" As previously stated in the review of literature, "ways of knowing" is a part of Kegan's (1994) constructivist development theory whereas individuals evolve in their learning as they encounter challenging environments and accommodations. Simply put, it refers to how individuals progressively make meaning based on their experiences.

In this multiple case study, the use of video enabled teachers and coaches to identify evidence that allows teachers to connect to the content of which they see and make meaning through self-reflection and coaching based on that evidence.

Kegan (1994) identified five stages of consciousness in cognitive development. In stage one, cognition is about knowing one's impulses. In this stage, teachers would do what would be considered natural to them and based on what they think is best. Tammy discussed this concept of where she was in previous years. "Teachers naturally just do things, and they don't even realize they do it, and it could be good, or it could be bad." She discussed how by using video-based feedback systems, teachers could see what they are doing based on natural impulses and reflect on whether or not this is beneficial to the students. She continued that when she is teaching, "she is acting naturally and in a different state than that students" and seeing the video "broadened my horizons, because I tried something that one of my observers said might help, and it was miraculous of the benefits."

In Kegan's stage 2 (1994), teachers are aware of their concrete experiences as well as others. In this stage, teachers can recall what has occurred or what others have said occurred either in their classroom or professional development. Sally discussed how during a traditional observation, one would have a coaching conference, typically within the following 48 hours. As she stated, the problem with this model is that teachers have taught multiple lessons since the observation so, "Sometimes what we recall is not always accurate. It's nice to be able to look and say, well, I thought I did that." The issue then with staying in the second stage is that recall is faulty, not necessarily because of deception, but because teachers have moved on and are unable to recall vividly what the details of their experience were.

In addition to understanding the concrete details of an observation, professional learning also seats itself in the second stage. When teachers participate in professional learning or PLC work, they often heard leaders or experts explain what should occur or the concrete details that should occur during a particular lesson. However, with the use of video, teacher leaders were able to both discuss and demonstrate the new learning to ensure that teachers can fully understand the more abstract details of the learning, which moved teachers to stage three. For example, Cathy discussed the power of video to model how to move teachers to the next stage as she discussed the need for, "leadership modeling for other teachers and conferencing to use these components." Annabelle also connected to this idea of using video to develop teachers as she discussed the need to differentiate to support them. "Sometimes you need the model; sometimes you need the group work." She continued that video allowed leaders to support the various learning styles to move teachers forward.

Kegan's third stage (1994) allows more mutual abstractions to become possible. In this stage, teachers can move from the concrete nature supplied to them through pure pedagogy and connect it to a broader schema that presents itself in the classroom. Alyssa talked about how using the video-based feedback system allowed teachers to move from the details of the rubric to understanding situations in the classroom. She referred to using the video to see more holistic teaching rather than any particular indicator. Alyssa specifically stated:

> In those guiding questions, what do you notice in this area? Because it's hard to get a teacher and ask her to notice everything about all parts of the rubric. I think it would be more powerful to see what you are focused on? What is your growth target? Now, let's focus the video on that, and I want you to watch it with that in mind.

Kegan's fourth stage begins to build self-authorship and greater autonomy. In this sense, it becomes more about how a teacher is able to self-reflect and grow based on what they are seeing and knowing. This moves from a coaching focused model to a reflection focused model, and that is what the participants of this study stated when discussing the use of video to enhance reflection. David from the district office discussed that this is the main strength of the video-based feedback system:

> In thinking about teachers, when they have an opportunity to look at themselves, observe themselves, they'll think, oh I didn't realize I was doing that or I said that. It would really be eye-opening for teachers to realize that maybe their questioning could be more effective or there were things that they could have done to support an individual student or a group of students when maybe they didn't do that. The chance for personal self-reflection.

Claire felt the same as she was discussing moving the reflective aspect of the observation from the coach to the teachers. She stated, "The strength is that you reflect on what you've done in a non-threatening environment." Patty summarized how video helps move teachers to this level as she said, "There's no way that if you're truly being reflective, you're going to stay in the same place."

Kegan's final stage (1994) finds teachers understanding the larger picture where they are able to become directors or creators of the system. In this stage, teachers find themselves not only reflecting, but directing their growth and identifying what they need and whom they need to support their growth. Tammy talked considerably about how having access to the video-feedback system allowed her to identify what she wanted to focus on, what growth had occurred and who needed to be part of this to help her continue to grow. "I videoed it because I wanted to

watch what happened. I just did it for myself, and I'm sending it to that observer so that they can see." She continued this though regarding what she plans to focus on with the future. "I've even changed some of the things that I want to do for next year, and I know that that videoing is going to help me do it." As David expressed, typically, professional development is driven by the leadership in both the building or district, but with using video, it allows ownership of professional learning at the individual teacher level.

Summary

The purpose of this qualitative multiple case study was to examine the use of video-feedback systems by teachers and leaders in K-12 schools. This chapter provided the results of the experiences of 12 participants from one rural district, including one school each at the primary, elementary, and high school level, in the southeastern region of the United States. It included findings from the data that explained the use of video-based feedback systems to provide enhanced teacher efficacy, reflection, and growth as well as support professional learning and moving teachers to higher levels of cognition. The participants included district administration, building principals, instructional coaches, peer teachers and grade level content teachers. Face-to-face interviews, analysis of relevant documents, and within-case analyses identified the perceptions of both teachers and leaders regarding the usage of video-feedback systems in the observational process within their schools. The cross-case analyses also provided an in-depth exploration of the perceptions of each of the participants from his or her unique roles in the school. This examination led to the formation of four specific themes that supported the answers to the central research question as well as the research sub-questions.

CHAPTER FIVE: CONCLUSION

Overview

The purpose of this qualitative multiple case study was to examine the use of video-based instructional feedback models by K-12 teachers and leaders in a rural southern district. Given the focus on building teacher effectiveness in order to support student achievement, human capital management provided the catalyst for this exploration. This study provides a significant contribution in relevant literature to assist current and future school leaders with the effort of supporting teachers through enhanced coaching and reflective practices using video-based feedback systems. This chapter details the findings from this multiple case study as well as the implications of relevant literature and theoretical concepts. Additionally, delimitations and limitations, and recommendations for future research are also presented in this chapter.

Summary of Findings

Data was collected for this multiple case study from interviews conducted with 12 participants, four from both the elementary and high school sites, three from the primary school site as well as a district office official. Following in-depth participant interviews, document, artifact, and video analysis from each school site, data was compiled and downloaded into NVivo. The data was analyzed to create codes which in turn created four themes. Final themes that emerged from the list of codes related to the research questions were Training, Garnering Evidence, Multiple Points of View, and Flexibility. The within-case and cross-case analysis along with detailed findings from this study provides further relevant literature regarding the use of video-based feedback systems towards the enhancement of teacher effectiveness through coaching and reflective practices.

The central question which provided the focus for this multiple case study was, "How do educators use video-based feedback to enhance teacher efficacy within the process of instructional supervision?" While each participant had a slightly different take on the overall direction on how the video-based feedback systems could be implemented, all participants identified the strengths of the system were the enhancement of coaching techniques to further reflection as well as the creation of stronger support for teacher professional learning.

The analysis showed that all participating roles believed that the use of video-based feedback systems allowed the greater specificity when gathering evidence, both in the areas of reinforcement as well as refinement. The depth of this evidence was then able to be used to further coaching conversations with the identification of potential changes to practice as well as evidence of growth based on previous recommendations. The roles of coach and administration saw the use of video-feedback systems as an opportunity to support teachers to see what occurs in the classroom rather than recall what they thought occurred. From the teacher's role, they saw the use of the systems as an opportunity to not only identify changes they needed to adjust but also own the reflection process as they monitor and adjust instruction and reflect on those changes. Lastly, the role of administrator as well as coach saw the video-based feedback systems as a tool to further professional learning of teachers both in PLCs as well as through individualized reflection.

The first sub-question posed, "What factors are identified as central to the implementation of reflective practices through video-based feedback?" All participating roles in this study identified the need to implement the use of video-based feedback systems at the leadership level first. The rationale for this method of implementation was to ensure that there is a level of expertise within the building to support teachers as well as the identification of several

uses that could be seen as positive means of teacher support. The leadership's understanding of the overwhelming fear of technology implementation was seen as critical to implementation. Teachers discussed the fear of using video as becoming "one more thing" and identified the need to demonstrate through the leadership team how this tool can not only enhance teacher effectiveness but also be done in a way that alleviates some stressors and time, rather than adding to them. Administrators and coaches focused on beginning implementation slowly by only using small video segments that demonstrate only positive actions within coaching sessions. As implementation grows and greater usage is rolled out in PLCs, video can then become part of observations and coaching, but all participants stated that the video-based feedback tool must always be seen as an additional tool and never as a substitute.

The second sub-question asked, "How do educators who use video-based instructional feedback tools design individual professional learning to enhance self-efficacy?" The resounding answer to this question from all participants was the enhancement of teacher self-reflection. Self-reflection was seen as the most critical change in teacher actions based on the use of video-based feedback systems. By allowing teachers to see themselves in action rather than just recalling what they thought occurred in the lesson, teachers were able to self-identify both growth and refinement of practice. Through the use of video evidence, teachers are able to not only identify what changes are needed to their practice but also identify support that could be used to make these changes occur. These support structures were identified as sending of the video to multiple individuals for differing points of view, finding model lessons from others, or returning to professional development materials to ensure that the practice was being implemented accurately. Administrators and coaches pointed to the use of video as an

opportunity identify broad needs across all classrooms as well as the potential to create models of instruction that could be utilized both in PLCs as well as individualized growth needs.

Sub Question three inquired, "How does using video-based coaching feedback contribute to altering teacher pedagogical practices?" Overwhelmingly, all participants stated that video allowed teachers to see what practices they employed within given situations but more importantly, see the immediate response of that practice on instruction. This evidence then could be used to reflect on changes that could be implemented. In addition, the follow up by using video also allowed teachers to see the immediate effects on instruction in the next lesson based on changes, which then furthered fueled the desire for change by allowing success to breed further success. In addition to greater reflection and control, coaches also pointed to how video can highlight focused and embedded professional learning through PLCs. By using video to create models that can create metacognitive discussions and then using video to further follow up on that practice and create more individualized implementation and feedback, teacher's practice will move from the typical gradual modification of traditional professional development to a more immediate change of practice through embedded, sustained support.

Lastly, Sub Question four asked, "How do teachers make the connection of this experience to understanding their individual "way of knowing?" The use of video-based feedback systems allows teachers the ability to move from the natural instinct of teaching to a self-reflective, self-directed model of growth. Teachers stated that by seeing themselves in practice and working with support structures of other teachers and coaches allowed them to not only identify what level of reflection and or knowing they currently resided but also gave them the ability to implement other ways of knowing to greater higher levels of cognition. Instructional coaches stated that as teachers begin to own their own reflection and identify their

own needs, the move through the stages of knowing as identified Kegan (1994) and are able to control more of their growth. Video thus supports their identification of which stage they currently reside as well as give them opportunities to move towards the next stage in cognition.

Discussion

This multiple case study furthered the research regarding the use of video-based feedback systems to support educators with instructional coaching in the K-12 educational system. In addition, this study confirmed previous research in both transformative learning theory (Mezirow, 1991) as well as constructive developmental theory (Kegan, 1994). This study adds to the limited empirical research available on the use of video-based feedback systems as well as to the use of video as a tool for enhancing all aspects of instructional coaching. The following discussion will examine the data from this multiple case study in comparison to each of these topics.

Empirical Foundations

While there is limited research regarding the use of video-feedback systems to enhance instructional coaching, the earliest research employing the use of video as a form of feedback found participants were able to look at themselves with space for reflection, thereby giving themselves a realistic picture of their own skills (Fuller & Manning, 1973). Tripp and Rich (2012) also found that data that support video-based review as a useful strategy for teachers to both improve the ability to evaluate teaching and make changes to teaching practice. They further reported that aspects of the video review helped change behavior through the opportunity to see themselves teaching (new perspective), and see their own progress. This data gathered through this multiple case study found these data to be accurate.

The central research question for this study focused on how educators use video-based feedback systems to enhance efficacy through instructional supervision. Participants in this study provided a plethora of observations through the lens of their role within their district. Crane (2002) described the necessity that teachers must engage with thought partners in order to reflect and grow from experiences. In addition, an assured way to help teachers deal with uncertainties in their work is to provide them with guidance about what and how to teach, and regular, ongoing opportunities to develop their practice in accordance with this guidance (Camburn & Won Han, 2015). Cathy pointed out that the strength of using the system creates guidance based on the feedback directly related to the observational rubric. The strength of these systems is the ability to have, "video and type in just a five or six words really quickly. To have those notes throughout the video and then you can go back through the rubric and match up those pieces." This technological guidance allows for immediate feedback for the teachers related explicitly to evidence around the pedagogical needs as identified by the teacher observation rubric.

This premise of using the teacher observation to gather evidence and use as a basis for coaching discussing was verified by all participants in this study. The most notable discussion across all participants was the ability of video-based feedback systems to provide clear evidence of effectiveness along with creating the opportunity to reflect upon that evidence to provide highly engaging and effective coaching sessions. Kilion and Harrison (2016) stated that regardless of the format of coaching, the common understanding is that coaching is a highly effective, individualized professional development model used to enhance teaching practice through the interaction of professionals in a manner consistent with growing skills and knowledge to better serve classroom instruction.

According to Maslow and Kelley (2012), evaluation has the potential to provide meaningful feedback to teachers to improve practice and be an essential source of data to support teaching and learning. Christine connected with the idea of being able to offer coaching directly to instructional practice based on the evidence provided by the video. As she stated, "I can take you to that moment in your class when x, y, or z happened, and we can reflect on it together. It's not my version; it's you in that moment right there." Amy discussed this further by stating, "I think it would make us better because you capture more data. When you can coach side by side with the teacher and showing them small clips of it, they see it." Through the use of video evidence to provoke conversation and feedback, teachers can understand what skills and knowledge will best serve their growth in the classroom.

Thach (2002) found that the combination of feedback and coaching increased effectiveness by up to 60 percent. Through the use of video-based feedback, teacher participants pointed to more direct feedback that was focused on specified areas of refinement and because of that feedback, found themselves as stronger teachers. Goff et al. (2014) found that coaching and feedback allowed for actionable information which is strategic and focused on growth. The data in this study suggest that due to the ability to offer both immediate written feedback within the video-based feedback system as well as utilize that feedback and self-reflection to generate live coaching sessions, teachers are provided with multiple opportunities to reflect on practice and identify further areas of growth.

Additionally, it was noted by participants that the use of video-based feedback on coaching allows for a much higher level of professionalism as it allows the teacher to be a partner in the discussion rather than the traditional method of having items pointed out to them. Claire also described this concept of professionalism. As she stated, video allowed the coaching

session to be about constructive feedback, “so I never felt threatened. I never felt like it was a gotcha, or you did this or didn't do this. They explained what they thought I was doing well, as well as what I can work on.” To be productive and to accomplish organizational goals, schools need cohesive and cooperative relationships. Trust is essential to fostering these relationships (Tschannen-Moran, Glue, Choice, & Capital, 2015). Through the use of video, professionals are able to have difficult conversations around specific evidence without the fear of opinions or personalities getting in the way. As pointed out by several participants in this study, the video shows what truly happened and had no personal feelings involved in it.

An examination of data central to answering sub question one found that those who used video-feedback systems simply reflected more. Camburn and Won Han (2015) acknowledged that it is commonly thought that a way in which to grow teachers is to provide them with opportunities to regularly and critically reflect on their teaching. All participants in this study identified this as the most significant change when implementing video-based feedback systems. From the teacher’s perspective, video allows for the immediate reflection on specifics aspects of teaching have been the focal area of growth. Video also allows teachers to identify if the new practice has been effective or if other items need more immediate attention.

Schon (1983) pointed to differences between reflecting in practice, occurring while one is in the midst of the action, and reflecting on practice, which looks back at past experiences with the intention of identifying what worked, what did not work, and how one might modify situations to create a different outcome. Unlike the traditional reflection method which uses recall to reflect on previous practices, the use of video-based feedback allows for the observer or teacher to reflect on previous practices in a scenario that mimics reflecting in practice. The ability to reflect in focuses on the teacher being able to modify and adjust while the action is

taking place. Instructional coaches in this study spoke to the fact that video allows them to be the guide on the side concerning coaching and allow the teacher to direct their reflection on the practices as they occur in the video. This opportunity, otherwise not available without video, creates a much higher level of critical reflection which in turn gives teachers more practice of monitoring and adjusting while the practice is occurring. Thus, teachers can identify how they can attend to critical events, interpret critical events or the create the highest level of reflection by planning to respond in future events (Sherin, Jacobs, & Phillip, 2011).

Garmston (1987) identified collegial coaching as a practice that can refine teaching practices, deepen collegiality, increase professional dialogue to help teachers to think more deeply about their work. Through video-based feedback systems, teachers were able to obtain multiple points of view and build collegiality among many with a minimum amount of lessons. Primary participants and peer teachers both referred to the convenience of being able to send one video to several colleagues and coaches to gather reflective feedback from several points of view. Poglinco et al. (2003) referred to the strength of peer coaching as building collegiality by working together to improve their professional knowledge and skills. The high school administrator referred to this specific practice due to the level of expertise peers would have over some coaches or administrator. She stated that allowing teachers to reflect with each other without taking away instruction in another classroom creates a win-win situation. The primary school principal also discussed how video-based feedback systems had created regular coaching cycles among teachers as evidenced by teachers continually working with each other after school watching and discussing videos and modifications they could make to better improve their instruction.

Webster-Wright (2009) contended that many professional development practices still focus on content rather than learning. This is similar to traditional observation practices. According to Gargani and Strong (2014), most observational systems measure how teachers perform on a given set of standards of practice. However, with video-based feedback systems, observations can be just as much about student learning as it is teaching practice. The majority of participants described a benefit of using video enabled the teacher and observer to see both the teacher practice as well as the student work. Because video allowed multiple observations of the same lesson, teachers and coaches were able to watch a lesson through multiple lenses in order to see both the practice and its direct effect on student growth. Peggy mentioned that video was much more beneficial to allow her to not focus on scripting but instead watching the lesson several times to see what students were doing as well as what the teacher did. Amy also discussed how the video allowed her to examine student work during the lesson because she was confident that the video was going to capture the teacher evidence while she attended to other aspects of the classroom. Crockett (2002) found that analyzing teaching practices and student work both prompted reflection on the part of teachers, but that the latter activity was more likely to generate critical reflection than the former.

An examination of sub-question two focused on how participants use video-based instructional feedback to design individual professional learning to enhance teacher self-efficacy. Teachers must receive professional development in the building blocks of successful teaching and learning but must also have support with coaching and assessment of their individual capacity to use the skills properly after the training (Saphier, West, & von Frank, 2011). This study identified that video-based feedback systems allow for regular follow-up coaching based on initial coaching conversations. All three administrators, as well as the district office, pointed

to the use of video to enhance PLCs through demonstration models as well as how teachers can then video their application of the new learning to demonstrate growth regarding implementation.

Thurlings et al. (2012) defined professional feedback as a means to allow comparison of actual performance versus a standard level of performance. As Molly serves as the STEM coordinator for the district, she sees video-based feedback systems as the opportunity to provide teachers across the district with model lessons and examples. Understanding that she cannot get into all STEM classrooms as a classroom teacher herself, she has identified video-based feedback systems as the vehicle which will drive STEM PD. Video-based feedback systems will allow all STEM teachers in the district to watch effective practice and then video their implementation of the new concepts and submit to her to gauge the level of implementation across the district in comparison to the expected standard.

Marzano (2003) detailed that the most effective way to increase teacher effectiveness is to engage them in personally meaningful, high quality, embedded practice. Many experts continue to call for professional development to become more intense, sustainable, and job-embedded (Wayne, Yoon, Zhu, Cronen, & Garet, 2008). As evidenced by the primary school, video-based feedback systems allow professional development to be directly tied to specific needs within the classroom as identified through video. As they discussed, each teacher within the building submitted video segments of small group literacy lessons which provided evidence for the direction of the PLCs. At the conclusion of the development, additional videos were then recorded by each teacher within their individual classrooms as follow up evidence regarding successful implementation. The administrator and coach both acknowledged that video enabled the leadership team to effectively identify and comprehensively design professional learning

opportunities that directed supported the teacher's needs in the classroom and the demonstration of their success after effective PD.

An examination of the third sub-question focused on how video-based feedback coaching contributes to altering pedagogical practices. In Wiesemes and Wangs research (2012), principals stated that video observation allows them to see every small detail about the lesson, the pupils, and the classroom. Administrators in this study agreed with this research and went further saying that like Wisemes and Wang's research, the use of video as a tool will alleviate significant strain on human capital as it can both support the evaluation process while also support the coaching, teacher reflection, and ultimately change pedagogical practices Teachers instruction benefited considerably from discussing their teaching with each other, using the videotaped sequences as a basis for the dialogue (Sherin & van Es, 2005). This model of individualized coaching allowed teachers to drive their own individual learning to focus on specific changes within their instructional practice. David supposes that using video will allow teachers to virtually provide opportunities to learn from one another in the same building or across the district. Molly and Annabelle both discussed how a district, such as theirs, that is spread out geographically will be able to use video-based feedback systems to observe and coach virtually.

Tillema (2009) found that using teaching frameworks offers the benefit of providing formative feedback to teachers, which can support them in the complex process of learning to teach. When this is coupled with consistent feedback provided by video-based systems, teachers have more significant opportunity to reflect and grow from observations. Tammy discussed the use of focused observations using the rubric as the first step in moving towards effective instruction. She then stated, "it moved us forward, not just because of the instructional pieces of

it, but because of observing and then talking about the practices that they could use. It just made instruction much better." Goldstein (2007) found that highly effective coaches and mentors may serve as stronger evaluators as well as support effective instructional practices better than traditional principal observations. All three administrators talked about the effectiveness of using coaches and peers to enhance instructional coaching because those members of the leadership team can more effectively give specific feedback that is more closely connected to that teacher's practice. However, both the instructional coach and primary participating teacher both referenced the need for feedback from the principal to ensure they are maintaining the vision of the school. The strength of the video-based feedback system then is the allowance of all members of the leadership teams and peers to provide high-quality feedback that can change instructional practice.

Theoretical Foundations

This multiple case study was grounded in the principles of social constructivism. According to Hausfather (1996), social constructivism was designed so that learning is seen not as development, but rather a process that results in development, strongly influenced by the culture and social process. As a social and cultural model of learning, it sets the stage for learning to take place in the context of the community in which the learners reside (Deulen, 2013). Annabelle, the primary school principal, described how video-based feedback created the social constructivist culture within her building and across the district. She explained the goals of the district and specifically her school as ones that were trying to create more coaches and teachers that are excellent at what they do with instruction. "We have teachers that coach in the afternoons with another teacher. It's not planned, it's just the culture created when we all want to help each other do the best we can."

Brofenbrenner (1979) argued that the capacity of the social context for development then depend on the existence and nature of the social interactions. Therefore, it is the responsibility of the facilitator of learning to create this context that will pull the learner from the zone of actual development to the zone of potential development (Miller, 2010). It is for this reason that learning in a social constructivist model has an active mentoring component (Vygotsky, 1978). Amy talked about how being an instructional leader, it is her responsibility to provide the context to allow mentoring to happen, and video has allowed this to transpire. She stated that even as an administrator:

> The support that I'm able to give teachers is so much stronger because they will be growing themselves as well as growing each other and that's really what it is about. I don't want it to be about me, it's about them, and I think this is a tool that's going to make that happen.

Transformative learning theory. Mezirow (1991) described transformative learning theory as being a constructivist approach to explain the way adult learners interpret experiences, thus being central to making meaning and therefore learning. Tammy points out that through coaching on the videos she created, "those little things started to pop out at me. Just the little, fine nitty gritty things, and when I changed them, it was a success. That kind of reflection cannot happen without the video." Hoggan (2016) described this transformative learning as processes that result in significant and irreversible changes in the way a person experiences, conceptualizes and interacts with the world. In this regard, video supplies the ability to conceptualize the world around them rather than recall images which leads to stronger reflection and thus creates the process of ongoing, significant change.

Paulo Freire (1970) developed the concept of consciousness-raising which aims at fostering this critical consciousness in order to build new ideas (Spring, 1994). This critical consciousness refers to a process in which learners develop the ability to analyze, pose questions, and take action within their individual context that will influence and shape their lives (Dirkx, 1998). Utilizing video-based feedback systems, the study participants all referred to the ability to truly see what was occurring in the classroom through analysis of self and reflection, both which become the catalyst to generate changes in the classroom. All three administrators in this study discussed how video would allow them to pose questions to the teacher and support their self-reflective process until they are capable of transforming their own learning. In this way, video allows coaches to support the consciousness-raising which is the basis or foundation for the transformative learning theory. Mezirow (1991) added that it is only through the ability to move from reflection to critical reflection to critical self-reflection that one can make meaning from their experiences. The use of coaching and video is the only valid model of observation that can allow this transformation to take place.

Mezirow (1991) argued that under the correct conditions, learners will: be open to alternative perspectives, be able to become critically reflective upon presuppositions and their consequences, and have equal opportunity to participate (including the chance to challenge, question, refute and reflect and to hear others do the same). As described previously as a benefit of utilizing video for feedback, teachers and peers described a feeling of fairness and professionalism by using video as a model of coaching and reflection. Using video allows the evidence to speak for itself, and as Sally pointed out, there is no option than to see the evidence for what is and reflect on whether it was effective or not. She also describes it as no longer about

one's opinion, but instead about what modifications could be made to better enhance the instruction and student learning.

Mezirow (1996) emphasized the importance of critical reflection through contrasting reflection as an act of "intentional assessment of one's actions" (p. 44), whereas critical reflection not only involves the capture and consequence of one's actions but also includes the related social context of their origin (Kitchenham, 2008). The use of video-based feedback systems allows teachers to self-reflect with intentionality because they are able to see the evidence on video and not merely recall what they thought or assumed occurred. Then, by being able to send the video to others and have them reflect upon the same evidence, multiple perspectives are gained, and thus a more significant social context is created around levels of expectation. Zeichner and Tabachnick (1991) noted that often, the impression is given that as long as teachers reflect about something, in some manner, whatever they decide to do is all right since they have reflected on it. The use of video ensures that reflection is based within the correct social context and through sharing and development of peer or instructional coaching from video, the level of critical reflection is raised significantly.

Mezirow's (1981) professional perspective for adult education, referred to as the Charter for Andragogy, detailed how the transformative learning theory can have a direct impact on professional learning in education. This multiple case study correlated to much of his perspective in regards to adult learning. First, the charter calls for a progressive decrease of dependency on an educator while helping the learner to understand how to use additional learning resources. Through video-based feedback systems, this study has identified that through successful implementation, these systems allow teachers to become more independent with

reflection and through continued use, teachers and coaches identified that this reflection led to more independent professional learning and growth than traditional methods.

Second, the charter calls for educators to assist the learner to define his/her learning needs and increase their responsibility to develop their own learning objectives. The instructional coaches in this study discussed at length the ability of the video-based feedback system to encourage self-reflection. The teachers at all three sites referred to their increase in not only identifying their individual needs based on the video but following up with additional videos to reflect on whether they met their new learning objectives or if they needed to generate a focus elsewhere. In addition, the principal at the primary and elementary school both discussed the strength of using video to identify needs as a school but then allowing the teachers to use the video to demonstrate the growth based on the new professional learning that occurred within the PLCs. This also connects to Mezirow's (1981) fourth domain of organizing what is to be learned based on identified needs or levels of concern.

Third, the charter calls for facilitating the taking of other's perspectives to allow for alternative ways of thinking. Video-based feedback systems allow teachers to send videos to multiple individuals to obtain varying perspectives which enable the teachers to gather multiple perspectives in order to identify the most relevant practices. Christine referred to this when discussing the ability to "share it with whomever you want to share it with. You can get feedback not only from instructional coaches and mentor teachers, but you can get feedback from other teachers as well."

Lastly, adult learning encourages the use of specific criteria for judging effectiveness while allowing for self-corrective behaviors. Claire mentioned that through the effective use of the rubric, which was embedded into the video-based feedback system, teachers are able to

reflect on their observation while staying within the observational norms that have been learned through previous professional development around the instructional rubric. Not only does this focus the cultural relativity of the observation, but it allows the teachers to focus on the self-reflection in a non-judgmental method to allow for greater self-correction. Both the teachers and coaches in this study identified the relevance of using the feedback system to not only identify indicators from the rubric which they were focused on but the ability to build a continuous self-corrective model by videoing multiple lessons over time to see the pattern of growth within that area.

Constructive developmental theory. The constructive developmental theory is structured to extend stages of development into adulthood through regular and progressive changes in how one makes meaning (Kegan, 1994). Within the constructive developmental theory, adults actively construct meaning from experiences and build the concept of self through interpersonal pathways (Stewart & Walodoko, 2016). Additionally, the theory posits that adult learning takes place over time, relying on appropriate supports and challenges to achieve each level. Finally, the constructive developmental theory balances the relationship between what one can take perspective on and what one cannot see or be responsible for (Drago-Severson, 2008).

The first pillar of the constructive developmental theory concerned itself with regular, progressive changes in how individuals make meaning or "know" epistemologically. "Knowing" is a personal internal construction of a lived experience linked to emotional responses that we express to an external world (Zull, 2011) within the context of other "knowers." The three primary participants, as well as the peer teachers all, talked about how the use of video-based feedback systems permitted them to see themselves in lived experiences and reflect upon those experiences to identify differences that could have taken place. This ability to see oneself and

construct meaning from that experience allowed the teachers to gain knowledge within their own context. Tammy referred to making meaning as she stated, “This has made me excited because the things that I've struggled with I now have answers to, and the things that I know went well I'm going to make sure that it keeps going that way.”

The second pillar referred to learning taking place over time with appropriate support structures and challenges. Block (1982) suggested that people have a tendency to find and inhabit comfortable niches in their work environment where they do not experience challenges that might encourage further development. The use of video-based feedback systems enables teachers, as well as coaches and administrators, to identify challenges and utilize these challenges to force reflection with appropriate support structures. Two administrators identified that the use of video allowed for the creation of space and time for teachers to reflect on what occurred and needed to change in the classroom as well as be coached on how those changes could occur. All participants agreed that the use of the video-based feedback system allowed for greater examination of practice, which in turn pointed out areas of growth while at the same time encouraging collegiality to find support structures across the schools and districts. The instructional coaches and mentors also discussed how the use of video had enabled this practice to occur multiple times in a week rather than just on a rare occasion. Video allowed for the continuous cycle of observation and coaching rather than the occasional drop in.

The final pillar of the constructive developmental theory centered on what Kegan (1994) described as the subject-object relationship. The process of changing one's mindset is one of managing to step outside a particular reactive point of view (subject-response) to look at the phenomenon from a different perspective—as an object. (Kegan, 1998, p. 32). The ability to step outside and examine the phenomenon from a different perspective is done in two separate

ways through the use of video. First, teachers are able to examine their practice through evidence-based analysis of the video. David talked about how video will allow the district's teachers the opportunity to truly look at themselves and realize what they are truly doing. He stated, "it will truly be opening to see what they are actually doing in the classroom." A prevailing thought among the coaches when discussing the opportunity to see things from a different perspective detailed how teachers are able to view and review multiple times, each time being able to focus the lens differently for a thorough examination of several instructional practices.

The second ability to examine practice from multiple perspectives comes from the ability to have several peers or coaches examine the same lesson. As two administrators discussed, it is rather impossible to have four of five individuals descend upon a classroom and not disrupt teaching in the observation classroom as well as the observer's classroom which they left. Through the use of video-based feedback systems, several different observers can examine the lesson from their particular point of view, on their own time. This will allow for several different and sometimes opposing views to be discussed regarding quality instruction and allow the teacher and the group of observers to have in-depth, instructional conversations that would otherwise be impossible to structure. Two of the primary participants also discussed that having outside content teachers to examine their lesson will allow them to see how others view their classroom and identify universal structures that can not only build the teachers classroom but the building as a whole.

An examination of the fourth sub question focused on how teachers make between using the video-based feedback system and understanding their "ways of knowing." In order for developmental movement to occur, a delicate balance of support and challenge to the current

framework of thinking must be attained (Kegan & Lahey, 2001) and the use of video-feedback systems supplies both the identification of challenges as well as the support necessary to change. As stated in the results, the use of video-based feedback systems created the structures necessary to allow teachers to move through the stages of development.

Miller (2011) explained that for novice teachers, they will experience "cognitive tunneling" in which they are only able to attend to a small subset of what is available to them. When coaching is provided to these teachers through video, they are able to see the broader scope of effective instruction and make adjustments to meet the needs of the classroom. Tammy honed in on this concept in regards to being coached by video; "I think I have grown as a teacher by those observations. It's made me see it from a 360 view rather than just being focused in the tunnel." It is this level of reflection and coaching that allows a teacher to move from the first stage the natural impulses, to understanding the concrete nature of what they are doing, and finally, to be able to define the abstract and direct their own individual growth. This multiple case study identified how teachers were able to initially see what they did not know occurred, to use video to score or reflect based on the instructional rubric, to finally identifying needed changes in the classroom and finding supports or professional learning to ensure that those changes are capable of taking place.

Implications

Implications for this multiple case study are designed in three categories: theoretical, empirical, and practical. Theoretical implications are focused on the two theories that guided this research: transformative learning theory as well as constructive developmental theory. Empirical implications are designed based on participant's interviews, documents, artifacts, and videos which focus on implementation and potential growth aspects to instructional supervision.

Finally, practical implications are discussed that offer suggestions for how school districts and states can use video-based feedback systems to enhance all aspects of their human capital management systems.

Theoretical

Mezirow's (1991) transformative learning theory and Kegan's (1994) constructive developmental theory frame this research through their direct connection to Vygotsky's (1978) social constructivist theory which emphasizes the role of others within the social context of learning. Social constructivism has pushed educators to reexamine the extent to which learning is an individual process which is built within social constructs (Jones & Brader-Araje, 2002). Vygotsky's (1978) zones of proximal development formed the basis for this multiple case study as it defines the distance between the actual development and the potential development as determined through the constructivist approach of problem-solving and guidance. Through this study involving video-based feedback systems, a tool has emerged that allows teachers and instructional leaders to define levels of achievement and levels of proximal development by producing evidence and models that support stronger instruction.

Mezirow (1991) posits that making meaning from our experiences occurs only by engaging in reflection and changing one's perspectives through critical reflection in order to reformulate assumptions on which our perspectives are constructed. Through the use of video-based feedback systems and instructional coaching, teachers are able to change one's perspective regarding the effectiveness of their instruction and are able to reflect on their experiences. Thus by utilizing effective coaching employing these reflective tools, teachers are then able to reach a level of critical reflection which allows them to reformulate their assumptions of effectiveness and reconstruct their perspective. Finally, when used as an effective tool to enhance critical

reflectiveness, teachers will begin to move forward as individual learners and utilize critical self-reflection to engage in critiques of their individual instructional effectiveness on videos of their choosing. They will also be able to engage in self-modification which places teachers at the highest level of Mezirow's (2008) transformative learning in that they reintegrate on the basis of conditions dictated by one's own perspective. This process is then owned by the teachers and the level of self-reflection and self-designs on professional learning will far exceed that of the instructional leaders in the building.

Learning, according to Mezirow (1996), is understood as the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one's experience in order to guide future action. This process of perspective transformation follows a more recursive, evolving, or spiral form (Taylor, 2000) than initially thought. When examining the use of video-based feedback systems and instructional coaching, it is evident that the process of growth is ever evolving and spiral in nature. As demonstrated by several of the teachers in this study, the process begins with identification of needs, most often through coaching, but as teachers progress through the phases of transformative learning, they begin to own the process and use the video-based feedback systems to assess their own practice and modify and adjust as they determine through individual critical self-reflection. Moreover, while this movement to the highest levels of critical self-reflection is taking place in one area of instructional effectiveness, simultaneously, the teachers may be at an entirely different phase of development based on a different area of instruction or new learning. Therefore, this cyclical process that is described by Mezirow (1991) is variable and dependent on the focus of the learner.

Similar to Mezirow, Kegan (1994) also outlined several stages of learning that create consciousness in cognitive development. The initial stages (0 and 1) are simple learning stages

that focus on natural instincts and impulses. People lack awareness of or behave automatically in relation to those things to which they are subject. Mindsets remain hidden from knowing (Stewart & Wolodko, 2016). While these mindsets may be strong in many induction teachers, it is not effective to maintain this level of learning, and it is necessary to make teachers aware of the reasoning behind their actions in order to help them grow. Through the use of seeing their own teaching on video and coaching on these specific actions, initial teachers will move from the naturalistic style of teaching towards understanding why their impulses are correct. Raising this level of awareness through seeing oneself teach is the benefit that is created through video-based instructional coaching.

Moving forward to Kegan's (1994) stage two, teachers find the concrete categorical understanding of one's own teaching as well as that of others. Stage three moves the teachers from the categorical understanding of effective teaching to a greater cross-categorical process where mutual relationships among categories are built. Typically, instructional rubrics will allow teachers to understand these categorical instructional practices. However, when using video to support instructional coaching, mentors, coaches, and administrators are able to not only identify evidence for the categories but show direct correlation to other categories including the effect of the practice on student outcomes. With typical observation and coaching methods, teachers are given lists of evidence that support their effectiveness or need in given categories. By being able to see and reflect on how the practice was implemented and its effect within the classroom, teachers are able to go to a much more holistic level of instructional cause and effect, thus promoting greater reflective skills.

The final stages of Kegan's (1994) stages of cognitive development have learners understanding higher levels of balance in which they are able to see how things fit together and

increase their level of autonomy. The final stage is a complete understanding of systematic thinking with the ability to become creators of the system and putting together various parts of the systems. To reach this level, teachers must not only be able to see and discuss what is occurring in a classroom but create levels of integration that have them designing their own, individual models to best support their classroom. As teachers begin to comprehend their highest levels of "knowing," they are able to self-reflect and self-identify instructional needs and necessary supports to fulfill those needs. Only through video can this occur as a teacher must have an opportunity to identify, implement, reflect, modify, and assess. As teachers gain the highest levels of "knowing," they will be able to use video as their individual guide on the side at each of these phases of critical self-reflection. In the end, simply by having a video camera and their understanding of effective instruction, teachers will be able to reach the highest stage of conscious cognitive development.

Based on these theoretical implications, it is recommended that educators look to the use of video-based feedback systems to increase the collegial interactions in order to provide greater levels of "knowing" through critical self-reflection. The use of video-based feedback systems enables coaches and administrators the opportunity to provide a realistic picture that can focus coaching conversations and will ultimately allow support of the primary goal of generating teacher critical self-reflection around specific pedagogical practices. Video-based feedback systems, then, allows teachers to create a window that permits self-examination and interpretation of one's own actions which in turn will raise the autonomy of critical thought thus leading to the highest level of knowing according to Kegan (1994).

Empirical

This study illustrates the strength of video-based feedback systems on the instructional coaching and reflective practices and corroborates the limited previous research around using video as a tool with instructional supervision. Rich and Hannafin, 2009 say that during recent years, video annotation methods have emerged that afford even greater power and utility for examining and improving reflective practices. This study illustrates that teachers, instructional coaches, and administrators all agree that reflective practices are increased when using video-based feedback tools. In addition, both instructional coaches and administration agree that the use of video during instructional coaching provides greater evidence which in turns allows for greater depth in conversation as well as reflection on changes needed to enhance instruction. It can be concluded from the data that video-based feedback systems are capable of furthering professional learning and professional development, especially in a professional learning community model. Additionally, the use of video can aid in the determination of broad needs across grade levels as well as serve as follow up evidence of effectiveness regarding implementation. This training, in conjunction with individualized coaching, fully supports professional growth. Moreover, the video systems allow for greater flexibility and ownership at teacher level which creates a much greater atmosphere around its use to effectively change instruction through high-quality reflection.

It would, however, be beneficial to implementation for leadership teams to take ownership of the implementation process and design the execution in a manner that allowed teachers to ease into the use in a positive and relevant fashion. Also, the need for significant and ongoing training on both the tools and technology is necessary in order to allow for effective implementation. Therefore, two specific recommendations have been identified through this

research. First, schools who venture into the world of video-based feedback systems should do so with the initial intent of generating reflective practices among teachers, coaches, and administrators. This primary focus will allow all who use the system to understand the importance of this practice rather than attempting to create this understanding while using the tools for other purposes such as evaluation. In addition, it is important to create plans for professional development that aligns with the necessary skills participants will require to support successful implementation; technology training, use of cameras in the classroom including the uploading process, training on the video-based feedback platform, and metacognitive self-reflection and analysis training in one-on-one and small group settings. This professional development around implementation practices must first create a level of expertise at the school leadership level so that teachers will feel more comfortable knowing they are being trained by specialists. In order to avoid many of the significant barriers that technology and reflective practices produce, it is necessary to provide the appropriate focus of reflection and professional training to provide the proper foundation for success.

Practical

Effective teachers are the most critical factor contributing to student achievement. Although curricula, reduced class size, district funding, family and community involvement all contribute to school improvement and student achievement, the most influential factor is the teacher (Sanders and Horn, 1998). Growing effective teachers then is critically essential for schools trying to improve their performance.

One potential solution then is utilizing video-based feedback systems within a school or district human capital management system in efforts to grow effective instruction. While the development of video technology is reshaping the traditional methods of classroom observation

(Sherin and Star, 2005) studies have begun showing that the use of video identifies that teachers can learn and change practice and shows promise to be used as a tool to enhance teacher reflective practices (Trip & Rich, 2012). When coupled with a competent teacher observation tool that allows for reflection rather than simple identification, the use of video-based feedback has the potential to change the level of reflection on instruction, thus changing the level of instruction itself.

Teacher evaluation is almost always seen as a "gotcha" when implemented as part of a district or statewide system. Until teachers understand that observations are opportunities to grow, no evaluation practice can be successful. Therefore, it is strongly recommended that video-based feedback systems be presented as a tool to benefit instruction, not simply something that captures teaching. To this end, the systems need to be implemented with the purpose to ensure that it does not become "one more thing" but is used to enhance what is currently being done. The administration needs to recognize that teacher ownership is a strength of using video-based feedback systems, and when done in conjunction with teachers, the social constructivist culture will provide the catalyst to move the implementation forward. In addition, the systems need to be woven into the fabric of the school. In this regard, the system should be used not as a stand-alone but as a support structure for all observations, coaching, professional development, demonstration of student mastery, modeling, and other aspects that support teacher effectiveness.

As many of the participants in this study indicated, if asked what educators need most, it would be time and space. Video-based feedback systems allow for both. By allowing teachers to record and reflect on videos and then submit one of their choosing, school administration is creating the most productive atmosphere possible. First, this allows teachers the opportunity to reflect on and assess their own practice. Second, it allows administration, instructional coaches,

and mentor teachers to be supportive of more teachers within the building while allowing them more time to devote to those who need it most. Lastly, using these systems allows needs identification, professional learning, model lessons, and teacher growth to become the focus of everything that is done within the building.

The participants in this study openly identified the major strength of video-feedback systems as its ability to meet their individual needs of reflection and growth in a flexible, individualized manner. Therefore, if the goal for using video-based feedback systems is to generate significantly greater levels of "knowing" and critical reflection, then a one size fits all design must not be considered. As the intent for the use video-based feedback is to support a schools HCMS, it is recommended that all school based leadership teams be allowed to implement this model in an individualized manner, both at the school and teacher level, to ensure flexibility that gives educators what is most sought, time and space to grow professionally.

The results of this study indicate that when leadership teams work in unison to implement the video-based feedback tools into instructional learning, teacher reflection increases. Teacher reflection has a direct impact on teacher understanding of instruction if appropriately guided. Therefore, when utilized appropriately, video-based feedback systems can have a tremendous effect not only on teacher effectiveness but the culture within the building as well.

Delimitations and Limitations

With this multiple case study regarding video-based feedback systems, there were two delimitations placed on the study to help ensure that the results met the purpose of this study. The first delimitation for this study was that the participants' must have experience with working with video-based feedback systems. Additionally, each role was defined, and participants must meet all criteria of the role. This included the primary participant as a full-time content teacher

in their school. I did not want to include any non-content classroom-based teachers as they would have different perspectives on instruction and coaching. In addition, an instructional coach must be someone who was trained in some form of coaching and participates as a member of the school leadership team in that capacity.

This study was comprised of several limitations. First, the study is limited geographically. The perceptions of the participants from the three sites in one district may be unique to that particular district, as the previous professional development and use of video for observation and professional development may not occur universally across all districts. This makes it difficult to make sweeping generalizations based on the results of this study.

Additionally, participants in this study were not purposefully recruited but did fit a set of requirements that limited the selection criteria. Perceptions from teachers from different districts or different levels may have been different. Additionally, some school districts develop their own teacher evaluation methods or human capital management systems, which would have created a different perception of their view on video-based feedback systems in this study. A limited number of participants also limits this study. While 12 participants gave deep and rich data and themes were evident across all participants, the limited number of participants does reduce trustworthiness of the study, including dependability and transferability (Creswell, 2013; Merriam, 2009; Miles et al., 2014; Stake, 2006; Yin, 2009).

Diversity among the participants, which included eleven females and one male district administrator, also was a limitation of this study. While all of the participants had between seven and 20 years in their respective careers, the majority of them had less than five years in their current roles at the time of the interviews. Perceptions of administrators and teachers in their

current positions and who had used video-based feedback systems for lengthier periods may be different.

Another limitation of this study was the timing of the research and interviews. Because statewide testing occurs in April and May, time limitations occurred as did the nature of the classroom observations. The study procedures were followed; however, there were limitations as to the number of follow-up coaching conversations and follow-up lessons that were uploaded for documentation as teachers and coaches were more occupied with end of year procedures and less about changing future practice. Additionally, lessons that occur throughout most of the year are more content and standard specific while those that occur after statewide testing are generally broader in scope and may utilize differing pedagogical practices.

Lastly, given the researchers current position as a director within the state department of education, some researcher bias may have influenced the interpretation of the data. Although this researcher knew some of the participants, the researcher held no authority over them. He took steps to eliminate possible bias with participant interviews maintaining neutrality and withholding any opinions during participant responses; however, it is possible some acquiescence bias may exist. It is believed that open and honest responses from participants were given during the interview process, but there is a possibility that some responses were what the participant thought the researcher wanted to hear.

Recommendations for Future Research

This study explored the use of video-based feedback systems on both instructional coaching and reflection. While the data was rich, it only offered insight on a small numbers of participants in a rural town in the southeastern United States. One recommendation for future research would be to expand the scope of the participants by creating a multiple case study that

spans several states. This will allow for several different evaluation tools and requirements in terms of teacher evaluation which in turn will create a broader range of data.

Another recommendation for future research would be to create a longitudinal study that examined the use of video-based feedback tools during pre-service and follow those teachers through induction and in-service to examine their usage of the tools. In addition, a comparative study regarding the amount and level of reflection for teachers who utilize the tools and those who follow a more traditional method.

Finally, this research, like others before it, does not create a causal link between teacher refection, effective change of practice, and student achievement. A recommendation, therefore, would be to create a mixed method study examining the level of implementation of video-based feedback systems and its impact on teacher effectiveness and student achievement.

Summary

The purpose of this qualitative multiple case study was to examine the use of video-based instructional feedback models on instructional coaching and reflection by K-12 teachers and leaders in a rural southern district. This chapter detailed how this study connected to the literature review in Chapter Two as well and provided a significant contribution in relevant literature to assist current and future school leaders with the effort of supporting teachers through enhanced coaching and reflective practices using video-base feedback systems. This chapter included a brief overview regarding the summary of findings related to the research questions as well as a detailed discussion around the empirical and research foundations of this multiple case study. Theoretical, empirical, and practical implications were set forth as well delimitations and limitations of the study and recommendations for future research.

This study found four themes that related to the research questions to include: Training, Garnering Evidence, Multiple Points of View, and Flexibility. The within-case and cross-case analysis found that video-based feedback systems increase the level of teacher reflection and create new and stronger models of instructional coaching derived from seeing the evidence. As with any research, there are more future opportunities to examine the use of video in regards to reflection and coaching, but it is the hope of this research be a catalyst to support teachers and leaders in creating a more reflective environment in the school systems in order to benefit the children of our society.

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Appendix A
Observation Rubric Score Sheet

Observation Number___

Planning	**Observer Score**	**Self Score**
Instructional Plans (IP)		
Student Work (SW)		
Assessment (AS)		
Environment	**Observer Score**	**Self Score**
Expectations (EX)		
Managing Student Behavior (MSB)		
Environment (ENV)		
Respectful Culture (RC)		
Instruction	**Observer Score**	**Self Score**
Standards and Objectives (SO)		
Motivating Students (MS)		
Presenting Instructional Content (PIC)		
Lesson Structure and Pacing (LS)		
Activities and Materials (ACT)		
Questioning (QU)		
Academic Feedback (FEED)		
Grouping Students (GRP)		
Teacher Content Knowledge (TCK)		
Teacher Knowledge of Students (TKS)		
Thinking (TH)		
Problem Solving (PS)		

Reinforcement Objective

Refinement Objective

***Observer** Reflection on Observation (Optional):*

***Teacher** Reflection on Observation (Optional):*

Observer Signature _____ *Date* _____

Teacher Signature *Date* _____

Appendix B

CONSENT FORM

A Multiple Case Study Examining Instructional Coaching and Reflective Practices Through Video-Based Feedback Systems

Dennis Dotterer
Liberty University
College of Education

You are invited to be in a research study of the effects on teaching practices through the use of video based peer observation practices. You were selected as a possible participant because of your reflective nature as a teacher as well as your understanding and use of technology in your classroom. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

Dennis Dotterer, a doctoral candidate in the College of Education at Liberty University, is conducting this study.

Background Information: The purpose of this study is to examine the effects of using video based peer observations involving classroom teachers on teacher reflective practices and student achievement.
Procedures: If you agree to be in this study, I would ask you to do the following things:

1. Record 3 to 5 typical classroom lessons of approximately 45 minutes in length.
2. Upload these videos to the observation portal and complete a self-reflection which should take approximately 20 minutes each.
3. Identify an instructional coach, peer, and adminstrator, send them the video and ask them to provide you with feedback on your lesson.
4. Complete a self-reflection journal on the changes in your practices once per week which will take approximately 20 minutes per week.
5. Participate in three interviews at the beginning, middle or the process and at the conclusion with the researcher which will take approximately 20 minutes per interview.
6. All videos, feedback, journals and interview notes are considered confidential and will not be released to anyone not associated with this specific research project.

Risks and Benefits of being in the Study: The risks involved in this study
The risks to this research is minimal. There have been no identified risks noted by the researcher, potential participants or the Internal Review Board.

There are benefits to participating in this study. The observations that are conducted by the peer review team as well as the self-reflection completed will serve as completion of standards towards the requirements of teacher evaluation now mandated by the State of South Carolina. All scoring of these lesson will count towards the required number of observations for each teacher in South Carolina.

Compensation: Participants will not be compensated for participating in this study.

Confidentiality: The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only the researcher will have access to the records. We may share the data we collect from you

for use in future research studies or with other researchers; if we share the data that we collect about you, we will remove any information that could identify you before we share it.

- Procedures will be taken to protect the privacy and confidentiality of the participant by all normal research normalities.
- The recordings of both the classroom videos as well as the interview sessions will be maintained by the research only. Only members of the research team and the transcriptionist will have access to these recordings. These documents or videos will not be shared with anyone outside of this research study without the participants written consent.
- Per federal regulation, all data must be maintained for a minimum of three years. All recordings will remain on a non-networked computer, password protected and maintained by the chief researcher.
- As focused groups will be used, it cannot be assured that other members of the group will maintain their confidentiality and privacy.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

How to Withdraw from the Study
If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you, apart from focus group data, will be destroyed immediately and will not be included in this study. Focus group data will not be destroyed, but your contributions to the focus group will not be included in the study if you choose to withdraw.

Contacts and Questions: The researcher conducting this study is Dennis Dotterer. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact Dennis Dotterer at 864-419-5173. You may also contact the researcher's faculty advisor, Dr. Russel Claxton at rclaxton@liberty.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd, Green Hall 1887, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information to keep for your records.

Statement of Consent: I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

☐ The researcher has my permission to audio-record/video-record/photograph me as part of my participation in this study.

_____

Signature Date

_____

Signature of Investigator

Appendix C

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

April 11, 2018

Dennis Dotterer
IRB Approval 3203.041118: A Multiple Case Study Examining Instructional Coaching and Reflective Practices Through Video-Based Feedback Systems

Dear Dennis Dotterer,

We are pleased to inform you that your study has been approved by the Liberty University IRB. This approval is extended to you for one year from the date provided above with your protocol number. If data collection proceeds past one year, or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

Administrative Chair of Institutional Research
The Graduate School

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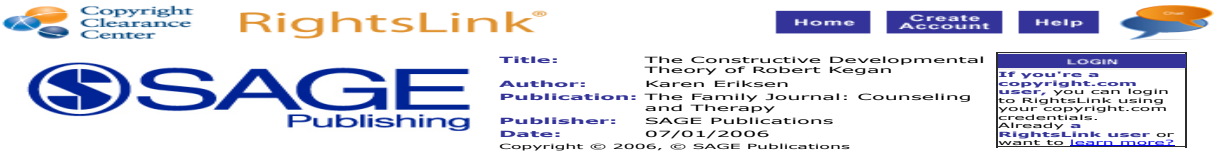
Appendix D

Analysis Code Book		
Source Code – I – Interview, D – Documents, A – Artificats, V-Video		
Coaching	128	I, D, A, V
Efficacy	38	I, A, V
Evidence	81	I, D, V
Examples	54	I, V
Flexibility	32	I
Growth	59	I, D, V
Instruction	24	I, D, A, V
Implementation	67	I, D
Look fors	20	I, D
Multiple points of view	26	I, V
Observation/evaluation	32	I, D, A, V
Professional Development	73	I, D, A, V
Purpose	86	I, V
Reflection	99	I, D, A, V
Support	51	I, D, V
Technology	48	I, A, V
Time Management	52	I, D
Training	28	I, D, A, V
Value	12	I, V

Appendix E

Codes	Themes	Definition
Coaching, Professional development, Reflection, Support, Training, Efficacy, Purpose, Implementation	Training	All aspects of guidance that focuses on enhancing teacher effectiveness
Evidence, Growth, Instruction, Look fors, Observation/Evaluation, Technology, Implementation	Garnering Evidence	Obtaining specific evidence from observations and documents that is used during any aspect of the schools HCMS
Multiple points of view, Time Management	Multiple Points of View	Being able to see instruction through various lens
Flexibility, Value	Flexibility	The ability to complete administrative or observational tasks on one's own schedule

Appendix F



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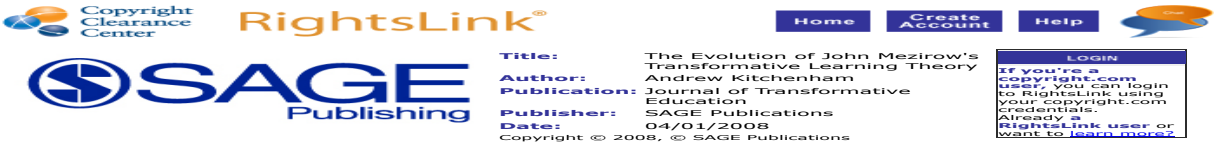

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