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HOW DOES VIDEO ANALYSIS IMPACT TEACHER REFLECTION-FOR-ACTION?

by

Geoffrey A. Wright

A dissertation submitted to the faculty of
Brigham Young University

in partial fulfillment of the requirements for the degree of
Doctor of Philosophy

Department of Instructional Psychology
Brigham Young University
March 2008

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BRIGHAM YOUNG UNIVERSITY

GRADUATE COMMITTEE APPROVAL

of a dissertation submitted by

Geoffrey A. Wright

This dissertation has been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

Date

Charles R. Graham, Chair

Date

David D. Williams

Date

Jared V. Berrett

Date

Andrew S. Gibbons

Date

Ellen J. Williams

BRIGHAM YOUNG UNIVERSITY

As chair of the candidate's graduate committee, I have read the dissertation of Geoffrey A. Wright in its final form and have found that (1) its format, citations, and bibliographical style are consistent and acceptable and fulfill university and department style requirements; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

Date

Charles R. Graham
Chair, Graduate Committee

Accepted for the Department

Date

Andrew S. Gibbons

Accepted for the College

Date

K. Richard Young

Dedication

To my wonderful wife and family.

ABSTRACT

HOW DOES VIDEO ANALYSIS IMPACT TEACHER REFLECTION-FOR-ACTION?

Geoffrey A. Wright

Department of Instructional Psychology

Doctor of Philosophy

Reflective practice is an integral component of a teacher's classroom success (Zeichner, 1996; Valli, 1997). Reflective practice requires a teacher to step back and consider the implications and effects of teaching practices. Research has shown that formal reflection on teaching can lead to improved understanding and practice of pedagogy, classroom management, and professionalism (Grossman, 2003). Several methods have been used over the years to stimulate reflective practice; many of these methods required teachers to use awkward and time-consuming tools with a minimal impact on teaching performance (Rodgers, 2002). This current study analyzes an innovative video-enhanced reflection process focused on improving teacher reflection. Video-enhanced reflection is a process that uses video analysis to stimulate reflective thought. The primary question of this study is "How does video analysis used in the context of an improved reflection technique impact teacher reflection-for-action?" The subjects of the study included five untenured teachers and one principal from an elementary school in a middle class residential area. A comparative case study approach was used to study the influence the video enhanced reflection model has on teacher

reflection practices. The research method involved comparing typical teacher reflective practices with their experience using the video-enhanced reflective process. A series of vignettes and thematic analysis discussions were used to disaggregate, discuss, and present the data and findings. The findings from this study suggest the video-enhanced reflection process provides solutions to the barriers (i.e., time, tool, support) that have traditionally prevented reflection from being meaningful and long lasting.

The qualitative analysis of teacher responses to the exit survey, interview findings, and comparison of the baseline and intervention methods suggests that the video-enhanced reflection process had a positive impact on teacher reflective abilities because it helped them more vividly describe, analyze, and critique their teaching.

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Chapter 1: Introduction

Reflective practice is an integral component of a teacher's classroom success (Zeichner, 1996; Valli, 1997). Reflective practice requires a teacher to step back and consider the implications and effects of teaching practices. Zeichner and Liston (1999) define reflective practice as an "active, persistent, and careful consideration of any belief or practice in light of the reasons that support it and the further consequences to which it leads" (p. 20). Research has shown that formal reflection on teaching can lead to improved understanding and practice of pedagogy, classroom management, and professionalism (Grossman, 2003). Several methods have been used over the years to stimulate reflective practice. In the past, because many of these methods required teachers to use awkward and time consuming tools, they have proven to have a minimal impact on teaching performance (Rodgers, 2002). Considering the potential benefits of reflective practice, there is a need to develop more effective and efficient tools and techniques that encourage reflective teaching. Recent technological video advancements provide better and easier to use tools to support reflection. This current study defines and analyzes an innovative video-supported reflection process that serves as a context for these new tools. The purpose of the enhanced video analysis process is to improve teacher reflective practices.

Statement of Problem

The primary question of this study is "How does video analysis used in the context of an improved reflection technique impact teacher reflection-for-action?" Reflection-for-action is a focused, persistent, critical reflection aimed at accomplishing a goal (Dewey, 1933). To be effective, teacher reflections must lead to an improvement of

teaching. Without action, the reflection falls short of its initial purpose. To study the process of “reflection for action” the main question was subdivided into five parts in an effort to focus on the key elements of the primary research question. They are: (a) Are teachers better able to identify areas for teaching improvement through video-enhanced reflective analysis? (b) Are teachers better able to critique their teaching as a result of the video-enhanced reflective analysis? (c) Are teachers better able to understand the potential for improvement as a result of the video-enhanced reflective analysis? (d) How much influence does the video-enhanced reflective analysis have on an administrator-teacher consultation? (e) What investment of time and effort is required of teachers and administrators to employ a video-enhanced reflective analysis?

Background

Many state departments of education require beginning teachers to demonstrate pedagogical growth during their first three years of service in order to obtain a level-two licensure and tenure status. School administrators are responsible for formally evaluating these teachers to ensure that they demonstrate this competence. Teachers who practice active reflection have an advantage in meeting this requirement. Current research has shown that when teachers are reflective practitioners, their teaching improves (Schon, 1987; Zeichner & Liston, 1996; Valli, 1997; Jay, 2000; Grossman, 2003; Farrell, 2004; Warden, 2004). School administrators have used various methods to encourage teacher reflection. Some of those include providing teacher mentors (Tauer, 1998), engaging teachers in collaborative reflective groups and exercises (Dufour, 1998), training teachers on the benefits of reflective practice, providing them a theoretical understanding and

rationale to engage in reflection (Zeichner, 1996), and by inviting and providing time and or incentives to engage in reflection.

Recently researchers have examined the use of video-supported reflection techniques to encourage and enhance teacher reflection (Jensen, 1994; Storeygard, 1995; Cunningham, 2002; Miyata, 2002; Spurgeon, 2002; Stadler, 2003; Griswold, 2004; Sherin, 2005). The findings suggest that the use of video appears to be a productive method for improving teacher reflection and performance. The benefits include (a) enhancing “teacher knowledge about the ways of teaching and learning” (Stadler, 2003, p. 1); (b) providing “an excellent starting point for professional discussion” and development (Stadler, 2003, p. 1); (c) defining a formal reflection method to facilitate measurable teaching improvement (Cunningham, 2002); and (d) improving classroom performance and a greater understanding of student learning (Jensen, 1994).

Despite the theoretical benefits, there are several logistical and organizational challenges that pose barriers to the use of video supported reflection. For example, reflection is not accepted as a critical part of a teacher’s job (Jay & Johnson, 2002), teachers are unsure how to and what to reflect on (Jadallah, 1996), “There are few systematic methods currently available to teacher educators and their students for analyzing video” (Pailliotet, 1995, p. 138), and video is too cluttered for teachers (especially novices) to focus on anything in particular” (Brophy, 2004, p. 302). This study provides an in-depth look at the implementation of a video-enhanced reflective analysis process in an effort to gain a better understanding of the impact this process has on teacher reflection.

Reflection-for-action is a key phrase for this study. For the purposes of this study, reflection-for-action represents a reflective process that requires three stages: description, analysis, and action (Dewey, 1933). Reflecting on teaching is not a simple process whereby events are simply recorded and discussed. Although this is a component of reflection-for-action, it is only a portion of the entire process. John Dewey suggested reflection that stops or “does not lead to action falls short of being responsible” (Rodgers, p. 885). Dewey believed the sole purpose of reflection was to create an “action that is both intelligent and qualitative...based on careful assessment and thought” (Dewey, 1933, p. 9). Dewey’s belief that the purpose of reflection is action is also a common theme among many of the authors who also researched reflective practice (Bruce, 1999; Daniels, 2002; Dershimer, 1989; Higgins, 2001; Jadallah, 1996; Jay, 2002; Majolda, 2001; Norton, 1997; Rodgers, 2002; Ross, 2007; Schon, 1987; Smith, 1988; Spalding and Wilson, 2002; Tillema, 2000; Zeichner and Liston, 1996).

Chapter 2: Review of Literature

There are several essential areas to consider that directly tie to and help formulate the theoretical framework and questions associated to this research: reflection practice, video observation, and teacher evaluation.

Reflective Practice

There has been significant research in the area of reflective practice, and the influence it has on performance of teachers. It is imperative to discuss the definition, purpose, elements, characteristics, and barriers of reflective practice.

Defining Reflective Practice

The term reflective connotes critical thinking about a past performance. Practice is defined as repeating an action in an effort to perfect or learn a skill or behavior. When the term practice is added to reflective, an expression is formed (reflective practice) that suggests a sustained, or repeated critical analysis of a performance for growth. There is relatively high agreement on the concept of reflective practice. The earliest definition was given by John Dewey and was followed by several authors. This section summarizes the commonalities of several of these authors. Schon (1983) was one of the first authors to talk about “reflection-for-action.” He defined the idea as a critical framing and reframing of ideas with the intent of developing an action. John Dewey’s description of reflective practice supports this definition, “[reflective practice] is that which involves active, persistent, and careful consideration of any belief or practice in light of the reasons that support it and the further *consequences* to which it leads” (Zeichner & Liston, 1996, p. 20). Many of the other authors reviewed in this section did not specifically use the term “reflection-for-action” in their research; however, their definitions of reflection have been

interpreted to closely parallel Schon and Dewey's definition of "reflection-for-action" and will be used accordingly for this study.

Zeichner and Liston (1996) give additional detail in their definition that identifies the beginning point of reflective practice and the motivation for continued reflection: "[reflective practice] begins when teachers experience a difficulty, troublesome event, or experience that cannot be immediately resolved" and then, "prompted by a sense of uncertainty or unease, step back to analyze their experiences in an effort to *meet* and *respond* to problems" (Zeichner & Liston, 1996, p. 20).

In their definition of reflection-for-action, Hatton and Smith (1995) highlight the attitudes "of open-mindedness, responsibility, and whole-heartedness" as essential traits a teacher should possess to effectively engage in it (p. 34). Warden (2004) added to this definition by suggesting that reflection-for-action includes "intentionally making and implementing plans that bring about new ways of thinking" (p. 14).

The definition of reflective practice used in this dissertation incorporates all of the above listed elements; it is a process that includes: an active, persistent, action-oriented consideration of a troublesome event that can lead to a change in practice.

The Purpose of Reflection

The purpose of reflection is to improve performance. Research has shown that as teachers reflect on performance, they will develop an essential understanding that will help them increase future performances (Schon, 1987; Dewey, 1933). Munby and Russell (1990) maintain that as teachers improve their performance they will "make puzzles of their teaching practice" (p. 116).

Several researchers further define the benefits of reflective practice; the improvement can come in many forms: it (a) increases student achievement (Goddard, Hoy, & Hoy, 2004); (b) encourages teachers to try new and challenging things (i.e., handling difficult to teach students) (Soodak & Podell, 1998); (c) reduces teacher depression (Bandura, 1997); and (d) keeps teachers from leaving the teaching profession (Ross, 2006).

The Elements of an Effective Reflection Experience

Dewey (1933) suggests an effective reflection-for-action experience includes three phases: description, analysis, and action. The following section describes each of these phases.

The description phase involves teachers' being willing and able to accurately describe, illustrate, and/or portray the situation in which they find themselves. This step relies upon their ability to recall what occurred during their performance and requires that they describe the performance from various viewpoints, stating biases, while accepting and accounting for the various lenses through which the description could be interpreted. The description should contain sufficient detail to provide for a rich and thorough analysis.

The success of the analysis phase depends on the accuracy and richness of the description phase. A rich description will better prepare the teacher to critique the problem or issue identified in the description phase. Dewey (1933) suggests during this phase the teacher will "think the problem out" (p. 6), trying to fit it in within their personal approach to teaching, learning, who they are, and who they feel their students should be. Rodgers (2002) clarified the definition by detailing the primary objective of

the phase: to formulate an action or hypothesis that helps support solving the problem or issue. Dewey said the action should be an “intelligent action” based on the “active, persistent, and careful consideration of any belief or practice in light of the reasons that support it and the further consequences to which it leads” (Zeichner & Liston, 1996, p. 20).

The action phase involves implementing and testing the hypotheses developed during the analysis phase (Tillema, 2000; Smith & Schwart, 1988). Schon (1987) among others, says that the key element of the action phase is the continued monitoring and evaluation of the action to ensure it is leading to sustainable, purposeful, and long-lasting changes (Schon, 1987; Smyth, 1992; Jay, 2002).

Characteristics of a Reflective Practice

Several authors have described different characteristics a reflective practitioner should possess: an ability to focus on specific areas of concern, a willingness to use multiple perspectives to evaluate the concern, and the desire to use multiple sources of data and techniques to resolve the concern (Argyris, 1985; Smith and Schwartz, 1988; Zeichner and Liston, 1996; McKenna, 1999; Jay and Johnson, 2002; DeMulder and Rigsby, 2003). The following section further defines these characteristics.

McKenna (1999) suggests teacher reflections should focus on specific pedagogical concerns rather than a broad spectrum of events. DeMulder and Rigsby (2003) add to this definition. They suggest placing the concern within a specific pedagogical domain will empower the teacher “to capitalize on their strengths and learning styles, and nurture new ways of knowing and learning” (p. 288). Once teachers have contextualized the area of

concern, a teacher needs to consider and use the various lenses they bring to the reflection (Zeichner and Liston, 1996).

McKenna (1999) said when teachers consider and use multiple lenses they will be able to understand the concern from a variety of perspectives. McKenna also suggested that when teachers have a thorough understanding of the concern, they should use multiple methods to resolve it.

Smith and Schwartz (1988) and Argyris (1985) said the methods should be based on data and practical means that “make the premises explicit” (p. 68). Norton (1999) provided a few of the possible methods that could be used to resolve concerns: peer coaching and support, school and community resources, empirical research, and professional development opportunities.

Jay and Johnson (2002) and Norton (1997), among others, suggest that as teachers use these methods defined above, their reflective efforts will increase and they will “better understand their teaching” (Norton, 1997, p. 2).

Barriers to Reflective Practice

Despite teachers being aware of the essential elements and characteristics of effective reflection practices, there have been various barriers that have prevented effective teacher reflection. Two widely accepted barriers preventing successful reflective practice are: (a) reflection is not considered an essential and mandatory component of a teacher’s job, and (b) reflection takes too much time and effort (Schon, 1987; Zeichner & Liston, 1987; Hatton & Smith, 1995; Valli, 1997; Webb, 1999; Ross, 2007).

The first barrier refers to the false notion that reflection is not considered an essential component of a teacher’s job. Although most teachers recognize the importance

of reflection (Rodgers, 2002), many teachers have not consistently engaged in reflective practice because “there is not a system (educational communities) in which reflection is generally accepted, praised, and shown to be of any immediate and lasting benefit” (Hatton & Smith, 1995, p. 36). Hatton and Smith (1995) further discussed this issue, suggesting that in the current educational system “teaching is seen to be primarily about the immediate present and instant pragmatic action, while reflecting is perceived as a more academic pursuit” that most teachers do not have time nor support to engage (Hatton & Smith, 1995, p. 36).

Although some educational communities have implemented training programs to instruct pre-service teachers on the need for and methods of reflective practice, Hatton and Smith (1995) argued that implementing training programs is only a part of the answer. They said that putting an emphasis on reflecting too early in a pre-service program is detrimental to new teachers, because at that point in their training they are usually more concerned with mastering technical skills and content area. In addition, Hatton and Smith argue that pre-service teachers typically have little to reflect on due to their limited teaching exposure, and experience. Rather, Hatton and Smith (1995) suggest the educational system needs to continue to train teachers on reflection, and more importantly create a system where in-service teachers are supported, recognized, and provided the tools to effectively and consistently engage in reflective practices.

Zeichner and Liston (1987) maintain that to simply have “teachers try to ‘reflect’ on their actions and purposes” is not enough (p. 236). Hatton and Smith (1995) propose a way around this barrier. They suggest that the educational community promote reflection as an integral component of a teacher’s job, provide the tools for teachers to successfully

engage in reflective practices, and then praise and recognize those who engage in reflective practices.

The second barrier to reflective practice arises from the cost (i.e., time and effort) of reflection. Many teachers have claimed that the benefits of reflecting are out-weighed by the investment cost (Ross, 2007). Webb (1999) said that the cause of the imbalance results from insufficient teacher training on reflection, inefficient reflection tools and techniques, and insufficient rationale. Hatton and Smith (1995) further clarify the issue, arguing that “reflection is unlikely to develop as a professional perspective in today’s busy and demanding world of teacher’s work” (p. 38). The video-enhanced reflection process used in this dissertation is believed to address this barrier by providing a tool and process that creates the motivation necessary to engage teachers in reflective practice where the benefits outweigh the costs.

Video Observation

Video is an integral part of the video-enhanced reflection process used in this dissertation study. This section of the literature review addresses several of the key video observation topics. The issues outlined in the following section include: a definition of video observation (specifically as it pertains to schools), a description of how video has been used in schools and in teacher training, a description of how video has been used as a tool to influence teacher reflection, and a discussion of implementation barriers.

A Definition of Video Observation

For the purposes of this dissertation, video observation of teachers can be thought of as capturing, viewing, and reviewing a particular performance with the purpose of training, observing, evaluating and assessing.

Video observation has been enthusiastically used in schools because it provides several instructional affordances that support teacher growth and development (Brophy, 2004). Brophy (2004) defines these affordances as (a) “[video] conveys the complexity and subtlety of classroom teaching as it occurs in real time,” and (b) video provides rich and immediate feedback that “Written descriptions or transcripts cannot match” (p. 287).

Miyata (2002), Pea (2002), and Preston (2005), among others, further defined the affordances of video stating that it: provides teachers the opportunity to view experts in practice, to record and review personal teaching practices, and to engage in constructivist collaborative experiences by engaging others in conversation concerning peer, personal, and expert teaching performances as seen on video. In addition, Dye (2007) suggested video also provides the means for establishing a professional knowledge base similar to what exists in the business and law domains.

The Use of Video in Schools

Video observation, specifically as it pertains to teacher training, has been used in three primary domains: support for transforming existing beliefs and ideas, support for acquiring pedagogical content knowledge, and support for developing pedagogical understanding of different learners (Wang & Hartley, 2003).

Within each of these domains, several methods have been used to promote teacher growth: microteaching video recordings (Kpanja, 2001; Abell, 2004), video case studies (Shulman, 1992; Liedtka, 2001; Teale, 2002; Phillips et al., 2005), group recordings and discussion (Wiggins, 1994; Pailliotet, 1995), synchronous video recording and analysis (Stephens, 1999; Schrader, 2003), video ethnography (Everhart, 1996; Chan and Harris,

2005), video papers and projects (Pea, 2002; Spurgeon, 2002; Collins, 2004), and video annotations (Amobi, 2005; Preston, 2005; Recesso et al., 2006).

A Description of Video Tools Used in Teacher Training

Recent technologic advancements have encouraged the development of several video-based tools for teacher training. The common theme among these tools is performance analysis. Performance analysis can be defined as using video to analyze and understand a performance. Currently the most common method for performance analysis is to use a software-based video annotation system (Amobi, 2005; Preston, 2005; Recesso et al., 2006). Video annotation software systems provide users the ability to synchronously or asynchronously watch and code (or tag) the video. In some of the video annotation software programs, the user is able to define the criteria they want to use for their tagging (analysis), whereas in other examples, the tags are provided to the user. In most of the video annotation systems, the user can highlight certain parts of the video and add commentary. Regardless of the actual capabilities of the individual tools, their primary purpose is to provide a practical solution to facilitate user analysis and feedback. MediaTagger, ANVIL, VideoTraces (Stevens, 2001), MediaNotes, VAST, VITAL, StudioCode, VAT, and Transana are a few examples of such systems. Table 1 provides a description of these systems and others.

The Relationship of Video and Teacher Reflection

Various video-based methods of observation have been used over the past twenty years to promote teacher reflection (Sparks-Langer, Simmons, Pasch, Colton, & Starko, 1991; Wojcik, 1993; Jensen, 1994; Pailliotet, 1995; Storeygard, 1995; Cunningham, 2002; Sherin and Van Es, 2003; Griswold, 2004; Nicol, 2004; Powell, 2005).

Table 1
Video Analysis Tools Description

Video Annotation Tool	Developed By	Description
Media Tagger	Max Planck Institute	Non-web-based tool for transcription and coding, and subsequent analysis of digital video recordings.
ANVIL	DFKI (German Research Center for AI)	Windows' only tool. Allows user to code and analyze audio and video.
VideoTraces	Western Washington University	Non-web-based tool, where user selects portions of a video and uses voice to tag (or comment on) desired selections.
Media Notes	Blue Mango Learning in collaboration with Brigham Young University	Non-web-based multi-platform tool that allows the user to import video, create tags, and analyze video.
VAST	Northwestern University	Non-web-based, where user creates tags (codes) and uses the tags to comment on user selected video segments.
VITAL (Video Interactions for Teaching and Learning)	Columbia Center for New Media Teaching and Learning Center	Web-based tool, where user creates clips of video and inserts them into a typed paper as hyperlinks.
StudioCode	Studio Code Group	Non-web-based tool that captures and imports video. Video can be analyzed and coded with text comments.

Video Annotation Tool	Developed By	Description
VAT (Video Analyst Tool)	University of Georgia	Web-based tool, where user creates tags and comments on user-selected video segments.
Transana	Transana.org	Non-web-based tool. User can import a video, make type transcriptions, add comments to video, and remix video segments.
DIVER	Stanford University	Web-enabled video annotation tool where multiple users can access and use text to analyze video segments and then load and save them to a database.
VideoPaper	Tufts University	Non-web-based tool, where user selects a segment of video and creates a text box, where comments are added.

Many of these methods have been reported as “powerful means of instruction and reflection for teachers” (Pailliotet, 1995, p. 138) because video provides “objects to reflect on” (Storeygard, 1995, p. 28).

Storeygard (1995) and Nicol (1995) said these objects help teachers analyze decisions, establish guidelines for change and growth, and follow-up on decisions made in the past. Sherin and Van Es (2003) further define the benefits and relationship video has on teacher reflective practices by suggesting that video improves a teacher’s ability to notice and interpret what is happening in their classroom. Wojcik (1993), Lyle (2003), and Griswold (2004) suggested this occurs because video provides rich description, stimulates recall of events, allows teachers to “articulate their thinking and feelings about

learning” (Powell, 2005, p. 415). In addition, they maintain, it promotes discussion that leads to implementing new strategies and techniques.

Despite these findings, other researchers suggest that several barriers prevent video from having measurable, sustainable, and long-lasting influences on teacher reflection. The next section discusses these barriers (Cunningham, 2002; Sherin and Van Es, 2003; Griswold, 2004).

Video Implementation Barriers

Although research has tentatively shown that video positively influences reflective practice and professional development, there are several barriers that have limited its impact: lack of an effective video reflection system (Pailliotet, 1995; Miyata, 2002; Brophy, 2004; Le Fevre, 2004), teachers’ insecurity in using video effectively (Storeygard, 1995), and high costs to implementing video observation benefits (Brophy, 2004).

Pailliotet (1995), Miyata (2002), Brophy (2004), and Le Fevre (2004) among others, suggested that for video to be effectively used, systems or procedures need to be developed which clearly outline how and why the video is to be used. Miyata (2002) further defined this issue, suggesting, “Carefully structured procedures need to be established [because] simply videotaping pre-service teachers and having them analyze their teaching without a systematic set of procedures or background and training in the process will be ineffective” (p. 2). Le Fevre (2004) added to this, suggesting “Video can become part of a curriculum for learning if it is designed to be used in intentional ways towards intentional learning goals” (p. 335).

The elements that must be included in the process or system to make it effective include: instructing the students on how to do the video recording, editing, and analyzing (Brophy, 2004); ensuring the unique affordances of the technology are exploited (e.g., edit video clips to make shorter segments from a long recording--lengthy video clips are very difficult to ingest all that they are watching); “[allowing] participants to view videos two or more times before initiating discussion” (Brophy, 2004, p. 297), and “[establishing] activities that are tailored and fit curriculum standards and learner needs” (Brophy, 2004, p. 292).

A few key issues found essential to the planning stages are: first, decide what can be taped, why it should be taped, and how the resulting video will be of any benefit. Second, establish a situation when the taping can occur within the normal flow of activities. This may require that the camera be strategically positioned to not draw attention. Third, train the teachers to know how to use and what to look for while using video (Brophy, 2004).

Pailliotet has said that instructing teachers on how to use video and to know what to look for will increase their willingness and the impact video has on their learning. She suggested that if teachers are not trained on how to sift through video and key in on specific items they “become overwhelmed with the video process” and

Become mired in surface details such as their personal appearance or how they sound, without reaching deeper levels of analysis and understanding. Often [teachers] are overwhelmed with the amount of information they must process and fail to connect what they see and hear in meaningful ways (p. 138).

Storeygard (1995) outlines an additional component of this barrier suggesting that the use of video does not always resonate with teachers because it is not representative of their teaching:

Typically tapes of teaching practice are developed to present as models of what good practice should look like, but the apparent perfection of such videos often distances teachers from productive reflection. Videotapes of skilled, real-life teachers being interrupted by the intercom, buzzers bells, and stuff of everyday classroom life is definitely more accessible and identifiable (p. 29).

Storeygard (1995) and Brophy (2004) suggest that several logistical issues also need to be addressed to ensure the success of video. These include cost and feasibility constraints (i.e., cost to purchase camera, software to edit and digitize the video, web space to host video, so forth), spatial arrangements (positioning the camera in such a way that it records the events of the classroom in such a way that they tell a clear story), sound issues (ensuring that voice recordings and background sound is sufficient to describe what is occurring), and digitizing and file format issues.

Both the logistical and system barriers outlined above are important considerations. However, it is believed the video analysis process outlined in this dissertation presents a viable way around these barriers by embedding the video process in a specific context that provides the support and motivation required to overcome them.

Teacher Evaluation

Teacher evaluation is an integral component of this research because it presents and helps structure the need for reflection by framing the rationale for why a teacher needs to be engaging in reflection-for-action. There are several essential components associated with teacher evaluation pertinent to this study that will be discussed in the literature review, they are (a) a definition of teacher evaluation, (b) the need for teacher evaluation, (c) teacher evaluation through video observation, and (d) teacher evaluation issues.

A Definition of Teacher Evaluation

Because the definition of teacher evaluation dictates that administrators evaluate teachers with the intent of helping them improve their performance (Boyd, 1989), both teachers and principals need to use a system that effectively accomplishes this purpose.

Ponticell (2004) emphasized this need in his definition of teacher evaluation, “[teacher evaluation] is an interactive, democratic, and teacher-centered process aimed at the professional development of teachers, especially with regard to classroom performance” (p. 43). Tauer (2005), and Schomburg (2006) contend that the current methods of teacher evaluation are not accomplishing what is intended. They content that the methods currently used are “classroom walk-throughs” and observations, where the principal observes for a few moments, takes in the general flow and ambiance of the classroom, and notes instructional and behavior management methods. Although this typical method has produced some impact on teacher performance, the impact has rarely been long lasting or meaningful (Ponticell, 2004). The video enhanced reflection process proposes to remedy this issue by shifting the burden of responsibility from the administrator to the teacher, and by providing a process that is efficient and effective.

Teacher Evaluation through Video Observation

Administrators and teachers should be interested in video observation for three reasons: (a) video can positively influence teacher and student performance, (b) video supports teacher growth and development, and (c) video has the potential to enhance principal and teacher consultations.

Video observation can positively influence teacher performance and student learning. The Holmes Reports, in *America 2000* states, “[when] teachers improve or

enhance their knowledge about skills in teaching, they will become more effective teachers, and by association, students will receive a more appropriate education, thereby enhancing student learning” (Tauer, 2005, p. 205). Some educators argue that “staff development” and other similar traditional professional development activities are sufficient to improve teacher and student performance, yet “there is little empirical evidence to suggest that these activities are achieving these goals” (Tauer, 2005, p. 205). Video observations, however, are believed to be a solution to this issue. Video observations provide teachers the opportunity to further analyze their teaching from multiple unbiased perspectives (Brophy, 2004).

Video observations support teacher growth and development. The video literature already reviewed suggests teacher evaluations that use video observations support teacher growth. Arter (1999) suggests teacher growth hinges on connecting feedback to actual examples. She says that unsubstantiated feedback rarely has lasting effects, whereas when feedback “statements can be connected to actual samples... it provides a powerful instructional tool” (p. 24).

Video has the potential to enhance principal and teacher consultations. This is an important issue because as teachers effectively collaborate with principals and other teachers their understanding of teaching increases according to DuFour (2002). Traditionally teacher and principal consultations are a component of teacher evaluations. DuFour (2002) reports principal-led teacher consultations rarely have a significant influence on teacher performance because they are biased by a principal’s opinions, experiences, and knowledge. Protheroe (2002) suggests that there needs to be a new way to do consultations because the current method is not effective. Protheroe maintains that

ineffective consultations result from teachers not trusting or feeling “safe and supported by the teacher-principal relationship” (p. 48). It is believed the video enhanced reflection process eliminates this issue by empowering the teachers in a process where *they* are responsible for evaluation and consultation.

Teacher Evaluation Issues

Boyd (1989) and Griffiee (2005) among others suggest four reasons why administrator led observations and evaluations often prove to be ineffective: (a) lack of teacher input regarding evaluation criteria, (b) principal has a limited evaluation scope, (c) principal’s inability to accurately identify meaningful issues, and (d) lack of follow-up and accountability.

Teachers rarely have input into evaluation criteria; typically, the criteria are determined on the state or district level, “causing the teachers to distrust the evaluation and to question the validity of the results” (Boyd, 1989, p. 1). Griffiee contends that the reason teachers distrust and question the results is that because “Categories employed are often ambiguous and subject to multiple interpretations. Although one can document high-use patterns, it does not follow that what is infrequent is insignificant. Furthermore, quantification of data cannot explain what patterns mean” (p. 36).

Teachers may feel that the time allocated for the evaluation is inadequate because principals do not spend enough time observing them to have an accurate understanding of what is actually occurring in their classrooms. Griffiee (2005) adds to this issue, suggesting that principals are limited by time *and* by their own biases and experiences: “[principals] see events as they happen through their individual lenses” (p. 36). Because

of the lack of time spent in teachers' classrooms and because of the principal's possible biases, teachers often question or distrust principal feedback.

Teachers question whether principals have the skills and knowledge to define what is good teaching, how to accurately observe and evaluate it, and then how to provide instructional feedback. Many principals have limited teaching experience, which leads teachers to question their expertise, and the validity of their feedback. Zimmerman (2003) further defines this issue stating that many administrators have not been trained on how to do evaluations, which has led to imprecise, unclear, skewed, and or subjective feedback.

Often the feedback may be provided to the teachers without any follow-up. Research has shown that merely providing results to a teacher does not induce change (Walls, 2002). However, when the data is used to establish goals to be accomplished by a specified date, they have a greater tendency to change (Walls, 2002).

Literature Review Conclusion

The literature discussed in this review supports the hypothesis that teacher reflection-for-action improves performance. The literature also supports the belief that instrumentation and process issues have prevented teachers from engaging in reflection-for-action. The questions in this dissertation naturally evolve from the findings of this literature: embedding teacher reflection-for-action in a video-supported teacher evaluation context will improve teacher reflective practices and improve teaching.

Chapter 3: Methodology

Context and Participants

The purpose of this research is to study the impact of a video enhanced reflection process on in-service untenured elementary school teachers. The hypothesis of the study is that when teachers engage in a video enhanced reflective process their reflective practices increase. The subjects of the study included five untenured teachers and one principal from an elementary school in a middle class residential area. Table 2 describes these subjects. This school was selected because the principal had used video-based teacher evaluation methods in the past. The five teacher participants were selected because they were untenured novice teachers, and because two of the five were in risk of losing their teaching positions because they were underperforming. The participants took part in the study from September 2007 through December 2007.

Table 2

Matrix Detailing Participant Demographics

Individual	Years Teaching	Gender	Descent	Age	Grade Taught
Teacher 1	0	F	Caucasian	51	5
Teacher 2	0	F	Hispanic	27	1
Teacher 3	0	F	Caucasian	24	Special Ed.
Teacher 4	0	F	Caucasian	23	2
Teacher 5	1	M	Asian	26	6
Principal	32	F	Caucasian	52	NA

Research Design

A comparative case study approach was used to study the influence of a video enhanced reflection model on teacher reflection practices. The research method involved comparing the reflective practices of five untenured teachers before and after they had

received training on reflection, and engaged in a video enhanced reflection process. The reflection process consisted of a teacher using a video analysis-tool to critique their own teaching performances, and then meeting with administrators for a video supported critical dialogue.

This research makes the assumption that teachers normally reflect on their teaching as a result of administrator-led evaluations as described in chapter two. In this research a modified form of administrator-led evaluations was used.

Typical administrator-led evaluations consist of an administrator visiting a teacher's classroom, observing for an allotted amount of time, taking notes, and later engaging the teacher in a consultation (see Figure 1). During the consultation, teachers typically explain and justify their teaching performance. This generally requires that they have reflected on their teaching performance. It is assumed that teachers will improve their teaching practice as a result of the critical discussion and feedback they receive. In this process, the teacher is not usually asked to make his or her reflection explicit, therefore it is not quantified.

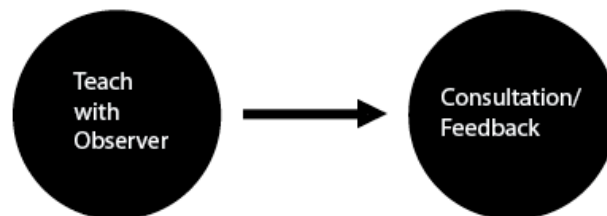


Figure 1. A typical administrator-led evaluation pattern

In contrast, in the video-enhanced reflection process, the reflection experience becomes formalized, and is made explicit. The process involves the teacher video

recording and analyzing his or her performance using special video assessment software, which will be described later. Then a consultation is held in which the teacher takes the lead, presenting areas of strength and weakness noted during their video supported self-analysis. The administrator acts as a mediator during the consultation to focus the discussion and provide additional feedback. The text that is created during the video analysis becomes a residual documentation of the evaluation. Teachers were encouraged to document new goals following the consultations (see Figure 2).



Figure 2. The video-enhanced teacher-led evaluation pattern

Data Collection

The data collection in this study was based on a research procedure shown in figure 3. This procedure included a baseline reflection experience, an intervention involving a video supported self-evaluation, and a consultation.

The research procedure in figure three consists of a baseline data collection part and an intervention part. The baseline resulted from the written evaluation data, whereas the intervention resulted from the video analysis.

The baseline collection required the teacher to first: identify a teaching standard/skill from the Scales for Effective standards (SET) they wanted to improve; second: videotape and teach a lesson while implementing this standard; and third:

complete a written reflection form of the teaching performance (see Appendix A). The written evaluation form required the teacher to (a) describe their teaching performance, (b) analyze and critique the performance, and (c) create goals or statements of areas they wanted improve.

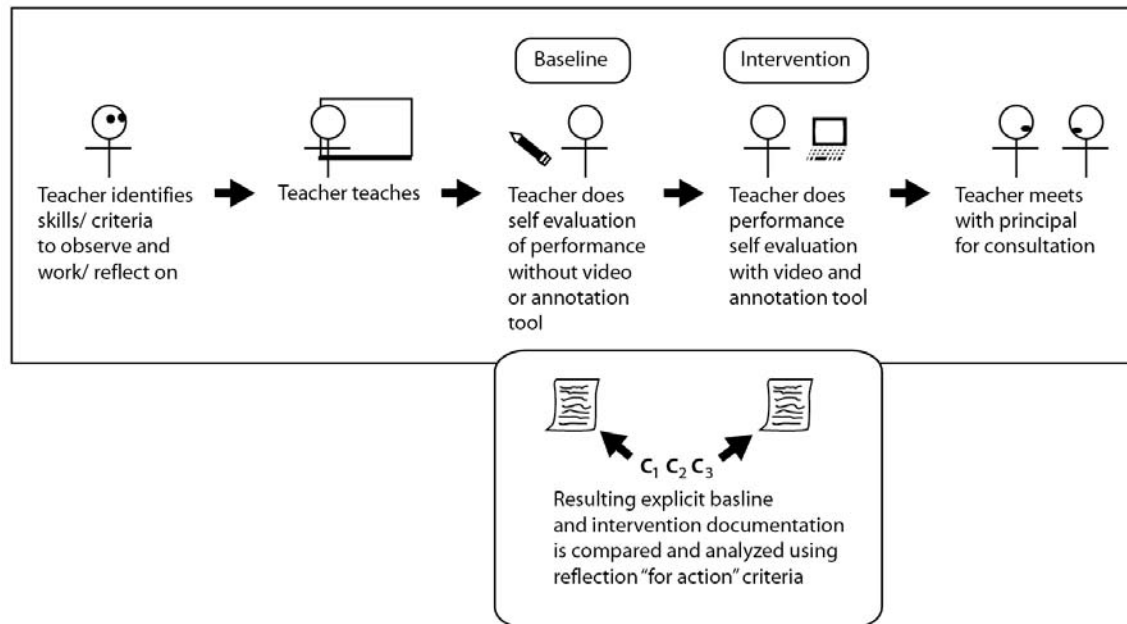


Figure 3. The research procedure

For the intervention the teacher was provided the video copy of their teaching performance. The teacher would import the video into a video analysis software program, where he or she would critique and analyze the performance by typing commentary about what was observed into a video analysis-tool called MediaNotes. MediaNotes is a video analysis software program developed by the BlueMango Learning Group that “allows for detailed, concise analysis of recorded performance and exercises” (<http://www.bluemangolearning.com>).

Following the video analysis, the teacher met with the principal for a consultation to present their written and video analysis findings, and receive additional feedback about their teaching. The teacher was responsible for directing the flow of the consultation, whereas the principal was to mediate by listening and asking additional questions about the teaching performance. The consultation usually lasted thirty minutes, and resulted in the teacher stating a goal they planned to work on. The data resulting from the baseline and intervention were later compared to help analyze the influence video has on teacher reflection.

Seven primary data collection events were used to collect the data for this study: baseline reflection, video supported reflection, teacher interviews, principal interviews, observations, focus group interview, and an exit survey. Table 3 provides a summary of the data collection events; additional descriptions of the events are provided in the text following the table. The purpose of the data collection was to ensure rich and sufficient data collection (Seidel, 1998). Agar (1991) suggests multiple sources of data collection help create rich research descriptions, and provide the means to accurately compare and analyze data.

Baseline Reflection

As stated above, the written reflection form (see Appendix A) helped establish the baseline teacher reflection experience. Teachers filled out this form after each of their three teaching performances. The form outlined each of the ten observable SET evaluation standards and prompted the teacher to reflect on their performance according to one of these standards using Dewey's three levels of reflection (description, analysis, and action). To complete the form the teachers were to write descriptions and critiques of

their teaching performance, with the intent on establishing goals and or action items they would later work on. After completing the form, the researcher collected it and provided the teachers a digitized copy of their videoed teaching performance.

Table 3
Description of the Seven Data Collection Events

Method	Description	Purpose
Baseline Reflection	Teachers completed a written reflection form based on the SET teacher evaluation standards (see Appendix A).	The form helped establish the baseline; it was later used to compare written reflection with self-enhanced video reflection.
Video Supported Reflection	Teachers used MediaNotes to watch and analyze their teaching performance (see Appendix B).	The file created in MediaNotes was compared with the baseline reflection to determine the impact video analysis had on teacher reflection.
Teacher Interviews	Teachers were interviewed following their consultation with the principal (see Appendix C).	The interviews were used to gather data on (a) the standard the teacher used to guide their teaching; (b) the subject, time, and what the teacher taught while working on the standard; and (c) any preconceived thoughts and ideas, and or questions/ concerns the teacher might have had prior to engaging the tool and process; (d) how things went from the teacher's perspective.
Principal Interviews	Following each of the teacher interviews, the principal was interviewed (see Appendix C).	This interview was used to gather data on administrative perspective regarding the value, perception, and use of the tool and process.
Method	Description	Purpose
Observations	There were two observation events: 1) each teacher was observed during their first	The first observation was used to gain an understanding of how the teachers initially engaged the tool.

	time using the video analysis tool; 2) each teacher was observed during each of their three consultations.	The next three times were used to gain an understanding of how the tool was used during their self-reflection and consultation experiences.
Focus Group Interview	Each teacher was invited to an exit focus group interview at the conclusion of the study (see Appendix C).	The exit focus group interview was used to verify and validate data, and to gather additional information.
Exit Survey	A survey was created using data from the other data collection events and was administered to each teacher via SurveyMonkey (see Appendix D).	The survey helped further validate data collection through triangulation.

Video Supported Reflection

The second event established the intervention and resulted from the teachers' video-supported reflection experience (see Appendix B). The experience required the teachers to import, watch, and analyze their videoed teaching performance using the video analysis program *MediaNotes*. *MediaNotes* is "a video analysis software used to code and analyze videoed performances" (<http://www.BlueMangoLearning.com>). To do the coding (also called "tagging") the teachers watched their performance, while synchronously coding their video with commentary representative of the SET evaluation standard they had previously selected. The coding process involved the teacher adding typed descriptive and analytical commentary to their video using the *MediaNotes* program. When the teachers' completed their video analyses, the researcher visited and

copied the teachers' video analyses files to an external hard drive. The files were later compared with the written reflection data to determine the impact video analysis had on teacher reflection.

Teacher Interviews

Each teacher was interviewed following each of his or her three consultation experiences. The purpose of teacher interviews was to gather information on teacher perception of how the baseline and intervention experiences influenced their reflective abilities. The interview asked teachers questions regarding their engagement, use, perception, and experiences engaging in the research study. The interviews also gathered and verified data regarding (a) the standard the teachers used to guide their reflection, (b) the subject, time, and content taught during the performance, (c) any preconceived thoughts and ideas, and or questions the teacher had about the process, and (d) the overall feelings and experience each teacher had while engaged in the process. Detailed field notes and audio recordings were kept to ensure accurate data was collected. The data was also later shared with the teachers to verify its accuracy and relative trustworthiness.

Principal Interview

The principal was also formally interviewed three times. The purpose of the principal interview was to gain an understanding of (a) how she perceived the study was influencing teacher reflection, and (b) the influence the video-based reflection had on the consultation. Detailed field notes and audio recordings were kept to ensure accurate data was collected. The data was also later shared with the principal to verify its accuracy and relative trustworthiness.

Observation

There were two observation events used for data collection. The first event involved the teachers' first use of the video analysis tool. The second event involved each teacher's three consultation experiences. The first observation was used to gain an understanding of how the teachers initially engaged the tool, if there were any training issues, and so forth. The consultation observations were used to gain an understanding of the influence the baseline and intervention had on the consultations. It was also believed these observations would provide insight to teacher written reflection and video analysis experiences.

No observations were done during actual teaching performances, or during the written reflection and video analysis experiences. It was believed the presence of the researcher might influence the teachers' teaching performance and or reflection experiences. In an effort, however, to ensure the video observations were accurate recordings of a typical teaching performance, the cameras were left setup in each teacher's classroom to ensure both the teacher and their students were used to its presence. Detailed field notes and audio recordings were used to ensure accurate data collection. The data were also shared with the participants to verify its accuracy and relative trustworthiness.

Focus Group

A focus group interview was conducted as the fifth data collection event. The interview was held during the last week of the study. Previously collected data were used to create the questions asked during the focus group interviews. The primary purpose of

the focus group interview was to share and verify previously collected data and to gather additional insight into the reflection experiences of each participant.

Participant Survey

An anonymous survey was created from previously collected data and administered to each participant at the conclusion of the study. The purpose of the survey was to further verify data, triangulate findings, and aggregate other important information. The survey enabled the researcher to collect insights that the teachers were not as open and willing to share in person. The survey was able to accomplish this because it preserved the anonymity of each participant.

Data Analysis

A thematic analysis technique was the primary data analysis method used in this study. A thematic analysis involves creating and considering cover terms, included terms, and semantic relationships between various data points. Cover terms are categories used to organize data. The cover terms used for the thematic analysis in this study were: description, analysis, and action.

The basic thematic analysis process involves comparing and scrutinizing patterns within and across data. This leads to an increased understanding of phenomena, which contributes to the creation of theoretical and practical applications (Spradley, 1979; Seidel, 1998). This approach was used because it is considered a practical method of analyzing qualitative data (Jorgenson, 1989; Spradley, 1979). Concerning this method, Jorgenson (1989) said, “[thematic analysis] helps assemble or reconstruct data in a meaningful and comprehensible fashion” (p. 107).

Thematic Analysis Criteria

The cover terms: description, analysis, and action served as the primary categories for the sorting and organizing of the thematic analysis (as described above.) These terms were selected because collectively they define effective reflection (Dewey, 1933; Rodgers, 2002). The following three paragraphs define and describe each of the three categories.

Description. The first part of effective reflection is to “describe the teaching experience” (Dewey, 1933, p. 9). The description involves an explanation and interpretation of the teaching performance (i.e., the teacher describes in vivid detail what occurred during a particular performance by outlining what students were doing, the lesson plan, instructional methods, and so forth.)

Analysis. The second part of an effective reflection is the analysis phase. The success of the analysis phase depends upon the accuracy and depth of a teacher’s ability to describe a teaching performance. The analysis phase involves the teacher: confronting assumptions (Drake, 1997), critiquing the gaps in their performance, connecting successes and failures to educational theory and student performance data, and naming “the problem(s) or the question(s) that arises out of the experience” (Rodgers, 2002, p. 885). At the conclusion of this phase the teacher will compile several “possible explanations for the problem(s) or question(s)” the teacher discovered during their analysis (Rodgers, 2002, p. 885).

Action. The final phase of effective reflection is: action. Dewey said, “Reflection that does not lead to action falls short” (Rodger, 2002, p. 885). The action phase, involves the teacher establishing a plan based on the description and analysis of their

teaching performance. Rodgers (2002) suggested, “This phase could be understood as a series of intellectual dry runs through the problem and its various conclusions,” and the associated solutions (p. 854). According to Dewey (1933) the action should be based on careful assessment and thought. Rodgers (2002) said this phase offers teachers “the possibility of settledness, [and] a resolution to [performance] disequilibrium” (p. 855).

Data Analysis Process

Five derivative research questions were developed to help organize and focus the thematic analysis, breaking the primary research question into a more detailed format. Table 4 outlines each of these questions and their associated data analysis and collection techniques. A series of vignettes and thematic analysis discussions were used to disaggregate, discuss, and present the data and findings in a clear and understandable way.

Data Reporting: Vignettes

A vignette reporting methodology was used to report the findings of the study. This approach was used because it provides a rich description of the actual experiences of each participant. A vignette is a “short, usually descriptive literary sketch” used to describe an event and or experiences (Platt, 1964). The first five vignettes cover the experiences the teachers encountered during their involvement in the study, while the sixth vignette details the principal’s experiences. This vignette reporting technique was specifically developed for this study.

Table 4

Research Derivative Questions and their Associated Data Collection and Analysis Techniques

Question	Data Analysis	Data Collection
Are teachers better able to identify areas for improvement as a result of the intervention?	The quantity of areas for improvement the teachers identify.	Comparing the areas for improvement the teachers listed on the written reflection form with the areas for improvement they listed as a result of their video analysis.
	The specificity of the areas for improvement.	
Are teachers better able to critique the areas for improvement they identified?	Compare the quantity of analysis (critiques) statements listed in the written reflection form with the number listed in the video analysis.	Baseline and intervention comparison.
		Self-report
		Consultation observation
Are teachers better able to support/ justify the need (or lack of need) for action?	Do the descriptions align with the analyses (critiques)?	Baseline and intervention comparison.
		Self-report
		Consultation observation
		Focus Group
		Exit Survey
Are teachers better able to support/ justify the need (or lack of need) for action?	Do the descriptions align with the analyses (critiques)?	Baseline and intervention comparison.
		Self-report
		Consultation observation
		Focus Group
		Exit Survey

Question	Data Analysis	Data Collection	
How much influence does video analysis have on the consultations between principal and teacher?	How is video analysis used during the consultation?	Consultation observation	
	How often is it referenced during the consultations?	Teacher interview Principal interview Focus group Exit survey	
What is the effort involved (cost) to teachers and administrators when trying to implement the video-enhanced video self-reflection process?	Amount of time spent learning how to use the video analysis tool.	Preliminary observation Consultation observation	
	Amount of time spent engaging the written reflection form.	Teacher interview Principal interview	
	Amount of time spent doing video analysis.	Focus group	
	Amount of time spend in consultation.	Exit survey	
	What is the monetary cost of the tool and process (cost of software, camera, and so forth) and do the benefits of the video enhanced reflection process out weigh the costs?		
	How much training and support is required?		
	What other issues need to be considered (how will the culture need to be changed, who will need to be involved to ensure the process runs smoothly)?		

Establishing Research Trustworthiness

The four standards of trustworthiness outlined by Guba and Lincoln (1985) and Guba and Lincoln (1989) for naturalistic inquiries were used to verify the credibility, transferability, dependability, and confirmability of the project. The questions listed in table three, as summarized by Williams (n.d.) in his book *Educators as Inquirers: Using Qualitative Inquiry* outline the key components of the standards of trustworthiness. The discussion following table 5 outlines how the study met the standards.

Table 5

Standards for Research Trustworthiness

Question	Key Components
Is the study credible?	Is prolonged engagement adequate? Is persistent observation adequate? Is triangulation adequate? Is peer debriefing adequate? Is negative case analysis adequate? Is the emic perspective highlighted? Are member checks adequate?
Is the study transferable?	Is thick description adequate to make transferability of the study likely?
Is the study dependable?	Is an adequate audit trail maintained? Are data collection and analysis procedures adequate? Has the researcher been careless or made mistakes in conceptualizing the study, sampling people and events, collecting the data, interpreting the findings, or reporting results?
Is the study confirmable?	Is an adequate audit trail maintained? How adequate are the findings? How well are they supported by people and events that are independent of the inquirer?

Credibility

The questions outlined in table 7 regarding research credibility, are used to address the integrity of this study.

The first question asks, “Is prolonged engagement adequate?” Although this research study was developed over a two-year period, where the primary researcher remained in contact with the participants, and kept abreast of new technological and theoretical developments, the primary data used in this study was based on only four months of collection. I believe that although this data provided interesting and significant findings, a longer data-collection period may have produced other results.

The second question asks, “Is persistent observation adequate?” While I believe there was persistent observation throughout the duration of the study (i.e., I was present during each consultation, and observed and interviewed the teachers on a regular basis), I believe there are a few options I could have included that may have produced other helpful findings. First, I think it would have been beneficial to hire an outside observer and interviewer. This may have helped teachers be more honest with their responses, and would have increased the volume of observations. In addition, I believe it may have proved helpful to have the teachers videotape both their written and video-based reflection experiences. I had originally decided that my presence during their reflections would influence their performance, however, in retrospect, perhaps a video recording of their experiences would have accomplished a similar purpose without being too intrusive.

The third question asks, “Is triangulation adequate?” I believe my triangulation efforts were adequate for this study. I collected, compared, and analyzed multiple sources of data (i.e., field observations, interviews, focus group meetings, dialogues, baseline and intervention forms, survey results, and so forth) in an effort to ensure I used multiple perspectives to pinpoint and validate the various findings.

The fourth question asks, “Is peer debriefing adequate?” I do not think my peer de-

briefing efforts were as comprehensive as I had anticipated. Although I shared my notes and recordings of our meetings and consultations with the teachers, in an effort to verify that what I had collected was accurate and properly represented what they believed, I did not share the final vignettes that I wrote with the teachers. Despite basing the vignettes on multiple sources of data and recordings, I believe that had I shared the vignettes with the teachers their feedback would have increased the credibility of this study.

The fifth question asks, "Is negative case analysis adequate?" I believe I could have improved my negative case analysis techniques. Although I tried to maintain an unbiased point of view and made efforts to consider all points of view (looking for negative correlations, causes, relationships, origins, and reasons), my personal interest and biases may have influenced some of my interpretations of the data and findings. I also feel that despite asking the teachers to tell me about any of their negative experiences, I do not feel the teachers were as open as they could have been. I believe the teachers told me what *they* thought I wanted to hear. Other researchers have talked about this effect, suggesting that when a primary researcher is too involved in the observation and interview components of a research study, he or she may influence participant responses. I believe this may have occurred during this study, simply because the teachers' responses to many of my questions seemed too supportive of the video-enhanced reflection process.

In an effort to address this issue, I developed and administered an anonymous online survey. The purpose of the survey was to collect additional teacher feedback about several of the questions and ideas I had previously asked them. I anticipated that because the survey preserved their anonymity the teachers would be more willing to share things

they may not have shared in person. Although I believe this helped address the issue, I still believe the study would have benefited from other negative cases analysis techniques.

The sixth question asks, “Is the emic perspective highlighted?” I believe my background as a teacher and principal, coupled with my willingness to participate in the study helped me more accurately consider the point of view of the teachers and administrator, and consequently emphasize the emic perspective.

The seventh question asks, “Are member checks adequate?” Throughout the study I tried to use member checks to ensure the data I was collecting best represented participant experiences, feelings, and so forth. After each interview and consultation I shared my interview notes and my transcription findings with the participants. Although I felt my efforts were adequate, as I stated above in the persistent observation section, I believe the credibility of my study would be increased had I shared the summary of my findings (i.e., vignettes) with the teachers.

Transferability

I maintained a detailed log, field notes, audit trail, and used audio recordings to ensure that I collected a “thick” description. I believe that the study adequately imparts my “thick” description in such a way that it ensures the transferability of the study.

Dependability

An audit trail was kept until the completion of the project. The audit trail includes notes detailing when, why, and how decisions were made regarding the direction, organization, and formation of the study. It is believed this audit trail is sufficient to justify research decisions, helps clarify the direction of the study, and explains why

specific choices were made. I also made efforts to ensure the study had few conceptualization issues, sampling errors, and or interpretation inaccuracies; I used my audit trail, field notes, committee members, member checks, and audio recordings to ensure that my methods, descriptions, and results were as accurate as possible.

Confirmability

I believe the results of the research, although limited by sample size and demographics, are confirmable. Member checks, field notes, and a detailed audit trail were used to verify recorded data and findings. The findings from a pilot study were also used to inform and confirm the procedures, findings, and conclusions of the study. The audit trail accounts for all of the dates and times of when I met with the teachers, principal, and committee members. In addition, it outlines the decisions, logic, and rationale I used to guide the directions and efforts of the study. I feel the findings are well supported by the people in the study because the majority of the data came from, and was later shared, and verified by the participants. I do believe, however, that sharing the final vignettes with the teachers would have augmented the confirmability of the study.

Chapter 4: Findings

The qualitative analysis of teacher responses to the exit survey, interview findings, and comparison of the baseline and intervention methods suggests that the video-enhanced reflection process had a positive impact on teacher reflective abilities. A thematic analysis was used to code and scrutinize the qualitative data. I have broken the findings into five major parts, representative of the foremost questions and themes significant to the study. In each part, I will present a short descriptive paragraph about the focus of the section, a series of vignettes describing significant experiences the teachers encountered during their involvement in the study, and a thematic analysis outlining the themes and a brief discussion of each section.

The first section, titled “Getting Started,” concerns the teachers’ initial response to the video-enhanced reflection process. Section two, “Teacher Written Reflections Experience,” discusses and describes the teachers’ experiences with the written reflection process. The third section, “Video Based Reflection Experience,” involves the teachers’ pre- and post-attitudes and reactions to the technology, method, and coding/tagging processes. The fourth section titled “Video Supported Consultation Experience,” discusses and presents the findings about the teachers’ experience with the video supported consultation component of the video-enhanced reflection process. The final section, “Principal’s Experience,” deals with the principal’s pre- and post-reactions and feelings about the video-enhanced reflection experience.

Part I: Getting Started

The focus of this first section is to present the teachers’ initial reactions and feelings to the video-enhanced reflective process. Overall, the primary theme for this

section concerns the teacher's positive support and willingness to engage in the process. The vignettes will describe each teacher and his or her individual attitude regarding this primary finding. The thematic analysis will also present and discuss this theme using additional significant findings.

Vignettes

This vignette concerns the teachers' initial attitude and reactions to the research study, a rich description of the training of the process, experiences with the technology, how they perceived their backgrounds would influence the reflection experiences, the method they used to select a standard to work, and how they decided when and how they were going to engage in the baseline and intervention experiences. The primary sources for the description and discussion of this vignette are teacher self-reports aggregated from interviews, observations, and survey results.

Bethany. Bethany was in her first year of teaching during the implementation of this study. She had recently graduated from a local university, Brigham Young University, only a few months prior to participating in this research. At the time of the study, Bethany was teaching twenty-two first graders. On the day that the research study was introduced to the teachers, she was the first to arrive. She arrived before I did and was busily entering student grades on her computer when I greeted her. She greeted me with a smile, and asked me how I was doing--she seemed to be a very pleasant girl. After the remaining teachers arrived, I introduced the research study. As I did, Bethany seemed attentive; she had closed her computer, and nodded and answered questions at the appropriate times. As I demonstrated the software, she seemed to become even more interested. During the training she commented, "Wow, the software looks really

interesting and easy to use.” Then while I modeled the reflection process, moving from the written reflection component to the video component, she again seemed most interested in the technology aspects. She stated, “So, we’re going to get our own cameras to use! That’s awesome. I even have my own tape!” I told her that I would provide her with a tape so she need not use her own. To this she replied, “Great. That works too.” As I asked clarifying questions about the process, she was very responsive and seemed to clearly understand each of the steps. When asked, she was able to recall and explain her role in each step of the process.

During the question and answer part of the presentation, I asked the teachers various questions regarding their reflective practices in the past, and Bethany reported that her university teacher preparation program had stressed the importance of reflection, and that she had, since the beginning of the school year, kept a teacher journal recording her daily activities, thoughts about teaching, and so forth. When asked what she felt was the importance of reflection, she said, “For me, my journal helps me think about what I did during the day, or week, depending on when I get to my journal. Sometimes I am too rushed at the end of every day to write.” She did not report that she used the journal to monitor and or make changes to her teaching, rather, it seemed she was using the journal as a record of events. Bethany’s body language throughout the introduction meeting indicated she was very enthusiastic about the project (i.e., immediately after I had finished presenting the research study she took the CD containing the software application and other files important to the research and began installing them on her computer). Her comments also seemed to suggest she was enthusiastic about the project

(i.e., “I think this is going to be really helpful... I have no problems doing this, besides, it seems it going to fulfill our SET evaluation anyways, so it doubly helpful.”)

Jacky. Jacky was one of the last to arrive to the meeting; she seemed fairly rushed and somewhat embarrassed that she was a little late to the meeting. She quietly sat down on the far side of the circular table where we were sitting, and folded her arms. She did not bring her computer (and she later needed to excuse herself to go and get it, in order to have me help her install the MediaNotes software application and other important files), but she did have a pen and pad of paper to take notes. I greeted her with a hello and she returned a smile. Jacky was also new to the school; she, however, was there doing her teaching internship and had not been hired as a full-time teacher yet (meaning that this was an on-the-job full year training experience, replacing her student teaching experience. Oftentimes pre-service teachers select to do internships rather than student teaching because it lasts for an entire year and is a paid position.)

Jacky was the only Hispanic participant in the study and had been raised in a nearby town; she was teaching one of the three third-grade classes at the school. She told me the other two third-grade teachers were expected to work as her mentor teachers – but she had not yet officially met with them. As I presented and introduced the process and research study, Jacky was the only teacher who really seemed nervous. She laboriously took notes on all that I presented during the introduction, despite my telling her that I would provide her with a booklet of all the information. And when I demonstrated the computer analysis program, MediaNotes, she seemed genuinely uneasy. Later when I asked her if the computer component worried her, she answered, “No, the computer stuff doesn’t seem too bad. I am not really great on computers, but I do like to use them.”

While I modeled the different parts of the reflective process, I noticed that Jacky seemed to calm down a little; she stopped taking as many notes and began to engage in the presentation a little more. When I asked her what she thought about the process, she said,

I was a little worried at first, but now I can see it's all just for me. I don't have to worry about what Kristi [the principal] thinks, the process is just to help me figure out my teaching... for some reason I thought this was going in my permanent file and stuff.

During the conclusion of my presentation I asked her what she thought about teacher reflection and if her teacher-training program had addressed reflective teacher practice in any of her courses. She responded,

I went to UVSC [Utah Valley State College] not BYU [like three of the other teachers, who had just previously answered this same question], and to be honest I don't remember if any of my classes talked about reflective practice. Maybe they did, they probably did, but I just don't remember.

Then, as I followed up with a question regarding what she thought about this video-enhanced reflective process, she stated,

I am really excited--I think I am going to get a lot out of this, probably because I need it the most... it doesn't seem too confusing or time consuming... It'll be great to video tape my teaching, think about it, and hear what Kristi thinks about it.

Becky. Becky was the third participant to arrive, and as she arrived I stood and greeted her; she greeted me back with a very southern accent, and then took a seat. She, like Jacky, had forgotten to bring her computer, and as soon as she saw my computer, asked if she should go get her computer. I told her it would be helpful, and so she quickly left and returned with her computer. Becky was the oldest of the new teachers. She was fifty-four years old, and although she had completed her teaching degree while she was in her twenties, she had never taught. She shared that she had received her elementary teaching degree back in the seventies from Florida State University and had planned on

teaching sometime but did not anticipate coming back to it so much later in life. She said now that her children were all out of the house, she had time to go back and renew her license and finally get the chance to start teaching. She was really excited to be teaching fourth grade and did not report any nervousness or apprehension about coming back to teaching after such a long delay. In fact, she said “I think all my years as a mother has probably better prepared me for this opportunity. Besides, I don’t feel too old.” Bonnie had only recently moved to the area but shared that she felt well accustomed to the community where the school was located. As I introduced the research study and process, Bonnie seemed to listen intently, jotting notes from time to time, and nodding her head and answering questions as I asked her. When I asked her about her reflective practices, she said that she is naturally a reflective individual and spends a good portion of the day reflecting. Then, when asked what she specifically does, she said that she sometimes writes comments in her lesson-planning book, but mostly just internalizes the thoughts as they come to her.

Because of her age, I had originally assumed that the computer component would make her a little nervous, but when I asked her if she had any apprehensions she reported that she did not. She said that her son was a computer programmer and had taught her a lot about computers. However, as I distributed the CDs with all the important files and software program, she struggled more than the other teachers; she did not know how to drag files off of the CD onto her desktop, or how to make a file to house all of the documents, or how to install the MediaNotes program and get it up and properly running. None of the other teachers seemed to struggle with this; in fact, Michelle, who had quite rapidly installed all the software and files, and who was sitting next to Becky, leaned over

and helped Bonnie get her system up and going. After we finally got all their computers up to date with the MediaNotes software and loaded with the files they needed, I again walked the teachers through how the software worked. This time, Bonnie took a few more notes, ensuring that she had all the points of how to use the software. When I later gave each of the teachers a video camera, she asked if I could come to her classroom and set it up, and show her how to use it.

At the conclusion of my presentation I asked Bonnie what she thought about the process, and if she had any questions or concerns. Although she had a few technical concerns (i.e., about how to run the camera), she stated that she was really excited about the process: “I think this is going to be really fun, besides it’s something I am sure we all need... I am sure I’ll see things and get ideas from the video that will help me be a better teacher.”

Michelle. Michelle was the second teacher to arrive to the meeting/presentation, and like Bethany, she pleasantly greeted me and sat down. As we sat and waited for the other teachers to arrive, Michelle told me that she had recently graduated from Brigham Young University, and was planning on going back home to Louisiana State University to do a masters in Special Education at the end of the school year. She also shared that she felt reflective practice was really important; she said she had learned about and practiced it during her pre-service training experiences at BYU. While I presented the process and research study, she seemed to clearly understand and accept the overall purpose of the study, which she stated was “to help us improve our teaching as reflect more effectively.” When I demonstrated the software, although she did not seem overtly excited, she seemed to be very comfortable on her computer; for example, when Becky

was having struggles installing the MediaNotes program, Michelle, after quickly installing everything she needed, went over and helped Becky. At the conclusion of the presentation, when I asked if there were any questions or concerns, she asked,

So, how are we going to prevent our students from acting up in front of the camera, or even from “acting too good” in front of the camera... I teach several Special Ed. students, and I don’t know how they will respond to having a camera around.

I told her that I thought it would best if she left the camera up and on all the time; that way her students would become accustomed to having the camera in their classroom. She also asked if she could film several short performance segments, rather than one long performance; that way she could get several samples of her teaching. I told her that would be a great idea, and she was free to film any amount or variation of her teaching that she wanted. In light of this question, I again stressed to her (and the others) that the reflection experience was for her, and therefore she should control what elements she was interested in. Before she left the presentation/meeting, she expressed that she was really interested in and excited for this experience.

Vallen. Vallen was the last teacher to arrive to the meeting, and he did not seem in too much of a rush despite being several minutes late. He had remembered to bring his computer, although he did not use it, nor a pen and paper to take any notes during the presentation. Although Vallen was new to the school, he had already been teaching for one year, and was now in his second year of teaching sixth grade. He, too, like Michelle and Bethany, had gone through the elementary teacher education program at Brigham Young University and also validated the claim that he had learned about reflective practice during his pre-service training. During the presentation Vallen seemed to be a little distant; he didn’t engage in the conversations we had throughout the introduction,

nor did he have much to say during the question and answer session. He did seem to be comfortable with the idea of having to use technology, because when I passed out the CDs he was able to quickly load the software and files; however, he didn't express the same enthusiasms as the other teachers. Notwithstanding, when I asked him what he thought about the process, he stated, "I think this is going to be a great opportunity." He did, however, voice a few concerns about the logistics of the study; for example, he wondered about scheduling issues (i.e., one of the times we were planning to meet and discuss his experience he had a field trip and wouldn't be able to meet). He also voiced a concern about "having to" watch himself on camera: "You mean I will have to watch myself on camera? I hate how I sound and look. You know what they say, the camera adds twenty pounds – I can't afford to add twenty pounds." Despite these limited issues, he did leave the impression he was excited about the process, because before he left, he shared that he thought this process would definitely make him think more about his teaching.

Thematic Analysis

There were several items that informed this analysis: (a) the teachers' description of the training process, (b) teacher reactions, attitudes, and experiences with the technology, (c) how the teachers perceived that their backgrounds would influence the process, (d) the method that the teachers used to select a standard to work on, and (e) how they decided when and how they were going to engage in the process. The sources for the description and related discussion of this analysis are teacher self-reports aggregated from informal interviews, researcher observations, and survey results.

Overall, the teachers reported that they were initially enthusiastic about the process. They believed it would have a positive influence on their reflective abilities, and they all stated they were willing to engage in the process as it was described to them. Tables 6 and 7 outline several important findings regarding the teachers' initial attitudes and reactions to the process. Three-quarters (75%) of the teachers reported that they had received some training in reflective practice and thought this process fit in with what they had previously learned. Notwithstanding, it was interesting to learn that all five of the teachers believed they were reflective in their teaching, although the majority of them (60%) acknowledged that their reflections were informal and were not recorded. Despite this finding, those who stated they were reflective said they reflected on their teaching on average nearly twelve minutes per day.

When the teachers were asked what they thought the primary purpose of this process was, eighty percent reported they believed the process was designed to help them increase their reflective abilities. However, when the teachers were asked about what they wanted to get out of the experience, only three of the teachers reported that they wanted to increase their reflective abilities (the other two stated that they simply wanted to “get better at teaching”). When asked if they were enthusiastic about this process, all five of the teachers positively responded, despite a few of them having similar concerns (i.e., not liking to watch themselves on camera, not having a lot of extra time to engage in lengthy reflection processes, and not sure how to use the technology.)

Table 6

Information About the Teacher's Past Experience with Reflection

Question/ Theme	Result	Description/Representative Teacher Comments
Did your teacher prep program require any course that taught you about being (becoming) a reflective practitioner?	75% responded that they had participated in, at a minimum one course, that discussed reflective practice.	<p>“During my pre-service training I had this one particular class that really stressed teacher.”</p> <p>“At my school there weren’t any courses that actually taught anything about reflection, but then again, I did go to school a long time ago; maybe they do now?”</p>
Do you typically reflect on your teaching?	All of five of the teachers reported that they do reflect on their teaching.	“I am always thinking about my teaching – even at home, so I guess you could say I am always reflecting.”
How much time do you spend reflecting/day?	The average amount of time per day was reported to be: 11.5 minutes.	N/a
Is your reflection more formal or informal?	60% reported that their reflections were informal (i.e., they do it while they teach, or it occurs as a thought, but rarely write anything down). Two teachers reported their reflections were more formal, saying they like to write down reflections on how things went during their lesson as notes in their lesson plan book. One of the two who reported they did do formal reflections, reported that she keeps a weekly journal of her teaching.	<p>“I usually just think about my teaching between activities or during breaks. I have for a long time thought that I should write something down, but I haven’t yet, I bet it would help. My day is too busy to write down the millions of reflections I have during the day.”</p> <p>“Immediately after teaching a lesson, I go to my lesson planning book and write in the margin how I feel things went and any ideas of how I might make it better.”</p> <p>“I keep a teaching journal. I write about how my day went, things that I tried, and funny or strange things that happened during the day.”</p>

Table 7

Information About the Teachers' Initial Attitude and Reactions to the Process

Question/ Theme	Result	Description/Representative Teacher Comments
What do you think the purpose of this process is?	4 of the 5 responses mentioned the word <i>reflection</i> ; however, all 5 of the responses connoted the idea of improved practice through reflection.	<p>“I think this process was meant to give me an opportunity to purposefully reflect on and analyze my teaching.”</p> <p>“The purpose of the process was to help me become better at reflecting, and analyzing and improving my teaching.”</p> <p>“To get us to successfully reflect on our teaching practices.”</p>
What do you think you'll get out of the process? And or what do you want to get out of the process?	Although in the previous question all five of the teachers said the purpose of the process was to improve reflection and performance, only three of the five kept this same belief for this question. The two who didn't, expressed that they simply wanted to “get better at teaching.”	<p>“I hope that I will learn more about reflective practice and improve my own reflective practice. I think that if I am reflecting, it will probably help me improve my teaching.”</p> <p>“I hope the process helps me get better at teaching.”</p>
Do you have any apprehensions about this process (and what are they)?	<p>Two of the teacher initially expressed concern about how much time this process would take, and if they would be provided additional time to get the reflections done.</p> <p>Two of the teachers initially expressed concern about watching their teaching. They were worried how they would look on camera – and if other people would see the video.</p> <p>The oldest of the teachers expressed concern over learning how to use the video camera and video reflection software.</p>	<p>“I am not sure when I will do the reflections – do you think I could do them during our teacher collaboration time, because otherwise I always have students in my room and I don't really like taking a lot of extra work home with me.”</p> <p>“I hate seeing myself on video. I have taped myself in the past, and my voice always sounds strange. I think I worry and focus too much on appearance.”</p> <p>“I am not sure I completely understand how the software works – what are tags again? How do I add my comments? Where do I turn this camera on?”</p>
Question/ Theme	Result	Description/Representative Teacher Comments
Do you think	60% of the teachers believed the	“I think the process has great potential;

<p>this process will make a positive influence/increase your reflective abilities/apptitude?</p>	<p>process had the potential to influence their reflective abilities/apptitude, 20% of the teachers thought that it might make a difference, and 20% reported that it wouldn't make a difference – stating that they were already reflective.</p>	<p>hopefully it helps me be better at reflecting.”</p> <p>“I am not sure, I guess it can, but it probably depends more on how I engage it.”</p> <p>“I am already really reflective. I keep notes and always am thinking of new and better ways to do things. If anything, this process will just give me an excuse to do what I am already doing.”</p>
<p>Do you think there is a correlation between reflection and performance?</p>	<p>100% of the teachers reported that they believed there was a correlation between reflective practice and performance.</p>	<p>“Absolutely. It helps me think about what I am doing, so I make things better.”</p> <p>“Of course they are related. But remember correlation does not mean causation. I don't think reflection alone will cause a teacher to become better; it might serve as a tool to get them there.”</p>
<p>What are your overall feelings about participating in this study?</p>	<p>100% of the teachers stated they were either excited and or enthusiastic to participate.</p>	<p>“I think this is going to be a great experience... I have a lot to learn and this will really help me improve.”</p>

Part II: Teacher Written Reflections Experience

The focus of this second section is to present the teacher's feelings and reactions to the written reflection experience. The teachers were expected to complete the written reflection following their teaching performance and prior to engaging the video reflection component. Most of the teachers reported that they did the written reflection either the day of, or the day following their teaching performance. The written reflection form had three components to it: a section where the teacher was expected to describe the teaching

performance, a section where the teacher was to analyze and critique their performance, and a final action area where the teacher could write out their future plans, goals, and/or actions related to their analysis (see appendix A). In general the teachers said that they liked the written reflection component; however, they did not think it was as beneficial to use as the video reflection component. The major themes discovered in the findings suggest the reasons the teachers did like the written process was because it helped them plan what they were going to reflect on, they found the written reflection form to be visually helpful, and they felt that it informed the rest of their reflection experiences. The vignettes will describe each teacher's experience regarding these findings based on their three experiences using the written reflection component. The thematic analysis will also present and discuss these findings using additional sources of data.

Vignettes

Vignette two discusses and describes the teacher's written reflection experience. It covers the pre- and post-attitudes and reactions to the experience. The primary sources for the description and discussion of this vignette are baseline (written reflection) data, teacher self-reports aggregated from interviews, observations, and survey results.

Bethany. Bethany's first reflection experience was based primarily on her written reflection. Although Bethany had originally been more excited to engage in the technology component of the reflection process, she was unable to use the technology component during her first reflection experience due to a video camera malfunction. When she contacted me, I could tell she was distraught over the matter: "What should I do? I really wanted to watch my teaching to see how I was doing? Do you want to come and look at the camera and see if I did something wrong... I can film again if you like."

But when I went over to fix her camera it seemed to be working fine. She said that she would try and tape again and see what happens. However, much to both our disappointment the camera again malfunctioned. Because the due date for her first consultation with the principal was quickly approaching, she was forced to move on.

Since she did not have any video to watch and or code, most of her reflection experience was based on her written reflection. She told me that because of the technological issues she had gone back and written a little more on her reflection sheet, so that she would have more to talk with the principal about. As it turns out, in looking at her written reflections, her first written reflection had much more writing than her second and third written reflections. When asked how much time each of her written reflections took, she said that because the first time she had gone back and added more, it took almost double the amount of time. She reported that the first experience ended up taking thirty minutes, while the second experience took twenty minutes, and the final time took only fifteen minutes. She also mentioned that for each of her written reflections she usually immediately wrote the description component as soon after the teaching experience but then waited until the end of the day or the following day to write her analysis and action components.

Bethany had been one of the teachers to claim to be fairly reflective; she was the teacher who said she had been keeping a reflection-teaching journal since the beginning of the year. She was also the teacher who seemed to be most excited about the technological parts of the study. In talking with her I asked her which process she preferred, and although she maintained that she preferred the video method, she did feel the written component was really helpful. She said “I think they [the written and video

components] are both effective. It really helps me to write things down... It was kind of like a planning part of my reflection.” When I asked her to describe her written experience, she said that she had immediately following her teaching, while the students were at recess, taken the form and jotted a few notes down in the descriptive section, and then after school filled out the rest of the form (the analysis and action sections). She also shared that although she thought the form was great because it divided out the three parts of reflection they were supposed to engage, that it was limited by the amount of space allocated to each section. She asked, “Am I limited to just the front side of the sheet, or can I use extra paper or go outside of the box for my written reflections?” I told her to use however much paper and space she needed. To this she said, “Well, then you should have provided a little more space and or paper.”

Jacky. Jacky was the intern teacher who was unsure if she had learned about reflective practice during her pre-service training and who had initially shown a real positive interest in the study, stating, “I am really excited and a little nervous--I think I am going to get a lot out of this, probably because I need it the most... It doesn’t seem too confusing or time consuming.” Despite her initial excitement about the process, when I stopped by to drop off her first videotape and check on how things were going, she looked swamped and really overwhelmed. As we sat and briefly talked, I quickly learned that she was indeed feeling stressed because she felt inundated by all the things she needed to get done – one of those things being her written reflection. She told me, “I know I was supposed to write my reflection by now, but I haven’t gotten to it yet, sorry. I really planned to, but lately everything has been just crazy.” I told her not to worry, and asked if she needed any help. Then I reminded her that if she had time, it would be best if

she could write a little before engaging the video component. She thanked me for my offer and said that she would do the written reflection that same day – which she later told me she did.

Later when I asked her how much time the written reflections were taking, she said that the first time only took about ten minutes, and the second and third times took approximately fifteen minutes. When I asked her what her second and third writing experiences were like, she said that she liked them, but preferred the video method: “I liked the written part, but not as much as the video part. It was really hard for me to think back to what I had done.” I asked her how much time delay she left between when she taught and when she reflected and she said that she usually did it the day after, “except for the first time, which was almost a one week delay.” During one of our informal interview sessions I asked Jacky to share her overall thoughts and a description of her writing experience and she said,

Although, like I have told you before, I preferred the video method, but I did find the written to be helpful. I liked how the written one had a part for what we were going to do next time - you know the goal. I guess when I meet with the principal I usually set a goal anyways, but the paper was helpful for that anyways.

She described her experience as sitting, usually the day after teaching, and writing down what she had taught and how she taught it, and then trying to think about things she did not feel went as well as she had wanted. In the action area she said she would typically write questions and ideas about why things did not go well, in hopes that the principal would give her some direction during the consultation.

Becky. Becky was the teacher who had claimed to be very reflective, despite not receiving any formal reflective-practice training. She had suggested that it was part of her nature and probably came from her older age and years of parenting experience: “I think

you become more reflective as you get older. Maybe it's because you slow down and have more time to reflect." Out of the five teachers, Becky's written reflections were always the longest, filling up the entire sheet with descriptions, analysis, and various action-oriented goals. When I asked her how long the written reflection part took, she said that it usually took her at least thirty minutes. I asked her to share what her typical experience was like, and she said:

Usually, I write a few rapid notes to myself in my lesson-planning book, and then at the end of the day, after the kids leave, sit at my desk and think about what happened. I typically try and play back what happened during class and pick out those things I thought either went well or didn't, and then write down why I think why they did or didn't go well. Usually this will prompt me to think of a goal I want to work on, or something I want to change or try out for next time. Sometimes I will reference my lesson plan book and see what I have coming up and how I might change things around, but usually it is more of just a cognitive thing.

Even though Becky said that she liked the writing process and spent a lot of time and energy doing her written reflections. Concerning this she said, "I actually enjoyed and liked the video better than the written. It was easier to do, and took me less time. But I also believe you need both." Becky also hinted that she used the written reflection as a means to inform her video reflection, stating "I used the written [reflections] as a planning time; it helped me to develop a direction before I video taped myself."

Michelle. Michelle was the special education teacher who was planning on going back to complete a masters in the next year or so. She was also the one who appeared to be the most tech-savvy of the group, having quickly installed the computer programs and being willing and capable to help the other teachers figure out how to install and use the software. When I asked her to describe her experience using the written reflection component, she reported,

I usually did it right after teaching, usually at the end of the day before going home, or before the kids arrived the next day. I would first write down what happened, then talk about what I thought about my performance, and finally make a few notes on what I thought I could change for next time... it never took me too long, probably, on average about ten minutes.

When pushed to talk about her experiences using the written reflection form she suggested that although she believed the form to be helpful, because it informed the rest of her reflections and was easy to use “it wasn’t as helpful as the video. It took more time and didn’t show us as much to look at.”

Vallen. Vallen was the only male teacher of the group, and was the teacher who seemed the most disinterested in the process during the initial training period. His description of the written reflection process was very similar to Michelle’s, except that he did share that he often forgot to do the written part until just before doing the video component. Concerning this he said,

It’s not that I didn’t want to do the written part, but I did usually forget about doing it right after my teaching. The first time I did it right after teaching, and it only took a few minutes, but the second and third times I didn’t do until right before I did the video.

It was also interesting to note while looking at and reading his written reflections that they were always written in point form, were very short and to the point, and were always the shortest of the five teacher reflections. When further pushed to talk about this delay, he said that although he did forget, he also felt that it was a little redundant to be writing and then watching and reflecting. He told me he thought “it [the written reflection] almost accomplished the same purpose [as the video], but in a less effective way.” I asked him how he felt about the process, and he reported that he enjoyed the process, but that on the whole, the entire process was a little too time-consuming. When asked what part he would prefer to use, he said that if he had to choose between the written and the

video, he would chose the video. “I did think the written was helpful, because it got me thinking about things before watching the video, but I still like the video part more.”

Thematic Analysis

This section describes the teacher’s experiences with the written reflections process. It includes the pre and post attitudes and reactions to the experience (see table 8). Table 8 shows that 60% of the teachers preferred the video reflection method, while 40% reported stated that they thought a mixed video and written approach would be the most effective. The written reflection experience required the teachers to write about their teaching performances as soon after they taught as possible. Their writing needed to include a description of what took place, an analysis (critique) of their performance (according to the standard they had selected) and then an outline of resulting actions and or goals they thought they should work on for next time. They completed this written component before participating in the video component of the study. Eighty percent of the time the teachers completed their written reflection the day of or immediately following their teaching performance; however, there were three instances when the teachers left the written reflection until just before engaging the video reflection. Typically there was a delay of one week between the written reflection and the video reflection (due to video digitizing efforts and travel logistics).

Table 8

Information About the Teacher's Written Reflection Experience

Question/Theme	Description/Representative Teacher Comments
Compare the written reflection component with the video enhanced reflection component (i.e., like, dislike, effective, non-effective, and so forth.)	<p>“They are both effective. It really helps me to write things down so that was more effective. But I guess typing fulfilled that same need (I do, however, like to write more than typing.)”</p> <p>“I thought the video reflection was more effective; however, it took longer than the written.”</p> <p>“I think both components are necessary to the reflection process. I think videoing and then writing about the videoing every now and then would be really good.”</p> <p>“I liked and enjoyed the video a lot more than the written. It was easier to do and took me less time.”</p> <p>“The video system was really slick – just watch and code all at the same time. Writing was harder because you had to think back to what you did.”</p>

In comparing the written reflection form (baseline) to the video reflection experience (intervention), I found that it was difficult to evaluate and determine which method was more effective. Quantitative data (see table 9) suggests the teachers seemed to engage the video process more than the written (there were more video evidences tagged and commented on than written descriptive and or analysis points). However, data does not provide substantial evidence regarding exactly how the video process better served the teachers; quantity does not connote quality, nor does quality guarantee growth and development; rather, it simply demonstrates the increase in comment volume that resulted from video usage. The survey data and teacher interview self-reports suggested that the majority of the teachers (60%) thought a mixed method using both the video and a written system, or just a video-based method, would be the most effective approach.

Table 9

Quality Comparison of Written and Video Based Comments and Descriptions

Reflection Experience	Total Written Descriptive and Analysis Comments	Total Video Based Descriptive and Analysis Comments _a
1	32	65
2	41	79
3	40	107
Total	113	251
Average	38	84

Note: Comments were defined by each new bullet point or new idea the teacher wrote about, and by the number of tags.

The two major themes surrounding the use of the written reflection form are: (a) teachers preferred either the video process to the written process, or a mixed video and written process to both the written and or video processes; and (b) rarely did the teachers' suggestions regarding the video process have to do with statements about how or why they believed the writing process to be superior; rather, their comments had more to do with the logistics of the MediaNotes video analysis system.

Theme 1: Teacher preference. The following teacher comments illustrate the first major theme concerning the teacher reflection method preference:

Personally, for me, it would have been best for me to watch the video, tag the video, and then write an action statement. Then I could use that lesson, tags, and video as a springboard to look at my overall teaching.

The second teacher, when asked during an interview to compare the video process to the written process said,

I think the video process could cover it all, because it provides the description, the analysis, and you always come away with a goal – which is the action... The video was easier to use and a lot more effective, because it showed you so much more.

I believe you need both. I used the written as a planning time; it helped me develop a direction before I videotaped myself.

The video was nice to see, but I also liked the written, because the written seemed more focused on action – only because the words were right there on the sheet, reminding me of the purpose of my reflection. I did like watching myself, but I don't know if the outcomes really served me that much more until after the consultation. I don't think the video would be as helpful without the consultation.

I liked the video process way better, because I could type comments or other things that I was thinking about right when I saw them. The written on was harder, just because I had to think back to what I was doing and remember how things were going. And to be honest, what I remember probably wasn't a good picture of what actually probably took place. I also liked the outcome of the video--meaning the goal I was able to set while talking with the principal.

Theme 2: Teacher mix methods rational. Although the majority of the teachers believed a mixed methods approach would be best, rarely did their suggestions regarding the video process have to do with statements about how or why they believed the writing process to be superior; rather, their comments had more to do with the logistics of the MediaNotes video analysis system. The following teacher statement supports this finding,

I liked how the written one had a part for a goal, the paper called it an action, but for me, it was basically an area where I wrote what I was going to do next time. That was a very valuable part.

Additionally, another teacher stated a similar sentiment,

I think what really helped was having the reflection process broke down into three parts on the paper: description, analysis, and action. If the video had that, then it would be way better than writing. I know the video was supposed to be doing that - like, I guess the tagging part was the analysis part, and we could put down an action in there, but the three parts weren't as clear.

In summary, the results indicated that teachers liked the written reflection as it was used in this process because it encouraged them to reflect further, not because it was superior to the video reflection process. In fact, when the five teachers were asked if they could

only select either the written process or video process as a method for reflective practice, all five of the teachers stated they would prefer the video process.

Part III: Video-Based Reflection Experience

The purpose of this third section is to present and describe how the teachers felt about and used the video reflection component. The major themes emerging from the findings suggest that the teachers preferred the video method more than the written method because it gave them more insight into their teaching due to the multiple perspectives video offered, and because the video analysis process was simple and efficient to use. The vignettes will present each teacher's video-based reflection experience, and the thematic analysis will draw upon these narratives, other self-reports, and additional survey data to present and discuss these findings.

Vignettes

Vignette number three discusses teachers' video based reflection experiences, teachers' pre- and post- attitudes and reactions to the technology, method, and coding/tagging processes. The primary sources for the description of this vignette are intervention findings, teacher self-reports aggregated from interviews, observations, and survey results.

Bethany. Due to a camera malfunction Bethany was unable to complete her first video recording. Bethany found this to be very disconcerting because she had been one of the more enthusiastic teachers about engaging in the process. Upon discovering that the video did not record properly, she tried to diagnose the problem herself, but after trying a few things, she contacted me and asked what she should do. I quickly visited the school and found that her camera seemed to be working fine. I put the tape back in and asked her

if she wouldn't mind filming again. She was more than willing and did not seem to be bothered to have to film again, rather just sad that the first time did not work. She only began to really panic when after the second time it again didn't work. This time when she contacted me she was really upset and wondered what she should do. I told her, due to time constraints, that she would not be able to get a video evidence for this first experience and would have to base her reflection and consultation from her written reflection. I could tell she was bothered by this, and felt bad that this might have a negative influence on her experience with the process. When I asked her about this issue, she said, "Yeah, it was too bad it didn't work out, but I still got to do two others and felt they gave me a great experience."

Before the second video experience I exchanged her cameras and made sure everything was in proper working order. I also repositioned her camera to a location she felt would better capture her teaching performance and voice. The former location was in the far corner of the room, whereas the new location was just to the front left of her desk and focused on her reading carpet, where she did most of her instruction. Bethany described her video experience in the following way,

Before filming I would look at my lesson plan book and think about what I wanted to work on and then select a time, like you suggested, that would provide the best chance to see that thing I wanted to see. I then would turn on the camera before the students came in the room. While the camera was on I tried to act as normal as possible, you know, just teach how I would normally teach... I was aware that the camera was on, and maybe it influenced me a little, but for the most part I think I did well... I would let the camera keep recording until the tape ran out.

She then told me she would leave the tape in until I came by to pick it up. I would then take the tape back to my office, digitize the video, and upload the video to a server where the teachers could access and download it. I emailed the teachers a link to their video file

on the server, and they then would click on and download their video. Bethany said she thought this was a really easy process, although, she did say, “Sometimes the video downloads really slow, I think it’s the school’s connection, I am always having troubles with my internet.” When I asked Bethany what she did after downloading the video, she said that she would usually watch and tag the video at home. She said that it took her on average forty-five minutes to watch and tag the videos (she reported that the first time took 50 minutes, and the second time took 40 minutes. Although her tape would record 60 minutes of teaching, she only coded the parts she was interested in, an amount that averaged to 30 minutes of her teaching.)

Bethany reported that while watching the video she would usually tag without pausing the video, and then go back and look at each tag to add her analysis comments. She mentioned that she did try tagging and commenting at the same time, but it seemed to take longer, and she preferred watching her entire teaching performance, because oftentimes she felt “it [watching and tagging before analyzing] would inform the rest of my analysis.” She reported that the tagging was really easy to do,

I really liked the video tool, just drag and drop the tags that were already in the program and then go back and type a few things you thought about what you tagged. It was really easy to do, and I liked seeing the video, beside seeing that I had a lot of things that I needed to be working on.

As of a follow-up question I asked her what she thought about her overall experience with the video process, and she reported that she really liked the process and felt like she got a lot out of watching and analyzing her teaching via video. When I asked her to tell me specifically what she liked and or didn’t like about the process, she did admit, “Going over the tags over and over again was a little tedious... I would go over them twice by myself and then a third time with the principal... this took a lot of time and felt really

tedious by the end.” Notwithstanding she did say, “I love tagging it [the videoed teaching performance]... If used correctly it can make you a better teacher.”

Jacky. Jacky had a little technological hiccup during the first recording time when she failed to put her tape in the camera. When I arrived to collect her tape, she said that it was still in the camera; however, when I went to get it out of the camera and reported that it was not there, she looked shocked. Immediately she started to blush and look really embarrassed, then said, “Oh, no, I must have forgotten to put the tape in! I can’t believe I did that. I can’t believe that I thought I was taping that whole time. Shouldn’t the camera tell me that there isn’t a tape in it?” Because of the mix-up, Jacky decided that she would tape record the following day. When I arrived the next day to pick up her tape she was visibly excited, and eagerly told me that she had this time put her tape in and recorded a full teaching lesson (sixty minutes of tape).

I asked her how she felt knowing that she was teaching while being taped, and she said that besides the kids asking her what she was doing taping them, she felt things went really well. She reported that the students quickly forgot about the camera and were soon enough “acting pretty normal.” She had positioned the camera in front of the middle part of her whiteboard facing out and had adjusted the level of the tripod and camera to be the same height as the students. She felt this would allow the camera to record student reactions more than what she was actually doing. Becky reported that the recording part was easy each time after the first mix-up and noted, “My students didn’t mind the video camera being on, and neither did I. I would tape the entire class and so, soon enough we all would just forget it was there.”

Jacky said that she really liked the video process and found it to be much more enjoyable than the written reflection process. She said that after I would send her the link, she would usually download the video at home, simply because the school's connection was too slow, and then watch and analyze her video at home. She also said that her husband would often watch her video with her and would sometimes give her feedback;

The first time I downloaded the video, I asked my husband if he wanted to see how I was teaching... I wish I hadn't done that, because then every time after that he wanted to see how I was doing, he even dared give me feedback on my teaching - to be honest he had some good ideas.

She reported that she would spend on average forty-five minutes watching and tagging thirty minutes videos (her videos ranged from 30-45 minutes in length). When asked how she went about tagging her video she said that she would usually tag and comment all while watching; she said that she would just pause the video when she had a comment to make and type it in. When I asked her what her overall feelings and impression of the video reflection experience was, she said,

I really liked it... sure, you have to be honest with yourself, but now I feel like I know what to look for. At the beginning I was looking at the lesson as good or bad. Now I look for what I can improve in and what I am doing good at... I would love to do this again; I really think it has helped me.

Becky. Knowing that Becky felt a little more uneasy with the technology I took the time to help her set the camera up in her room the first time. As I showed her how to use the camera she seemed really excited about video taping her teaching; in fact she stated, "This is going to be a lot of fun, although maybe it won't be fun if the video shows us doing things that aren't very good." At this she smiled and laughed.

After showing her how to work her camera, she asked if I had a remote control for the camera so she would not have to go back and forth to the camera to turn it on and off.

I thought this was a good idea despite being unable to meet this request. We positioned the camera in the far corner of the room, where it had a wide shot of almost all of the students and whiteboards (where she said she would do most of her teaching). When I later showed up to collect her video for the first time, I asked her how things went, she reported, “Things went really well, but I will admit I think having a remote control for the camera would be the best, because then I could tape different things at different times, or the same thing at different times.” I apologized and told her I would see if I could find a remote for the camera. I then took her tape and digitized the video and emailed her the link as I had done for the other teachers. Similar to Bethany, she downloaded the video at school but watched and coded it at home. She reported that she also did this for the other two times. Each of her videos averaged around forty-seven minutes (46.5 minutes), and she reported spending nearly an hour (average = 56 minutes) watching and analyzing each one. She said, “Each video required a different amount of time. It depended on how well I met the standard I was working on. The last video took the longest, but I didn’t do well at meeting that standard.”

When I asked her to describe her coding experience, she said, “I loved watching the video, but that’s not to say it was easy. As I was watching it I quickly saw how bad I must be doing, there were so many kids who looked so tuned out.” She felt the tagging part was really “Slick and easy.” She said,

I would usually watch the video the entire way through, or at least watch the parts I was interested in a few times through, and then I would go back and start coding... Yes, this way did take a lot longer, but I think seeing the video all the way through, and then coding it, gave me the chance to see more things because I wasn’t worried about anything else (i.e., typing while watching).

She reported that she felt the tagging was easy to do, she would just drag the tag over to the video playing screen and then type a comment, and although it took more time than her writing reflection she said, “It did a lot more for me. I think it helped me look at my teaching in a different light.”

Michelle. Michelle also reported having a positive experience in the video part of the process; she did not report having any technological or logistical issues. She said, “Everything went really well. I didn’t have any problems... I thought it was a great system... I filmed no problem, download the video easily, and MediaNotes [video analysis program] was really easy to use.” When I asked her to describe her experience, she said several of the same things Bethany, Jacky, and Becky had shared (e.g., put the tape in, chose a standard to work on, a lesson to teach where the standard could be observed, taped the lesson, had the video tape digitized, downloaded the tape, and then watched and tagged the tape.)

The only specific differences she shared from the other teachers concerned how she set up her camera, how she taped her performance, and how she tagged and analyzed her performance. Because she teaches a smaller number of students Michelle decided to tape each student individually and as a group, in an effort to try and understand how she interacts with each student, and how she treats them as a whole. She believed this method would also be more beneficial to her and her students. She set up her camera in a location where it captured over-the-shoulder type footage, where she could see the student reaction and her performance. She would then have one of her classroom aides turn the camera on and off during her performance depending on what she wanted recorded. She kept this same methodology for each of her three recordings. She reported that although

this was a little different than what the other teachers did, she felt because of the type of special needs her students have, she thought it would provide a better video description of what was happening in her classroom, and therefore provide more interesting insight into her teaching and her students' learning. She said that this also influenced how she tagged/coded the video.

Michelle reported that because she had her video split up by student, she was able to analyze the standard not only according to her needs, but also according to the needs of each individual student. The average length of her videos was a little shorter than the other teachers, twenty-two minutes, but she believed this was because she was more focused in her recordings. Her average time spent watching and tagging (analyzing) usually took forty-five minutes. Each time I met with her she was always prepared, having rewound her videotape, and expressed an excitement to get her video back so she could see how she was doing. For example one time she said, "I am really interested to see what this video looks like; I think I caught some interesting things on tape that will show me some things that I have been thinking about."

Vallen. Vallen's first video experience, similar to Bethany and Jacky, did not go as well as he had planned. The day of his first recording he had just learned about a serious medical emergency in his family; consequently he felt his video performance was not representative of his normal or typical demeanor. Concerning this first experience he shared,

Man the first time I was so lost. I don't even remember what I was teaching about. To be honest I don't even remember turning on the camera. I do remember that I wasn't myself... I remember that I even got a little emotional at one point, which was a little embarrassing.

He said that when it came to coding the first one, he had little desire to watch and code it because of how watching the performance would make re-experience the difficult feelings he had that day due to the medical emergency. Thankfully his second and third video recoding and analyses were much different. He reported,

After getting over the fact that I had to see myself on video, boy I look fat on video, and man do I hate my voice, I thought it was pretty cool. In fact, I thought the video was really validating.

Vallen believed the video served him well, because it helped him pinpoint areas of weakness and also helped him realize that he had and was making progress. During this final interview he said, “I really enjoyed the video, because I can see how much I have grown from last year. Last year I thought I was doing pretty good, but now I can see I am doing that much better.”

Vallen’s experiences engaging in the process were similar to the other teachers; he said that although he did not leave his camera up all the time, like the other teachers, the students did not seem to mind it when he brought it out. He said,

Sometimes they would ask what I was doing recording them, but I would just tell them it was something I was doing to help me become a better teacher. Then they would go back to work. I was surprised by this at first, but then again, I guess having sixth grade students means they are supposed to be more mature, right?

After taping, he downloaded the video at school, and would usually watch and tag the video at home. He said that sometimes he, like Jacky, had his spouse watch the video with him, simply because his wife “had taught and I thought she might be interested in how I was teaching.”

Vallen reported no technological issues with either the camera or video analysis program, and although he admittedly did not code as much as he thought he was supposed to (his average video only lasted fifteen minutes, and his average time spent

reflecting was seventeen minutes), he felt that he got a lot out of the process. During one of our interviews, he said,

You know, I was a little apprehensive at first, sure I was excited and willing, but I thought this was just going to be another hoop to jump through. But as I have watched my videos I have started to think more about my teaching. I think just having the video there makes you be more aware of what you're doing. I really think this had made me more be more reflective about how I am teaching and interacting with the students.

Thematic Analysis

This thematic analysis presents and discusses the teacher's experience with the video reflection component, and involves the teacher's pre- and post-attitudes and reactions to the technology, method, and coding/tagging processes. This section concentrates on several of the key areas of the study, addressing three of the central research questions: (a) Are teachers better able to identify areas for improvement (action) because of video enhanced reflective analysis? (b) Are teachers better able to critique the areas for improvement (action) they identified as a result of the video enhanced reflective analysis? (c) Are teachers better able to support/justify the need (or lack of need) for action as a result of the video enhanced reflective analysis? The primary sources for the thematic analysis were: video intervention data, teacher self-reports aggregated from informal interviews, researcher observations, and survey results.

Are teachers better able to identify areas for improvement (action) because of video enhanced reflective analysis? The general answer is yes. Table 10 outlines the major themes and provides salient supporting quotes and data. The research, as outlined in the literature review, and the data collected in this study, suggest that video does help teachers better identify areas for improvement. 80% of the teachers in this study believed that they were better able to identify areas for improvement (action) because of the video

enhanced reflective process. In looking at and comparing the written reflections with the video experience, it is obvious the video provides a more rich and deep description than what the teachers could recall and wrote about in their written reflection papers.

Table 10

Teacher's Ability to Identify Areas of Improvement

Question/Theme	Description/Representative Teacher Comments
Are teachers better able to identify areas for improvement (action) because of video enhanced reflective analysis?	<p>“The process has really helped me be better at looking for areas where I can, or need to improve.”</p> <p>“I didn’t think I would, but I liked the idea of watching the video. I liked how I could see my mistakes and review them. I would see things on the video that I had no idea I was doing them.”</p> <p>“The video was really helpful in seeing things that I didn’t realize were happening, but also having the tags of the SET standards right there (in the MediaNotes program) was also really helpful because they reminded me of things I was looking for... they helped define what a professional teacher would be doing, and basically what I could be doing to be better.”</p> <p>“Yes, it [the video enhanced process] has allowed me to see my weaknesses and helped me see my strengths; things that I never thought about before.”</p> <p>“This process has really helped me improve my ‘noticing’—it increases what I wanted to work on, because it showed me more things that I need to work on. It made me want to improve, because I realized how much I need to grow.”</p> <p>“It was nice to be able to watch myself, I learned a lot about myself and how much I let students get away with. This one time, the video showed how when this one boy threw a paper airplane across the classroom I didn’t really take notice—I didn’t even say anything. Obviously, I have some management things I need to work on.”</p>

Although, it is difficult to quantify and compare the description component of the written reflections to the video descriptions, of the fifteen descriptive statements recorded

on the written reflection papers, there was only a single entry that exceeded four sentences. This may have resulted from the teachers' belief that they were limited to using a single sheet of paper. Bethany said, "I wished the form provided more space to write"; however, I believe this phenomenon resulted from the teacher's inability to clearly recall and describe in rich written detail all that was happening during their teaching performance.

The following written description statement seems to support this theory: "While walking about the room, I noticed people and told them thank you. I also gave a few students a nod letting them know I recognized their positive behavior." Although this statement provides some insight into the teacher's performance, it is very limited in both detail and perspective. Consider this second written reflection example: "Students learned to read and spell 'like'; they had to find the word 'like' on fifteen pages and circle it. We did one book together, then they did their own." Again, although this statement provides a nice descriptive summary of the overall purpose and or direction of the lesson, it does not provide any rich description of student reaction, how the instruction and example was given, what the students were doing during the demo, the teacher's proximity, use of voice, social cues, and so forth. A final example presents the most verbose of the fifteen:

This was the second lesson in a shared writing lesson. During the first lesson I started by reading the book. We wrote a poem using the format as a class, and then they brainstormed a list of words on their own. Today, the goal was to have them organize the lists. Limit the number of lines and produce a rough draft of a poem. I started by reading the book I had originally read to them, to remind them of the finished story. Gave them an example of another poem that was finished. Told them to use their brainstormed ideas, but limit the lines. Gave them a form and let them write.

Although this entry is more lengthy and does provide a few more descriptive statements about the direction of the performance, the description seems to be focused on providing

a justification for what was being taught, and comes entirely from the teacher's point of view, rather than outlining what was happening, how it was happening, student reactions, student attitude, classroom ambiance, and so forth. Compare the same teacher's following video reflection commentary with her above written reflection (this commentary concerns the same teaching performance):

Here is an example of me trying to elicit student feedback; I was developing a sample on the board for them to follow when they produce their own poems. This shows that I was trying to use an advanced organizer to help them write a poem. The students seemed to be watching me, but did not raise their hands when I asked them if they had any questions. Here is another example of me trying to elicit student feedback. It doesn't look like it was going too well; none of the students were giving feedback. Maybe I need to ask better questions?! It looks like they are listening, but are they? I need to figure out a way to get them to be more engaged. Noticed that the students that were in the class did not seem to know what was expected of them. They did not know to get their reading books and begin working on their assigned reading. I needed to reinforce what was on the board with verbal instruction. What would have helped is if I had read the instructions orally to the class and asked for specific questions. Going over visually and orally may have helped the students understand what was expected of them. With my back turned so often writing on the board I was totally unaware of what was going on behind me. The transition to reading already had taken 10 minutes. The time lost teaching because students did not all come back from math at the same time is enormous. As the time ran through more students started to do the assigned work, although some were still wandering around off task. I wanted to call the groups up to read to me and was trying to give the rest of the class something to do, but it didn't seem to work, there were too many distracted students.

Both the length and insight of these comments seem to be more descriptive and analytical than related written reflections. Not only do these comments more clearly describe what was going on during the performance, but the teacher seems to be more critical of what was occurring during the performance: asking questions concerning student reaction, about the relative effectiveness of her teaching, and then proposes several ideas which she feels might help rectify some of the issues she had identified and critiqued.

Other video-tagging examples also support this finding; consider the following comparison (table 11) of written reflection statements and video-tagging commentary (note: the comparisons all come from related teaching performances). These examples provide interesting insight in how the teachers engaged in each of the processes. Although the teachers do highlight several important ideas in their written reflections, the video-tagging commentary seems to be more concrete because it is more descriptive, insightful, explanatory, and thoughtful.

According to Dewey (1933) reflective descriptive descriptions should include a wide-ranging and comprehensive detailed narration of what occurred during the performance. Again, both the related literature, the teacher self-reports from this study, and an examination of the written statements seem to suggest not only do teachers prefer to base their descriptions on video, but they believed video provides a more complete description and insightful of the performance.

Are teachers better able to critique the areas for improvement (or action) they identified as a result of the video enhanced reflective analysis? Generally, the data suggests that the six participating teachers in this study are better able to critique areas for improvement as a result of the process. Each of the five teachers reported that they felt the video process improved their ability to critique and analyze their teaching performance. The thematic analysis seems to suggest the reason for this finding is based on the teacher's belief that video provides additional perspectives and opportunities to analyze their teaching. Table 12 outlines the question and data supportive of this finding.

Although the written analysis statements recorded on the teacher reflection forms seem to suggest that the teachers were trying to understand and critique their

performance, the teacher self-reports from various interviews and the survey suggests that the teachers (100%) felt their analysis of their teaching performance was more effective when done while using the video-enhanced reflective process.

This however, was very difficult to verify using the baseline and intervention comparison. Although the written analyses were not very lengthy, they did outline statements of critique pertinent to teaching. Consider the following written analysis samples:

Not sure if I got enough responses from one of the students, He needs a lot of prompting to answer some questions. There was a lot of time in the second half of the lesson where there wasn't much student-teacher interaction. This is when they were working independently, I am wondering if I should interact with them more during this time?

I liked that I was using a tactile experience, but I would like to have my work lessons reach other kinds of learners too.

I figured that because they knew a game very similar to this one, that this one would be easy for them. I was wrong. I did not spend enough time playing the game with the students and I was very worried about pacing. If I could do this gave over again, I would have had them all pull out their white boards and I would have used and gone over the recording sheet better.

These examples are representative of the type of analysis the teachers wrote on their reflection forms. From these written analyses it is difficult to justify that either the written or video-based critiques are more effective. But what the forms do show, is that the teachers' analyses focused in on topics pertinent to the teachers; meaning the teachers' reflective analysis were usually based on things they were worried about or could recall from their performance, whereas the analysis component of the video process would usually bring up new evidence that the teacher would have to consider.

Table 11

Comparison of Written Reflection Statements to Video Tagged Commentary

Written Reflection Statements	Video Tagged Commentary
“I was nervous and took too long with the discussion.”	“I think the pacing is going good at this point – I seemed a little nervous, but the students are still engaged: they are listening and seem to be following along and involved, even Peter in the back who rarely listens or works is doing his stuff.”
“I need to check my lesson for pacing.”	
“How long did I take for instruction and discussion (should I take shorter or longer)?”	“The same students were answering and most of the class wasn’t involved. This would have been a good pin to allow them to break into their tribes and talk among themselves about the differences between the two myths. Then after they had come up with the differences and similarities come back and talk about what they had discovered. It would not have taken any more time, but would have engaged all the students.”
“I needed to adjust to engage the students more.”	
“I should plan the lesson differently, but don’t let it take any longer.”	“Now very few students are answering. If they had time to think and talk they would have been more involved when we came back to discuss...when I had timed myself it was 15 min. before I started talking about what would be expected in their stories. By then I had lost half the class. If they had lead the discussion I could have brought them back to the requirements of their choices.”
	“Since they were no longer listening I could not get them involved in the discussion about the requirements. I tried to pull back the ones who had disengaged from the discussion, but it was too late. I needed to change direction.”
	“You can see they need to move around. They are being great, but I need to get them active. Wake them up and make them excited. I let them loose to write but they are not excited about the assignment.”

Table 12

Teacher's Ability to Critique Areas for Improvement

Question/Theme	Description/Representative Teacher Comments
Are teachers better able to critique the areas for improvement (action) they identified as a result of the video enhanced reflective analysis?	<p>“I feel my analysis of my teaching is better because the video and tagging provides me a perspective I don’t have while teaching; the process helped me see things I didn’t see before; before I made assumptions that weren’t correct... the process has really helped me be more analytical about my teaching.”</p> <p>“I think I am looking at the kids more than I was before, at least in a different way. Before I thought if they were quiet that they were listening, but now I know that’s just not true.”</p> <p>“After teaching a lesson I can feel that something is off, but being able to watch and seem my mistakes is really eye opening... it helps me step back and think more deeply about what I am doing... I would make a list of things in the comment section of the program [MediaNotes] that I wanted to be doing, change, or had questions about.”</p> <p>“When I was watching it [her videoed teaching performance] I noticed that I told students ‘you’re not going to get this if you’re not listening.’ I don’t know if this was the best way to handle them talking out and not listening. I think that shooting them down like this will stop them from responding or from doing anything the whole time – and I think that’s what started happening. I think I need to be more patient, and responsive to their needs.”</p>

In essence, because the video component provided them with a perspective that they had not seen and attended to before, and it allowed them to see their teaching in a different way – from the eyes of an observer instead of from the performer; consequently it brought to light additional examples or areas needing analysis.

One teacher verified this finding during one of her interview sessions, saying,

The video coding experience was really interesting because it showed me things that I hadn’t considered before. I am not sure if I completely liked it better than

the written reflection, because it seemed to provide me with almost too much to consider. I guess having the SET evaluation standard focused my analysis, but still... of course, I would chose the video because it did show more, but I think it also requires more after seeing, because now I am responsible for a whole new slew of things.

One additional theme emerged from the findings related to this section, which has to do with how the written reflection may have influenced the video analysis reflection and consultation. I discovered after listening, transcribing, and analyzing the teachers' consultations, and from looking at the teachers' video coding, that often what they talked about and/or coded related to what they wrote about in their written reflection. Although this finding was very interesting, it was also somewhat expected, considering that the teachers based both their written and video reflections on the same standard. When I asked the teachers about this phenomenon they reported that the written reflection component was "almost like a warm-up reflection." One teacher stated, "For me the written reflection was a time to get my general impressions about what I thought about how I did." When I again later asked the teachers during their exit interview about this relationship, another teacher shared,

I think it would be really hard to not have the written part influence the video and consultation... The written was good because it pushed you to start thinking about your teaching... It seemed that besides it helping you to start thinking about your teaching, it really informed the video part, making it more helpful.

Another teacher during her exit interview described how she believed the written reflection informed her video coding and consultations experiences:

When I was writing I used that time to plan a little bit of what I would later be looking for in my video, I know I wasn't supposed to do that, and I didn't my first time, but during my second and third times it was hard not to... What I wrote was basically what I could recall about my teaching, and the video provided me a lot more that I didn't remember... My written reflection was my impressions of what I could remember happening, and I used that to help me see and think about more things when I looked at the video and talked with the principal.

This finding could be attributed to a research design flaw; however, regardless of how it came about, I believe it is an important finding because it shows the possibility that the video proved to be more effective, in part, because the teachers felt that the written reflection got them first thinking about their performance, whereas they depended on the video for more thorough breakdown.

In summary, although the teachers stated that they believed that they were better able to critique the areas for improvement as a result of the video enhanced reflective analysis, it seems there is limited evidence that justifies this claim. Notwithstanding, the data summary above did outline three significant findings: (a) Teacher analysis (despite its accuracy or validity) is limited by their ability to recall and provide a rich description of a performance; (b) A formal written analysis done prior to engaging in a secondary analysis phase (i.e. using video, or engaging in a consultation, and so forth) will inform that experience; (c) A good mentor and or principal who understands what an effective performance should look like and include, and who is able to ask telling questions, will be able to increase the effectiveness of an analysis.

Are teachers better able to support/justify the need (or lack of need) for action as a result of the video enhanced reflective analysis? By and large, the data seems to suggest that the teachers participating in this study are moderately able to support and or justify the actions they chose to work on as a result of their video-enhanced reflection experience. I mention “moderately” because despite the teachers being able to identify areas they were interested to work on, they often adjusted and or added to this goal after meeting with the principal for their consultation. It was interesting, however, to learn that when asked about whether they (the teachers) believed the video process helped them to

support and or justify areas for action, one hundred percent of the teachers stated in the affirmative. Table 13 outlines representative descriptions and data.

The findings for this question suggest that despite all five of the teachers believing that the video component of the process helped better support and or justify the need (or lack of need) for action, the data aggregated from researcher observation and from the baseline and intervention comparison did not seem to support this. Rather, the data suggests (a) the written actions were realistic goals the teachers were interested in, (b) video reflection provided a more detailed description of their teaching, (c) therefore the teachers had more to analyze and consider for future action, (d) the goal (or action) that resulted from the video and or consultation was informed by the teachers' written reflection goal (or action), and (e) the consultation with the principal usually resulted in a modified or additional goal (or action) than that stated on the written reflection form (of the fifteen goals/ actions the teachers wrote, only two (13%) of the written actions did not change following their consultation with the principal). It is believed this resulted from the principal's ability to focus the teacher's attention on additional details.

The principal stated that she believed her experience, and being able to see the teachers' performance on video, informed this phenomenon. Consider the following example. One of the teachers recorded on her written reflection form that she planned to work on setting time limits as her goal or course of action. However, after meeting with the principal and going over her teaching performance via her video tagging, she decided that she also needed to focus on behavior management, specifically call-outs, and pacing. Table 14 further describes this occurrence by comparing the goal the teachers came up

with and wrote down on their written reflection form, with the goal they came up with during their consultation experience.

Overall, as Table 14 shows, the teachers typically came up with one goal (action) as a result of their written reflection, but were then able to further refine that goal (action) and or establish additional goals because of their video-based reflection and consultation experiences. When I asked the teachers about this trend they reported that the video helped them see additional things that they had not considered or did not recall, and the principal provided great feedback and counsel on other areas that posed areas for potential growth and development. In support of this, one teacher said,

What I liked about sharing my video with Kristi [the principal] was that it was an opportunity to show her how I was growing, not necessarily just in performance, but in understanding how I understood and could explain why I was doing certain things... You see my written reflection was based on what I could recall, but my video reflection was based on more things, so I was able to further understand and think about how I was doing. I think Kristi liked seeing – or at least I liked showing her, how I could evaluate my own teaching.

Another teacher also talked about this saying,

Although I could usually think about what I wanted to work on after teaching, after watching the video I usually had more goals or things that I wanted to work on. And then after meeting with Kristi I would have an even better idea of actual methods and things to work on... No, I don't think I changed my goals, but just being able to watch myself again and again, and then talk about it, gave me more time and insight into how I could come up with what and how I could adjust my teaching.

In summary, although the video provided visual evidence of areas of strength and or weakness of a teaching performance, thus moderately justifying the teacher's resulting actions (or goals), it is difficult to verify that the subsequent actions based from the video experience, were of any more accuracy or validity than the teachers' written reflection actions. It is, however, important to note, the video reflection and consultation

experiences provided the teachers additional perspectives and opportunities to further analyze their teaching, and typically resulted in modified and or additional actions. It could also be said the written reflection action informed the later actions the teachers further developed by means of their video analysis and consultation experiences.

Table 13

Teacher's Ability to Support/Justify Need for Action

Question/Theme	Description/Representative Teacher Comments
<p>Are teachers better able to support/justify the need (or lack of need) for action as a result of the video enhanced reflective analysis?</p>	<p>“Because of the process I was able to easily identify those things I wanted to work on, which consequently prompted me to set goals and talk with the principal about things that I wanted to work on.”</p> <p>While watching the video with the principal, Vallen continued to provide description of what was going on and he also included an analysis of his thoughts of how he thought things were going [i.e., “Here (pointing to his computer screen while the video played) I could tell they [the students] were all watching the clock, because they were impatient to pack up their things and be ready to go home. Obviously, I need to change something to keep their attention as time nears the end of the day. I think I am going to change my schedule a little, move an interactive activity to the end of the day, so the students don’t start tuning out early – but rather have their hands busy until the bell.”</p> <p>While gathered around her computer watching her performance, Bethany and the principal, discussed how things were going. The principal asked pointing to the screen, “So, what’s going on here?” Bethany responded, “Although I was trying to reinforce it by using the board, I noticed from the video that I wasn’t doing a verbal reinforcement, and didn’t check for understanding. I also noticed that I am not going around the room and checking on students using proximity. I need to do more reinforcements and make positive interactions with the students, to ensure they are on task and getting it.”</p>

Table 14

A Comparison of Written Reflection Goal and Video Reflection Goal

Written Reflection Action/ Goal	Goal Resulting from Video Reflection and Consultation Experience	Additional or same goal
Establish time limits	Work on pacing	Same Goal
Give clearer instructions	Work on transitions	Additional
Incorporate a variety of materials	Work on classroom management (ie. call-outs)	Additional
Ask more comprehension questions	Student engagement	Additional
Compliment students more	Give more specific feedback	Additional
Teach students about raising their hands	Classroom management and the use of proximity	Additional
Work on asking better questions	Work on praising students	Additional
Work on being less nervous (relax more)	Work on re-directing behavior by using positive reinforcers	Additional
Check on student progress	Pacing	Additional
Pacing	Instructional efficiency	Same Goal

Part IV: Video Supported Consultation Experience

The purpose of this fourth section is to present and describe the teachers' experiences and feelings about the consultation component of the video enhanced reflective process. The consultation component required each teacher to meet with the principal after first completing the written and video tagging phases of the reflection process. During the consultation it was expected that each teacher would describe the teaching performance they had analyzed, and engage the principal in a conversation about their interpretation and critique of the performance. The primary purpose of the consultation was to help each teacher improve his or her teaching. It was anticipated that the teacher and principal would engage in a critical conversation about their teaching and

establish goals and or action plans based on the teacher's reflections, in hope of helping the teacher improve their teaching. The major themes emerging from the findings suggest: (a) the teachers believed the consultation to be an integral component of their reflection experience; (b) while watching their videoed teaching performance with the principal, teachers would still describe (despite the video's ability to portray it) what was happening during the performance; and (c) they liked being empowered with the responsibility to evaluate their own teaching, where the principal was used as a resource rather than the authoritarian evaluator.

Vignettes

The fourth vignette discusses and presents the findings of the teachers' consultation experiences. The primary sources for the description of this vignette are the coding and analysis of the consultation audio recordings, teacher self-reports aggregated from interviews, researcher observations, and survey results.

Bethany. Bethany's first consultation was a little different than her second and third consultations due to the camera issues she had during her first reflection experience. Because she was unable to record her first teaching session, Bethany's first consultation with the principal was solely based on her written reflection and self-report. Despite this impediment her consultation seemed to go well. As I observed the consultation I noticed that at first Bethany was a little tentative about what to share, but as the principal started asking her about her performance she seemed to become more engaged and started sharing examples of what she experienced during her performance. She talked about specific students and the struggles she was having with a few who were talking out of turn and getting up and wandering around the classroom without permission. As soon as

Bethany started talking, the principal started asking additional questions that helped focus Bethany on the goal she had selected to work on. For example, Kristi asked Bethany, “So tell me what standard you chose to work on.” Bethany then went on to share the standard she had selected and different examples from her teaching that had to do with the standard.

During her description and critique of her performance the principal listened intently, but periodically interrupted to ask a few clarifying questions. The principal also tried to provide some instructional insight and feedback; however, Bethany did not seem very receptive to the suggestions. Although she acknowledged what the principal suggested, saying things like “That’s a good idea... I should try that out,” she did not write down the suggestions. At the conclusion of the consultation the principal asked what her goal and standard would be for her next experience, then together they opened up the binder of standards I had provided them and selected a standard. Bethany highlighted the standard, thanked the principal for her time, and then quickly left. When I asked Bethany about her first consultation experience she said, “I thought the meeting with Kristi went really well, even without having any video... It was helpful to sit down and just talk about my teaching.” In comparing Bethany’s first consultation to her second and third consultation experiences I noticed a significant difference. The following vignette continuation provides a description of Bethany’s second and third consultation experiences, and helps portray the difference.

As she arrived for the second consultation experience I could visibly tell Bethany was more excited this time; she was smiling. Not only was she smiling, but she enthusiastically and without delay sat down and opened up her computer to her coded

video and commentary. This time instead of being somewhat reserved and timid, she commenced the conversation saying, “Kristi, this time I got the video to work and have a lot of things to show you.” Kristi proceeded to move her chair next to Bethany, and together they huddled around her laptop to watch Bethany’s teaching. While watching, Bethany continuously described what was going on, saying things like, “Here I am using the rain stick to get the students’ attention,” and “In this part I was explaining to the students about the need to have quick transitions.” While they watched two to three minute segments of Bethany’s video, the principal would have Bethany jump to each of her tags and have her talk about what she coded. Often while they watched the video, the principal would also say validating comments such as “You’re doing such a good job.” “Nice work, it looks like you have things running pretty smoothly.”

After watching the coded video evidence, the principal asked Bethany how she felt she did according to the standard she had selected. Bethany told her that she felt that “although I think I did pretty well, I really think I need to work on classroom management, specifically call-outs.” To this the principal responded, “That’s interesting, because as I watched I also noticed that you had several students who were often calling out. How do you feel about this, and what do you think it does to your lesson?” Bethany responded, “I really don’t like it, but I think I let it slide at the beginning and now it’s gotten a little out of hand... It has a tendency to throw off the lesson.” The principal then asked, “What do you think you could do to remedy this?” Bethany said, “I need to remind the students of appropriate behavior and how to raise their hands. I guess I could re-teach that.” Kristi validated this idea and suggested, “I would for sure re-teach the expected

classroom behaviors. Also I think it might be good if you highlighted those students who are keeping to the rules. Giving specific praise is a great instructional technique.”

After a few more ideas were discussed, the principal thanked Bethany for taking the time to share her video with her, and then asked her what she was going to work on for next time and what standard she wanted to select. Bethany then proceeded to report back to Kristi that she was going to re-teach her students appropriate classroom behavior and start giving more specific praise to those students who were demonstrating appropriate classroom behavior. She also mentioned the next standard she planned on working on.

Bethany’s third experience was very similar to her second experience. She arrived on time and seemed very eager to share her video performance with the principal. Again, similar to the second consultation Bethany opened up her laptop to her video and commentary, the principal sat at the laptop with Bethany, and together they watched and talked about what she had coded and her overall teaching performance. Similar to the previous session Bethany again described the performance to the principal while watching it with her. They then engaged in a critical dialogue about the good things she was doing and areas where she could work on. The principal then brainstormed ideas with Bethany that would help improve her performance. She then had Bethany establish and write down a few the ideas, and select a standard to work on for next time.

Overall, it seemed that Bethany enjoyed her consultation experiences; when I asked her about them she said, “I think it is a critical component of the reflective process. For me it was very validating to share some of what I was doing and thinking... Kristi

gave a lot of very helpful feedback, and I really think I came away from the experiences having several good ideas.”

Jacky. Although Jacky seemed a little shy and timid when I first met her, as I observed her three consultations with the principal I noticed she became a little more comfortable each time with the reflection process; by her third consultation she was very open and willing to share and interact. Concerning this she said,

I was apprehensive at first. I knew the meeting was for me, and that Kristi wouldn't come down on me, but being just an intern, I knew there were a lot of things I needed to work on, and I just worried that when she saw my teaching she would wonder what she had got herself into hiring me... Of course I really didn't have anything to worry about. Not that I didn't have a lot to work on, but Kristi gave me a lot of insight and support.

During her first consultation Jacky arrived on time and had her computer all cued to her first tagged video evidence. Kristi quickly sat down next to her and began the consultation by asking, “What was your goal for this time?” Jacky told her that she had chosen to work on behavior management and pacing, sharing that she believed her students were having a hard time with call-outs and appropriate classroom behavior. She said, “As I watched the video, right at the beginning I could tell they were having a hard time concentrating because of all the calling out, and other random distractions. I should have stopped the lesson right away, but I didn't.” After giving this brief introduction and background to the experience, both Jacky and Kristi sat in front of Jacky's laptop and started watching the video. Jacky provided descriptive commentary as they watched. For the first few minutes they both just watched the video in relative silence, Kristi from time to time would say a validating comment, like “Wow, looks like you are doing a great job.”

After watching a few minutes of video, Kristi asked Jacky if instead of watching the entire video, if she would just show her the video evidences she had tagged and critiqued. Jacky then proceeded to click on the first tag, read the commentary she had written, and played the video evidence. After watching the short clip, Kristi asked a few clarifying questions to get a better feel for what happened, and what Jacky's interpretation of the event was (i.e., "What indication do you have that your pacing is off?"). To this Jacky pointed to the video and politely said, "Just look – you can clearly see that they aren't totally listening. I had to go get the Popsicle sticks out. It just doesn't seem like they remember what I had taught them about listening, or they just don't care." Kristi then asked Jacky, "What are your expectations?" Jacky then proceeded to talk about the goals she had for her classroom, the expected behaviors she had tried to teach the students about at the beginning of the year. Kristi then gave a few ideas Jacky could try in an effort to remedy the situation. Jacky and Kristi then recommenced watching the video and continued to stop and talk about things they were watching that Jacky had tagged and analyzed. After twenty minutes, Kristi thanked Jacky for taking the time to work on her teaching, and told her that she was pleased with her reflective efforts, and thought they would pay dividends.

Jacky's subsequent visits followed a similar pattern, where Jacky would share what she thought about her performance, share her video and tagging commentary, and engage Kristi in a discussion about what she needed to do to keep improving. At the conclusion of each visit they would set a goal for the next visit, and Jacky would always sincerely thank Kristi for her time and feedback; to this Kristi would always respond, "Jacky, you are doing great. You really are making great progress... Thank you for being

serious about this, and taking the time to reflect and improve your practice. I am glad you are here with us.”

When I asked Jacky about her experience and feelings about the consultation component of the reflection process she said, “Kristi always gave me great feedback. I was a little nervous the first time, but Kristi really made me feel comfortable and made sure I understood this was just for me, so I didn’t stress about it much after that.” In a separate interview I again asked Jacky to share what she thought about the consultation and again, she seemed very positive about her experience. She said, “I liked the consultation because it gives another pair of eyes, and helps me better interpret what’s happening and ideas to make improvements... I am just an intern so I don’t have a lot of experience, and Kristi has a lot of experience, so usually I get a lot of ideas and reinforcement from our meetings... The meeting with Kristi just kind of finished off the reflection for me; I don’t know how effective the end result of the reflection would be if we didn’t have it.”

Becky. Becky arrived for her first consultation very excited; she said that she “couldn’t wait to share her video.” Not wanting to extinguish her enthusiasm, Kristi said, “Well, then let’s take a look at how things went.” Kristi proceeded to sit down right next to Becky. Becky then quickly gave some background to the videoed teaching performance and began playing her video. They then proceeded to watch the video together in silence. Becky did not provide the running commentary like the others did; rather, she just let Kristi watch. Interestingly Kristi also just sat and watched for a while. When I later asked Becky about this, she said, “Well, I was pretty confident in what I was doing, I thought the video portrayed me well.” Kristi continued to watch the video, and

went from tag to tag, reading Becky's commentary. Strangely she did not ask Becky for any clarifications, rather, after a few minutes she said, referencing Becky's performance, "So, how do you think this went?" To this, Becky responded that she felt everything had gone fairly well. She said, "Although there are areas I could improve on, overall I think it was pretty good."

Kristi then asked her to be more specific about the things she thought went well and to also share a few ideas of things that could be done to improve the performance. Becky kind of stumbled on this question, and it almost seemed that she was surprised by these questions. From my point of view, it seemed that Becky had approached this first consultation as a validation opportunity, just wanting to simply show a few evidences of her teaching and leave. Kristi, however, seemed to have different plans. When I later asked Kristi about this, she told me that this was one of her teachers who she was most worried about; she had hoped Becky would greatly benefit from this reflective experience. In an effort to help Becky realize that there were some definite things she could work on, Kristi proceeded to share with Becky a few of the things she had noticed about her performance from the video. For a few of the examples, Kristi went to actual video evidences and played them back for Becky, and then asked Becky what she saw. Becky did not seem to be too bothered about this approach, because when I later asked her about this experience she reported, "Since I have never had this type of consultation I didn't know what to expect." By the end of the first consultation, Becky and Kristi had come up with several ideas Becky could work on. Before leaving, Becky thanked Kristi for the feedback and promised to be more ready next time.

Becky fulfilled this promise. In her next two consultations Becky came prepared with several things she believed were areas where she needed some feedback. Despite the struggles of the first consultation, Becky seemed very upbeat about the consultation experience, and when I later asked her to describe her feelings about her consultation experiences, she said, “It was a little hard at first, because I didn’t know what to expect. However, I really thought it was helpful because she [Kristi] is the master teacher and I am just a novice. Because of this experience I realize that I have a lot to work on... She [Kristi] gave me a lot of good ideas... I liked having Kristi watch the video with me, because it allowed her to point out anything that I may have missed, and that I should be working on... On the whole I think it is an essential part of the process.” When I asked her to elaborate on how and why she thought the consultation was an essential part of the reflection process Becky said, “Because it kept me honest having to report my teaching to the principal. Not that I worried what she was thinking, although I did a little, but more because I knew I would have to be meeting with her to talk about how I felt I was doing and how I could be improving.”

Michelle. Michelle arrived for each of her consultations very keen and professional; she always greeted us with a smile and handshake. At each of her consultations she had a pad of paper and her computer. She would normally first open up her computer, state the goal she had worked on, and then start showing Kristi her coded video evidences. As she did with the other teachers, Kristi always sat right next to Michelle. During each of the consultations Michelle would go from tag to tag and talk about what she had noticed and learned, and then ask for Kristi’s perspective. She would then take notes on the ideas Kristi would share with her. Although this approach seemed

very efficient, when I later asked Kristi what she thought about her consultations with Michelle, she said that she thought they were a “little dry.” She stated, “I appreciated how Michelle was always ready and very thorough, but it seemed sometimes that either I wasn’t asking the right questions, or maybe it was just too systematic; either way, I am sure she got something out of the experience, I just wish it could be more... collaborative.”

In contrast, when I asked Michelle about the experience she expressed that she felt it was always a positive experience, where she came away with several helpful ideas. In an effort to get a better understanding of how she perceived the consultation went, and what the role of the administrator was, I again asked her to tell me about her consultation experiences. In response to this she said, “The consultation parts were really helpful. It was great to have an expert point out things that I hadn’t thought of or seen in the video myself. I kind of knew of what I wanted to work on, and usually she reaffirmed those ideas, but then also gave me other good ideas.” Michelle also pointed out that she appreciated how the process provided her the opportunity to play the role of the evaluator, taking the perspective of the principal, watching and analyzing the performance from an outside perspective. Concerning this she said, “I liked being able to watch what she sees when she comes in to evaluate me. It’s nice to be kind of in charge of one’s own evaluation. I believe we were better able to talk about my performance because of this.”

Vallen. Vallen seemed to have a more lackadaisical approach to each consultation than the other teachers. Although he usually showed up on time, he never took notes on the feedback Kristi provided him, and he seemed to enjoy simply engaging the principal

in conversation about how things were going in general. When I asked the principal how she felt and interpreted her consultation experience with Vallen she said, “It’s definitely different when I meet with Vallen. He is a very confident teacher, and he actually is a pretty good teacher. I think because he always wants to have a pleasant conversation we didn’t get as much done as with the others.” Despite his laissez-faire approach, during each of his consultations Vallen did show his video and what he tagged to the principal. Usually while watching his video, Vallen would describe, as did the other teachers, what was happening and give his interpretation of what had and had not gone well. During his first two consultations, Vallen typically dwelt on how his voice sounded and how he looked on camera for the first part of the consultation before eventually getting serious about the areas of concern or questions his performance might have brought up. When I asked Vallen about his consultation experiences, he reported that he found them “to be a lot of fun, very validating, and helpful.” When I asked him to further elaborate he said, “It was great to sit and show Kristi the video of my teaching, although I really hated how I looked and sounded on camera. She always had good feedback and gave me something to think about that I hadn’t recognized. I also liked talking with Kristi because she pointed out a lot good things I was doing – it was nice to hear and see that I was on the right track.” Vallen also reported that he thought the consultation part was one of the most important components of the reflection process because “it was helpful to collaborate with the principal about how things were going, and because it also made me do the reflection and follow through on the goals I set.”

Thematic Analysis

The thematic analysis presents and discusses the findings about teacher experience with the video supported consultation component of the video-enhanced reflection process. Table 15 details the three primary themes from the findings: (a) the teachers believed the consultation to be an integral component of their reflection experience; (b) while watching their videoed teaching performance with the principal, the teachers would still describe what was happening during the performance; (c) the teachers liked being empowered with the responsibility to evaluate their own teaching, where the principal was used as a resource rather than the authoritarian evaluator; and (d) typically the teachers would modify and or add to their written reflection goal as a result of their consultation experience.

In the first theme each teacher (100%) reported that they believed the consultation to be an integral component of their reflection experience. They suggested that the consultation provided them a chance to get feedback and learn from the principal, giving them an opportunity to share some of their thoughts and ideas about their teaching as well as to have the principal validate their efforts. The second theme reported that eighty percent of the teachers usually described their teaching performance to the principal while they watched their performance with the principal (see table 16). This theme is important because of the reasons why the teachers felt a need to verbally describe their performance, despite having a video and coding that accomplished the same purpose. The principal theorized that the teachers did this to rationalize what they were doing on video. Another potential explanation has to do with their comfort of having someone else watch their performance. Possibly, they liked to describe their performance because they did not

want the principal to misinterpret their performance, and or because they felt that a second verbal description would further clarify what they were doing. Regardless of the rational, of the fifteen times the teachers met and showed their video to the principal, during twelve of the instances the teachers described what was being watched to the principal.

Table 15

Video Consultation Experience: Theme One – Teacher Belief Concerning the Importance of the Consultation Experience

Question/Theme	Description/Representative Teacher Comments
Teachers believed the consultation to be an integral component of their reflection experience	<p>“I was surprise by how many things I didn’t pick up while watching my video... it was really helpful to have another person look at my video, especially since it was the principal... she had a lot of good feedback and insight... our conversation always put a nice finishing touch on the process.” (Bethany)</p> <p>“She [Kristi] always had good feedback and gave me something to think about that I hadn’t recognized. I also liked talking with Kristi because she pointed out a lot good things I was doing – it was nice to hear and see that I was on the right track... It was helpful to collaborate with the principal about how things were going, and because it also made me do the reflection and follow through on the goals I set.” (Michelle)</p> <p>“The consultation parts were really helpful. It was great to have an expert point out things that I hadn’t thought of or seen in the video myself. I kind of knew of what I wanted to work on, and usually she reaffirmed those ideas, but then also gave me other good ideas.” (Jacky)</p> <p>“It was so helpful to just sit down and talk things through; I was glad this was part of the process.” (Becky)</p> <p>“Kristi gave me good feedback, although to be honest I was a little skeptical at first. I thought it was going to be just one more thing and redundant. But in the end, it was probably just as useful and beneficial as the video analysis part.” (Vallen)</p>

Table 16

Video Consultation Experience: Theme Two – Teacher Video Descriptions

Question/Theme	Description/Representative Teacher Comments
While watching their videoed teaching performance with the principal, the teachers would still describe what was happening during the performance.	<p>Kristi, the principal said, “I found it funny how the teachers would usually describe what I was watching on the video... at first it was helpful to have some of their verbal insight, but after awhile I just wanted to watch, because it seemed liked they were trying to rationalize what we were watching.”</p> <p>“See, here Kristi (pointing at the computer screen) I am teaching about the use of prepositions using this story example.” (Becky)</p> <p>“You’ll notice in the video that I purchased a new rug for the students to sit on. In the video you can see I made it a privilege for students to sit on it... I don’t know if you noticed (pointing to the screen) but you can see that they are doing much better.” (Bethany)</p>

The third theme has to do with how all five of the teachers liked being empowered with the responsibility to evaluate their own teaching, where the principal was used as a resource rather than the authoritarian evaluator (see table 17). Consistent with teacher evaluation literature, where research has shown that teachers feel uneasy and often do not perform as they normally do when they are observed and evaluated (Protheroe, 2002), the teachers in this study said they were more comfortable with this process because they controlled what was being observed and evaluated. In support of this finding, one teacher shared, “Ultimately the process was for us, which made it so much less stressful and enjoyable to do.”

The fourth theme reported that the teachers (87% of the time) typically modified and or added to their written reflection goal as a result of their consultation experience.

Table 17

Video Consultation Experience: Theme Three – Teacher Empowerment

Question/Theme	Description/Representative Teacher Comments
Teachers liked being empowered with the responsibility to evaluate their own teaching, where the principal was used as a resource rather than the authoritarian evaluator.	<p>“One of the best things about the consultation experience is I went in with things to talk about, that I had found. I wasn’t going in to prove anything; I was just going in to share some of my reflections about <i>my</i> teaching. I didn’t have to be worried about what Kristi thought, because the whole thing was for me.” (Bethany)</p> <p>“It was so helpful to just go and sit and talk with Kristi about my teaching. She had a lot of good ideas and answers for some of the questions I thought about while tagging my video.” (Michelle)</p> <p>“Sometimes with teacher evaluations I feel like they are a ‘dog and pony’ show, where we put on a great act, but with this method, because I knew it was for me, I didn’t really try to do anything different... then when I went to talk with Kristi I knew I could just share and ask her questions about what I was thinking and get instructional feedback to help me.” (Vallen)</p>

It is believed this resulted from the principal’s ability to focus the teacher’s attention on additional details, and from the supplementary opportunity that the consultation gave the teachers to further analyze and reflect on their performance. The principal stated that she believed her experience, and being able to see the teachers’ performance on video, informed this occurrence. The teachers supported the principal’s statement; however, they also reported that simply having to “re-watch and further talk about their performance” helped them identify areas for improvement and establish goals (actions). All five teachers also stated they believed the consultation to be an integral component of the reflection process. Table 18 further details and outlines this finding.

Table 18

Video Consultation Experience: Theme Four – Goal Modification/Addition.

Theme	Description/ Representative Teacher Comments
Teachers typically modified and or added to their preliminary action plan/ goal following their consultation experience.	<p>Usually after meeting with Kristi I came away with a better idea of what I wanted and probably needed to work on. (Jacky)</p> <p>Kristi gave me some good ideas, but there were other times that my goal didn't change. She even told me that what I found was good. So, no, my goals didn't always change; however, she did usually give me some good ideas on how to work on my goals that I did come up with. (Vallen)</p> <p>Although I could usually think about what I wanted to work on after teaching, after watching the video I usually had more goals or things that I wanted to work on. And then after meeting with Kristi I would have an even better idea of actual methods and things to work on... No, I don't think I changed my goals, but just being able to watch myself again and again, and then talk about it, gave me more time and insight into how I could come up with what and how I could adjust my teaching. (Becky)</p>

Part V: Principal's Experience

The purpose of the fifth section is to present and describe the principal's experiences and feelings regarding the use and influence the video enhanced reflection process had on her and the teacher participants. The principal's primary role in the process was to help organize the calendaring logistics of the consultations, then meet with each teacher for a consultation, where she engaged the teacher in a critical dialogue regarding their performance. The primary purpose of the consultation was to help the teachers improve their teaching by helping them further analyze and critique their performance, and either add to and or modify the goals (actions) they had previously thought about. It was anticipated that during the consultation the principal would work

with the teacher to build upon the teachers' personal self-reflection/assessment experience; helping them to further identify areas of weakness/strength, and more intensely critique and analyze performance, and finally establish an action plan or goals for future teaching efforts. The major themes emerging from this section suggest: (a) The principal enjoyed the reflective process; (b) The principal believed the process had a positive influence on her teachers' reflective habits; and (c) The principal's enthusiasm to engage and belief in the process probably influenced the teacher's willingness to engage in the process.

Vignette five presents and discusses the principal's experiences and feelings about the video-enhanced reflection experience. The vignettes in this part are organized into three sections. The first section outlines and discusses the principal's initial impressions and her related background to the project. The second section presents the principal's consultation experience. It is divided into two subsections which address her consultation experience with: (a) the two novice teachers she identified as struggling, and (b) her other three teachers who she felt were in the typical performance range for novice teachers. The third section will present and discuss the principal's reactions to the process. The fourth section will provide a summary of the overall consultation themes and findings.

Initial Impressions and Background

Context. I first approached Kristi, the principal, about this research idea to see what she thought about it two years prior to implementing it. Obviously at the time, the research project was in its early developmental stages; in fact, all I really had was the idea that a video-based reflection coupled with a principal interview might help beginning teachers improve their reflective practices.

Initially she was excited about the idea and wanted to know more. The following week I pitched my idea to her and again asked her what she thought. Again, she expressed that she was definitely interested in having her level 1 (beginning) teachers engage in the process. She did, however, have a few suggestions. She felt that instead of using the INTASC (Interstate New Teacher Assessment and Support Consortium) standards that I take a look at the Professional Teaching Standards, developed by Charlotte Danielson (1996).

As I compared both documents, I decided to create a matrix to synthesize the finer points of both sets of standards. I even went as far to compare several other professional teaching standards to help create a more comprehensive list of professional teaching standards. After synthesizing the various documents, I came up with seventy pertinent questions and indicators that could be used. Obviously this was too exhaustive, and with the principal's suggestion, I decided to focus in on standard based performance indicators. Kristi also suggested to me that I meet with one of her friends at the USOE (Utah State Office of Education), who was a curriculum and teacher evaluation specialist there. Kristi thought in meeting with her friend that I would gain additional insight and some direction on how I might further refine my project.

Although I enjoyed meeting with this USOE specialist, our meeting did not provide any specific information that significantly influenced the methods or tools of my study. Notwithstanding I believe the meeting was beneficial because I was able to share my research idea with several people from the state office of education and see what they thought of the idea. The specialist expressed a great interest in the study; she said, "This

would be a great tool to use state wide with struggling teaches. I would love for you to use this process with a few of the teachers I am currently working with.”

After reconfiguring my study and showing my ideas to the principal, she invited me to do a pilot test of my study – which I later implemented during Winter 2007. During this preliminary process I continued to observe and work with the principal in an effort to best understand her thoughts and reactions to the process. She remained very positive about the experience; however, after the first experience she did have several ideas that she felt should be considered. The first suggestion was to change out the performance indicators I was using for the SET (Standardized Teacher Evaluation) standards she is expected to use to do teacher evaluations. Her second idea was to provide the teachers with a more definitive schedule on when things (i.e. reflections, consultations, interviews) were due. Because of what she perceived as positive results from the pilot test (i.e. she informed me that each of the six pilot study participants “really felt it made a great impact on their teaching”), she invited me back to perform a more inclusive study of the process in Fall 2007. In the primary research study I integrated her suggestions and continued to observe her attitude and experiences using the process.

Kristi’s experiences. Kristi approached the research study with a lot of enthusiasm. From initial interviews and conversation she related that she was happy with how I further developed the process, and confident that it would have a positive influence on her teachers. Prior to starting the research I asked her what she anticipated the outcomes of the process would be. She said,

I am really excited about this process; it’s such a great way to help my beginning teachers... I hope my teachers become more reflective; that they see the benefits of being reflective and that it has a positive influence on who they are and how they teach.

She used this same enthusiasm as she engaged each of the teachers in the consultation phase, which consequently seemed to have a positive influence on the teachers. One teacher reported,

I really appreciate how Kristi is always so supportive and excited about helping me improve my teaching. She puts so much effort into helping us look for and understanding things about our teaching.

I also felt the principal's preliminary efforts to get the process going further validated her enthusiasm and support of the project. She organized a specific time and location for the initial pitch of the research project to her teachers, and ensured they were all present.

Also, as I pitched the project to the teachers she visibly and vocally made sure the teachers knew she was supportive of the project. In support of this finding I have a record of her saying,

I hope you guys know that I personally feel reflection is important. That doesn't mean, however, that this is something you have to do or that I am going to be controlling this study. This is an opportunity for you guys. It's not for me; it's for you. I do, however, want you guys to take ownership of the process and to see what kind of impact it might have on you.

The Principal's Consultation Experiences

The video enhanced reflection process required the principal to meet with each of the teachers for a post consultation that usually lasted approximately thirty minutes, and was essentially a focused critical discussion about teaching. During this time she would invite the teachers to open MediaNotes and show her what they had tagged. During this "show and tell" stage, she would consistently watch and intently listen to the video clips. She would typically pull her chair up close to the teacher and sit in front of the teacher's laptop. While she watched the clips she would usually have the teacher pause at each of the "tagged" clips and have discussion about them (i.e. "Look here [pointing to the

screen]. That's a perfect example of what I was talking about. You are really using great proximity to keep that student in check. Nice work, I am glad you decided to work on that.") Immediately after watching the video clips and giving instructional feedback she would ask the teacher how they believed they did, and what their goal would be for the next reflective exercise. She would have the teacher write down the goal and then give some ideas of what to be aware of while working on it. During the subsequent interview consultations she would follow up on the previous goals and find out how the teachers believed they were doing on past goals.

Struggling novice teachers. Prior to engaging in the process Kristi shared that she hoped the process would specifically help two of her five beginning teachers who seemed to be really struggling (e.g., with instruction, classroom management, and so forth). Although she anticipated and hoped the process would positively benefit all of her teachers, she was keen to see how the process would influence the two struggling teachers. The struggling teachers are referred to as Teacher A and Teacher B in the following section to preserve their anonymity.

Prior to Kristi's first consultation with *Teacher A*, I could tell Kristi was interested in how the process might influence this teacher. Before the consultation Kristi mentioned to me that if *Teacher A* did not improve her performance she would be asked to leave in the next few months. Kristi mentioned that she had received several calls from parents who were unsatisfied with this particular teacher, and had already spent several hours working with her.

In the first interview with *Teacher A*, the teacher came to the consultation very confident and excited, which Kristi found to be somewhat intriguing. She said,

I was surprised at how *Teacher A* approached our consultation. I couldn't figure out why she was so excited; obviously she didn't have any idea of what I thought about her teaching, and how I hoped that the video would help her see how poorly she was performing.

During their consultation I noticed that Kristi, just as she had done with the other teachers, let this teacher introduce what she had video taped, and describe the context, and then followed along as the teacher showed her different tagged video evidences. Then, when the teacher finally asked Kristi what she thought, Kristi finally started to really engage the teacher in a critical analysis of her performance.

Kristi asked her several specific questions ranging from "How do you think you did?" "How do you know you did well?" "What do you think your students thought of the lesson?" "How do you know if they were learning?" The teacher then proceeded to talk about what, why, and how she did, and tried to reference the video several times to either justify and or validate her efforts. To this, Kristi said, "Great, I am glad you are really trying to think about and analyze your performance. Would you like my feedback and interpretation of how you did?" Kristi then proceeded to outline a few specific things she felt the teacher really needed to work on, which she did in a way that did not seem offensive or dictating. Rather, Kristi used the goals the teacher had come up with and built her suggestions into them. When I asked Kristi about this she said,

This was a hard one because *Teacher A* is really struggling. And although I want to tell her that she better step it up, or she's gone, I do want to give her the chance to grow. The only problem is she really needs to significantly change. The challenge is I can't make her change. My experience tells me that when I forcibly suggest something the change rarely is meaningful and doesn't last. So this time I want the teachers to make the decision. With the others it is easier because the things aren't so numerous or significant. So with *Teacher A* I am going to give her several other ideas and invite her to work on them in addition to what she came up with.

Due to the significant changes this teacher needed, but not wanting to simply let her go without making an effort to help her, Kristi also hired an outside professional to come and mentor *Teacher A*. Kristi hoped that the mentor teacher, and perhaps the reflection process, among other things, would help this teacher make the necessary changes to maintain her position. During the following final two consultation experiences I noticed *Teacher A* was less brash; however, she seemed to maintain a similar enthusiasm. When I asked her about this she said, “I am excited because I have really been working hard on improving my teaching, and it’s nice that I have video to watch and see the progress and also share with Kristi.” I also asked Kristi about her interpretation of *Teacher A*’s approach to the second and third consultations, she said,

She has really changed. I hired a mentor teacher for her... I think that has helped a lot... and with the opportunity to reflect and see herself on video, that has been very good, even validating for her... She is still as excited about the process, wanting me to see her teaching, but now it seems she is doing it for feedback, not to show off.

Kristi’s consultation with *Teacher B* was also very interesting, because this was one teacher who Kristi said had great potential but seemed to be very apprehensive and shy while teaching, unwilling to experiment with new and or innovative ideas, and really reluctant to come out of her shell. Prior to her first consultation with teacher A Kristi mentioned she would be forced to let this teacher go if she did not show significant improvement.

Teacher B, as Kristi had said, arrived for her first interview very shy and a little apprehensive. Kristi warmly greeted her and asked her to sit down. She then engaged her in a few pleasantries before asking her to tell her about her performance. At this point, *Teacher B* opened her laptop and verbally gave a little background and context about her

performance. When Kristi asked her how things had gone, *Teacher B* responded, “They went okay, I think.” Kristi then suggested that they watch a little of the video. *Teacher B* went through each tagged video evidence, pausing to read Kristi the commentary she had added. While going through her tags I could tell she was visibly nervous, and although the teacher reported that she was only moderately nervous, Kristi told me later, “*Teacher B* was really stressed about our first visit, wasn’t she!”

After *Teacher B* had read and shown several video evidences to Kristi, Kristi started asking her about her goal, and what she had really been trying to work on. The teacher said that she was focusing on making the lessons more instructionally useful and effective. Kristi then said, “That’s a great goal, and it looks like you are doing pretty good... I have a lot of confidence in you; you have great potential. The students really look up to you.” Then after further building her up, Kristi asked *Teacher B* if she would appreciate any more ideas and feedback about how she could work on her goal and improve her performance. *Teacher B* reported that she did. Kristi replayed the teacher’s video, and paused it at times when she saw things that she wanted the teacher to see. In one example, she said, “You see here, this is one area that all teachers need to work on.” Kristi then talked to *Teacher B* about the need to be enthusiastic about her teaching, and to let her enthusiasm for learning and the content come out in her teaching. Kristi told her, “You’re doing okay with this, but you really need to start coming out of your shell. Do you feel nervous in front of your students?” *Teacher B* reported that she did. Kristi then gave her several ideas of things that she could do that would help her be less nervous and therefore able to teach more effectively (the goal *Teacher B* had wanted to work on.) When I asked Kristi about this first consultation experience with *Teacher B* she said,

You know, I really want to help this teacher, she does have a lot of potential, and she's just really shy. Her goal was a good one, but I don't think she will be able to be more effective until she gets over being nervous. So, what I did was give her a few solid instructional ideas, and invited her to really plan some activities she wanted to do, that she felt were fun and helpful, and that she had confidence doing, and to use those. We talked about how if she does that, she won't have to be so nervous. We also talked about it's okay to be nervous, and it's even good to fail, but it's not fun to not be yourself, and really prevents you from enjoying your day and from effectively teaching... I told her to just have fun with it.

In her next two consultations I noticed that *Teacher B* did seem to be less nervous, and was more excited to show Kristi her teaching. I am not sure if the video process contributed to this, but Kristi did mention, “[*Teacher B*] is more happy now. I think it has been really good for her to watch herself teaching, I think she's seeing that she is doing pretty good.” When I asked her about how she felt *Teacher B* was doing Kristi said,

Of all the teachers I am most impressed with *Teacher B*. At first I was probably the most worried and concerned about her, maybe because I know she'll be a good one, but now I am not so worried. I have noticed over the last few months she has really grown; she's way less nervous – actually she's not even nervous. She just needed some time in the classroom. She needed to see that the kids are really not that scary and don't know more than you, even if they tell you they do.

I also asked Kristi about her consultation experiences she had with *Teacher B*, in an effort to understand how Kristi interpreted the experience. She reported that,

I thought they went really well. She always had them done, and by the third time she was really excited about how she did. It was also nice because she always came with questions and seemed to really want to improve; I appreciated that... typically she had selected a goal to work on, and it usually was a good one, but while watching her video with her and talking about what she tagged we usually came up with several other things that we thought would be good to also work on.

At the end of the study I talked with Kristi about her initial concerns for her struggling teachers, and asked her if her impressions had changed, she said, “I am pleased to see they both made improvements in their teaching. In fact, I think they got more out of this

than the others... and as long as they keep working on things I plan on keeping them both.”

Normally performing novice teachers. When I initially talked with Kristi about this project, she had mentioned that she would have five new teachers that she would invite to participate in the study, and whom she hoped would benefit from participating. After pitching the project to these teachers, she mentioned that although she expected the process would serve each of the teachers, she hoped the process would have the greatest impact on her two “struggling” teachers. What was interesting to observe during the consultation process was that Kristi still interacted and treated each of the teachers in the same way, but that her struggling teachers seemed to be the most actively engaged and glean the most out of the consultation experience. When I asked Kristi to compare her experience with the struggling teachers to the normally performing teachers she said,

I try and do the same thing in each of the consultations. I wait to see how much they want to control the discussion, what they have prepared to talk about, et cetera. Then I try and find out what their goals are, watch the video and read their tags to see if the goal seems to match up, and then give instructional ideas of how to achieve the goal. Usually the goals are good ones, but often I have suggestions they write down that are other things to work on, or are just things they can try out.

In more than one particular incident I noticed that Kristi would spend a lot of the consultation time asking the teachers several series of questions about their teaching performance, ranging from general to very specific. For example she would ask things like, “How do feel your teaching performance went?” and “Tell me how you know you are using pacing effectively. What difference does it make? How could you tell it was making a difference?” It almost seemed that Kristi was using the questions to help the teachers further analyze their videoed teaching and come up with other areas or things

they could work on. When I asked Kristi about this she said, “I try and ask a lot of questions because I think it helps them better understand their decisions and actions... I suppose it might also help them better understand their goal and standard they are working on.”

After her consultations with the teachers, I often asked Kristi to comment on how she felt the experience went. Although her overall impression was that they went well, she did mention after several of the interviews with the teachers whom she had not labeled as struggling, that she felt the consultations were “a little bland.” As we talked about what she meant, she said, “Well, like with Bethany, I just don’t think she is really investing herself in the process. She comes in, we talk, look at her video, discuss her goals, I give some ideas for her to try out, but for some reason I don’t always feel like she’s getting it.” During my observations I also noticed that despite treating the teachers the same, during her meetings with Bethany for example, there was not the same enthusiasm and active learning taking place. As we talked further about this, Kristi said, “Maybe Bethany and I just don’t communicate as well, or perhaps I am not asking the right questions – I do feel that I could work on that.” What was interesting was when I talked with Bethany about her consultation experiences, she reported that she enjoyed the experience and found it really helpful because, as she said, “I got a lot of good feedback about my teaching... She gave me several good ideas that I had not noticed or considered.”

The Principal’s Post Reactions

Kristi and I talked several times during and after the study. What I learned from these conversations, and from observing her, is that she sincerely believed the process

made a positive impact on her teachers. When we specifically talked about the consultation part she said that she believed it was integral because it provided an accountability component that helped the teachers engage and stay engaged in the process, and because it allowed her to monitor how her teachers were doing. Concerning this she said, “The time commitment wasn’t bad. In fact, what the process actually helped me do was, my job. I am supposed to meet with, observe, and help my teachers anyways, so, this just gave me a logical and helpful process.” When I asked her to elaborate on her consultation experiences and what she felt could be changed to further enhance the process she reported,

The consultations were really great. Yes, there were a few times when after talking all day I was a little tired by the last consultation and felt I wasn’t as engaged, or times when maybe the teachers weren’t as involved, but for the most part it was helpful for me to see what the teachers were doing and thinking about. Getting some insight into what they were reflecting on really helped me evaluate them as a teacher – but don’t tell them that. The only weakness of the consultation was that they had already gone through their performance two times, and I was the third time, so I think they were a little tired; of course normally they wouldn’t have the written part, so maybe it wouldn’t be too bad. Also, I think if I got into their classroom and observed what was being video taped I would have another perspective, which might be interesting.

Summary of Consultation Experiences

The primary themes from the study regarding the principal’s consultation use and experiences are: (a) The principal personally felt the process made a difference in the teacher’s reflective abilities, and in her own performance, (b) the principal’s willingness and ability to work with each teacher, coupled with her ability to recognize and communicate helpful instructional feedback, is an integral part of the consultation and process, and (c) the principal provided additional commentary to how the teachers had already defined and interpreted their teaching.

The principal personally enjoyed the process, and felt it made a difference in the teacher's reflective abilities, and in her own performance. From observation, and self-reports (from both the principal and teachers) the findings suggest that the principal seemed to engage the process wholeheartedly; Kristi reported that she personally got a lot out of the process, and felt that her teachers did, too:

I really think the experience is very good – for a couple of things; first, what the teachers are getting out of it is definitely worth their time, for example they are seeing things that they didn't know before. And secondly, for me, it forces me to make time to meet more often and to have more focused and lengthy conversations.

When the principal was asked what her goals were for engaging in the process and if they were met, she responded:

I want better teachers who constantly improve their practice by being reflective practitioners. I felt this process would help them better understand how to reflect and see the benefits from reflecting... Were my goals met? Yes, absolutely. I only really know from what I have heard and seen, and from what I have seen, it seems to be helping them make more sense of their performance, and they have told me that they feel they are taking more time to reflect which has helped them be more aware of things going on in their classroom.

When asked about if she observed and or believed if the process had improved the teachers' ability to reflect, she said,

Yes. I think video gives them a training video on how to be reflective and to be better teachers, because it makes them step back and look at things, and it helps them be more aware of their teaching in general, and to think about their teaching.

Finally, when asked to summarize her experience using the process, she stated that she felt the process had a significant impact on her efforts to help teachers become reflective practitioners, and hoped that she could continue to use the process and tool. As I coded the audio recordings and field notes, I noticed in every consultation experience, the principal referenced and talked about the video tags of each participant, averaging

approximately seven comments per consultation; the consultations lasted cumulatively on average approximately twenty-two minutes. Of the seven tags commented on, each of the comments seemed to directly relate to subjects pertinent to the teacher and their performance. Also, in every consultation the principal also ensured each teacher set their own goal and then would follow up on those goals in every subsequent interview.

The principal's willingness and ability to work with each teacher and to be able to recognize and communicate helpful instructional feedback for each teacher is an integral part of the consultation and process. Although the principal seemed genuinely supportive of the process, there were a few times she questioned her ability to give effective instructional feedback that would really make a difference. She stated the following when asked about her consultation experience,

Depending on the teacher and my ability to develop good questions, some conversations went better than others. For example, last time with Jacky I thought it went really well, today, I didn't think it went well. I don't know if I was finding and asking the right things to talk about that she was really interested in and needing! I don't think I am all that great at asking good questions all the time.

In contrast, as an outside observer, I felt her methods were effective, simply because of her enthusiasm, and because she consistently referenced and used words, terms, and pedagogical ideas commonly accepted in education. It also seemed that she tried to help the teachers understand how they might use the ideas she gave them in their specific classroom contexts; for example, in the following situation Kristi tried to help a teacher recognize and find a solution for a problem she had identified: "See here [the principal pointing to the video] Bethany, you used your social cues really well, but it still looks like several of the students are not following directions. That's very interesting. Why do you think that is happening?" (The principal would then pause and wait for the teacher's

response before continuing). In this example, the principal then went on to provide several instructional ideas and techniques the teacher could implement to help rectify the issue as it pertained to her classroom context.

When I later asked Kristi about her interpretation of what determines the relative success or failure of the consultation experience she said,

I think the consultation part is really helpful and essential, because it keeps the teachers engaging in the process, but I don't think it would have much of a lasting impact unless the principal was really willing to stay on top of it with his or her teachers. Also, I don't think the consultation would be all that helpful if the teachers didn't have confidence in the type of feedback the principal was giving. So, I guess ultimately the success or failure of the consultation is based on the principal's ability to locate and effectively communicate ideas and solutions for areas of weakness, but do it in a way the teacher thinks they are coming up with the idea."

The principal provided additional commentary to how the teachers had already defined and interpreted their teaching. The principal noted that she had a difficult time providing feedback during the consultations, specifically during her initial experiences. She said, "Sometimes I had to bite my tongue... I knew the process was for the teachers and wanted them to take ownership, but there were times when I wanted to have them see what I was seeing. This was hard to do." Instead of dictating what the teachers were to notice, Kristi provided the teachers the freedom to interpret, analyze, and set goals according to their own dictates. Notwithstanding, Kristi did make an effort to help the teachers further analyze and critique their performances by asking lots of questions during the consultations. She hoped that if she helped the teachers ask additional questions about their performance that perhaps they would see some of the other areas they might have missed. Concerning this Kristi said, "I would ask the teachers a lot of questions, hoping that they wouldn't be satisfied with what they had done. There are

always more things to critique in a teaching performance.” From my observations I noticed that her questions helped the teachers tease out other things that they had not considered, which consequently either modified their original goals (action plan) and or added to it. Although Kristi may have had certain biases or individual perspectives that influenced the type of questions she asked the teachers, she consistently allowed the teachers the freedom to establish their own goals (action plan); she reported that she only asked questions to help the teachers more intensely critique their performance. Table 19 details this occurrence.

The data suggests that Kristi’s efforts helped the teachers further examine and critique their performance, consequently helping them see other things they wanted to work on, and in some cases helped them adjust and or clarify their original goal. When I asked Kristi about this, she said,

I think the consultation did help the teachers consider other things; I provided another set of eyes, and my experience also helped them see things that perhaps they didn’t understand or recognize. And although it was hard at times to hold back, I really wanted them to take ownership of the process, because then it would make more of a difference. If I told them what to do to change it wouldn’t be as meaning if they came up with the changes. But I do think that our conversations often led them to see and thinking about other things they wanted to do in addition to their goal.

Table 19

A Comparison of Written Reflection Goal and Video Reflection Goal

Written Reflection Action/ Goal	Goal Resulting from Video Reflection and Consultation Experience	Additional or same goal.
Work on setting time limits	Work on pacing	Same Goal
Work on giving more clear instructions	Work on transitions	Additional
Incorporate a variety of materials	Work on classroom management (ie. call-outs)	Additional
Ask more comprehension questions	Student engagement	Additional
Compliment students more	Give more specific feedback	Additional
Teach students about raising their hands	Classroom management and the use of proximity	Additional
Work on asking better questions	Work on praising students	Additional
Work on being less nervous (relax more)	Work on re-directing behavior by using positive reinforcers	Additional
Check on student progress	Pacing	Additional
Pacing	Instructional efficiency	Same Goal

Chapter 5: Discussion and Conclusion

General Discussion

The literature review and findings from this study suggest that video-enhanced reflection facilitates teacher reflection because it provides additional perspectives, thereby increasing the quantity of things teachers notice about their teaching, which consequently helps them more effectively identify areas for improvement (see figure four).

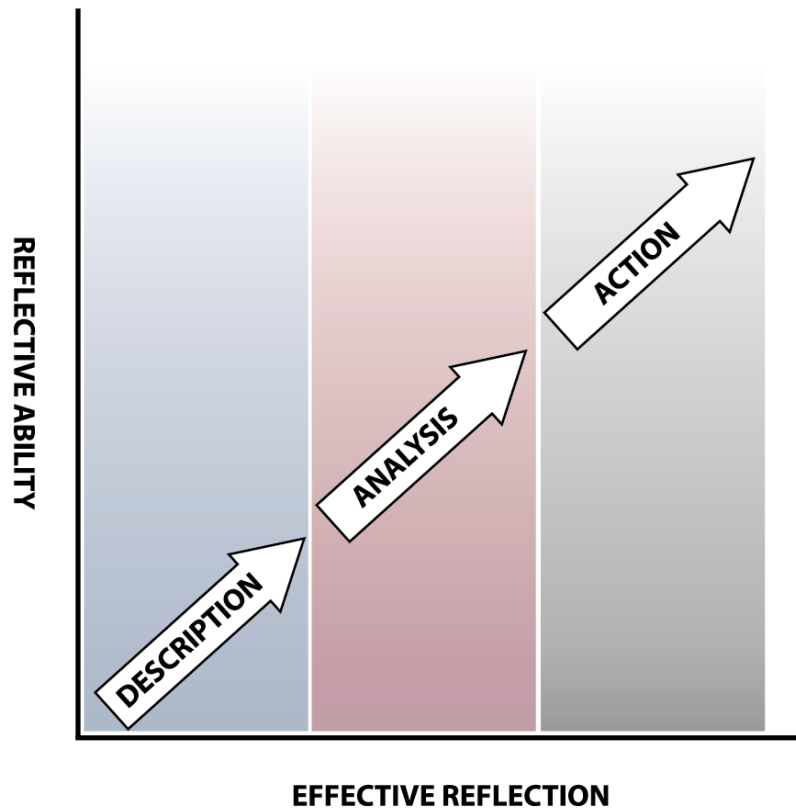


Figure 4. As a teacher is able to accurately describe their teaching performance, their analysis becomes increasingly meaningful, thereby helping them establish a meaningful action plan.

Four elements contributed to this success: method, means (time and tool), rationale, and peer (mentor or administrator) support. Each of these four critical elements will be discussed in the following section.

Method of Reflection

Teacher reflection literature suggests one of the primary barriers preventing reflection from being meaningful and lasting is the lack of establishing a clear and useful method of reflection. A method is important because it outlines the overall objective and approach teachers should have while engaging in the reflective process. The method does not have to be systematic, inflexible, or rigid; however, it should include a description of expectations, outlining the benefits, purpose, and the routine of the reflection experience. The method used in this study was titled “video-enhanced reflective process.” This method consisted of: outlining the expectations of the reflection experience (i.e., each teacher will engage in the reflective process three times) and providing the teachers a reflection routine (i.e., teachers first chose a standard and goal they wanted to work on. Second, the teachers selected a teaching moment where this standard could be observed. Next, they videotaped the video performance. Following the recording, they used the video analysis-tool to critique and analyze their performance. Finally they engaged the principal in a consultation based from on video reflection findings.) The method used in this study also outlined the anticipated benefits of the process, detailing what the teachers would get out of the study (i.e., the teachers were told the reflection experiences would help them improve their teaching, better understand their pedagogy and students, and so forth).

Means for Reflection (Time and Tool)

It is essential to specifically allocate and specify a moment when teachers know they are to sit and analyze their teaching. The findings suggest when teachers are provided a specific time to reflect, they willingness to engage in reflective practices increases. For example, in this study, the teachers were provided a time when they were expected to complete their reflections. The teachers reported during the exit interview that the issue of time was an important element of their reflective practice. One teacher stated, “If I have time, I reflect. It’s not that I don’t think it’s important, it’s just that other things that are more pressing sometimes come up and push by my reflection... it would be great if we could use our Monday afternoon meeting for formal reflection time.”

The tool issue is also an important element of the “means” factor. The tool is important because it provides the vehicle that facilitates and gives direction to the teacher’s reflection. In the past many pre-service programs required their teachers to keep reflection journals, complete various reflection-based forms, and so forth. More recently video analysis has become a means others have started to use. Regardless of the means (though the teachers in this study preferred the video tool), having a tool does help focus and facilitate reflective practice; however, the tool needs to be properly defined and taught to the teachers. For example in this study, the paper reflection form and video analysis-tool was shown and demonstrated to the teachers, where they were taught about and shown how the tools worked and were to be used (i.e., the teachers watched and then practiced using three parts of reflection: description, analysis, and action to complete a practice reflection experience with both the paper and video reflection processes.) Not only did the teachers state they believed both tools ensured they did their reflections, but

they shared that they believed it made the process more efficient and informative because it gave them the means to more effectively engage in reflection.

Reflection Rationale

As the teachers understand why and how reflection will directly benefit them, they will have an increased motivation to engage in reflective practices. The rationale can range from holistic teacher improvement justifications to administrative-led teacher evaluations

Providing teachers a rationale for why they should actively participate in the reflection experience was an important factor to the success of this study, because as soon as the teachers understood the value of the process, their willingness to participate increased. For example, in this study the teachers were told the process would help them improve their teaching practices, help them better understand their own teaching and their students, and also help them obtain their level two licensure. Although the first two reasons were important to the teachers, the third reason (obtaining level two licensure) was the rationale that initially most interested them. In the exit focus group interview the teachers agreed that having the opportunity to use this experience as the main part of their standardized first-year teacher evaluation initially gave them more motivation than the more holistic reasons (i.e., improving teaching practice). This finding suggests that rationale does influence the teacher's willingness to engage in reflection practices and thus contributed to the success of their reflective experience.

Support of Reflection

The final component that contributed to the successful reflection experiences of the teachers in this study was "support." By support, I mean providing teachers with

encouragement, support, and accountability measures. Reflection is not always an easy process; sometimes it is difficult to analyze a personal performance and or difficult to identify areas of weakness or strength, and to then focus in on methods to improve specific areas. A mentor will bring in different perspectives, experiences, skills, and understanding that will help teachers brainstorm possible solutions. In addition a mentor can also help to keep teachers accountable for their reflections. When teachers, or people in general, know they will have to report and work with someone towards completing a task, they are usually more prone to complete and engage in the task. The peer and or mentor support may come from an administrator, mentor teacher, peer teacher, or an outside observer. In this study the teachers were provided several venues of support they believed helped provide motivation and accountability. The foremost reason was the principal's support. Each of the teachers maintained that their willingness and capacity to engage in the process was influenced by the principal's enthusiasm for the process, readiness and ability to give helpful feedback, and because they knew their position ultimately hinged on how the principal interpreted their efforts. In this study the teachers also stated they appreciated being able to share what they were finding with each other and with their mentor teachers. One teacher said, "I liked being able to share my teaching experiences... I found it very stimulating (and encouraging) to share what I was doing and learning."

Implications

The findings from this study have both theoretical and practical implications; therefore, this section will be divided into two parts: theoretical implications and practical implications. The first section, theoretical implications, will discuss how the findings of

this study relate to the theories of video analysis, teacher evaluation, and reflective practice. The second section, practical implications, will discuss the considerations of practically implementing the reflection model elsewhere.

Theoretical Implications

Reflective practice. This study supports several of the theoretical purposes of reflective practice, such as reflection being an extended and systematic process focused on creating an intelligent action (Dewey, 1933) since reflection helps teachers revise, refine, and discard things pertaining to their teaching practice (Rodgers, 2002). In order to accomplish these purposes of reflection, Zeichner and Liston (1996) suggested that practitioners integrate reflective practice into who they are. The literature associated to reflective practice suggests there are several barriers that have prevented this from happening. These barriers which have hindered “the achievement of reflection” (Hatton & Smith, 1995, p. 36) are: 1) reflection is not seen as an essential and mandatory component of a teacher’s job. The literature suggested that there is not a system in which reflection is generally accepted, praised, and shown to be of any immediate and lasting benefit. 2) Reflection takes too much time and effort; its benefits are outweighed by the investment cost. Concerning this, Hatton and Smith (1995) said, “Reflection is unlikely to develop” because of the “busy and demanding world of teacher’s work” (p. 38). 3) The term “reflection” remains an “ambiguous term, and its use does not always connote the same understanding” (Jay & Johnson, 2002, p. 74). 4) Novice and or pre-service teachers need to be trained on how to reflect, why there is a need to reflect, and what to look for during a reflection opportunity (Jadallah, 1996).

The findings from this study propose that several of these issues were successfully addressed in the context of this study and may help to further clarify and provide an understanding of how to permanently resolve these issues. The following paragraph outlines each of the barriers and how they were addressed in this study.

The first barrier concerning the *perception of how reflection is not seen as an essential and mandatory component of a teacher's job* was addressed by having administrative “buy-in” and support. For example, in this study, although the teachers understood the purpose of the reflective process was for their benefit, they perceived that because the administrator was involved in the process (i.e., the teachers would have to present their reflection to the administrator in the consultation phase of the process) that their reflection was both essential and mandatory. One teacher admitted, “At first I was a little apprehensive about the whole thing, but because Kristi [the principal] was on-board and wanted to do this, I thought I better give it a go.” If an administrator creates an environment that supports, promotes, and has accountability measures for reflection, it is believed that even though teachers' contract might not require them to reflect, the teachers are more likely to participate in reflective practice.

The second barrier concerning *how the benefits of reflection are outweighed by its cost* (i.e., time and effort) was overcome by establishing a reflection process that decreased teacher time commitment and effort. In this study this was accomplished by providing the teachers a specific protocol that routinized their reflection efforts, thus making their reflection more efficient. For example, the teachers stated they liked how the written reflection form broke down their reflection into three parts (i.e., description, analysis, and action). The teachers admitted that they seldom engaged in formal reflection

practices prior to this experience; however, the simple and efficient nature of this process, increased their motivation to engage in the process. Despite this finding, there were times when the teachers left their reflection until after completing other time-constrained issues (i.e., grading).

The third barrier addressed by this study concerned *the ambiguity and definition of reflection* (Jay & Johnson, 2002). This barrier was addressed by engaging the teachers in a preliminary discussion about the definition, purpose, and “how to” of effective reflection. For example, in this study, during the preliminary training phase of the research project when the teachers were first introduced to the study, the teachers were asked to define the terms: reflection and reflective practice. They were then asked to explain what the essential elements, characteristics, and methods of engaging in reflective practice were. The teachers were then introduced to Dewey’s three-part action based reflection typology. During the introduction of the three parts of Dewey’s reflection process the teachers were invited to share how they believed their initial definition of reflection tied into Dewey’s model and what they believed the purpose this reflection experience was. After several minutes of discussion it was believed that the teachers had an agreed-upon definition and they understood the purpose of reflection. These findings suggest that by ensuring teachers have an agreed-upon definition and understanding of reflection, and by providing material that complements the teachers’ understanding and definition of reflective practice, their reflective practices will be more effective. For example, in this study the written reflection form broke down the teachers’ written reflection into three parts, labeled according to Dewey’s three parts of reflection. Because

teachers had already learned about and accepted these three parts as essential to effective reflection, they were more willing and able to engage them on the written form.

The final barrier that was addressed by this study and that adds to the theoretical underpinnings of reflective practice concerned *training the teachers on how to reflect and what to look for during a reflection opportunity* (Jadallah, 1996). This was done by outlining, teaching, and helping the teachers understand Dewey's three-part action-based reflection typology. During the introduction of the study the teachers were taught about the purpose of reflection and what they should get out of the process. Then it was explained to them how breaking down their reflection into the three parts of description, analysis, and action would help them more efficiently and effectively reflect on their teaching. During the explanation phase the teachers were provided a role-play of a teacher engaging each of the three parts of reflection and were then asked to also role-play a fictitious reflection experience. It was believed this training session helped the teachers gain a fundamental understanding of how to reflect.

The study addressed the issue of *helping the teachers to know what to look for during their reflection* by providing the teachers' explicit standards and associated descriptives to use in their reflections. For example in this study, for the written reflection experience, the teachers were provided a series of reflection forms. Each form represented one of the standards the teachers were to use to guide their reflections. On each form the standard was outlined and defined by several telling descriptives. The teachers would then reference these criteria while engaging in their written reflection. The same standards were used to guide the teachers' video reflection experience. The teachers' reported that having the standard and associated descriptives right in front of

them while reflecting was very informative and helped them efficiently and effectively complete their reflective experiences.

Video analysis. The literature review revealed several interesting theoretical characteristics of video analysis. Consider the following characteristics: video can help teachers transform existing belief and ideas, helping them to acquire pedagogical content knowledge and understanding of different learners (Wang and Hartley, 2003). Video has been found to help pre-service teachers learn to think like experts (Abell, 2004), by helping them to focus in on key elements of teaching and performance (Liedtka, 2001), and by providing them more detailed and thorough examples of teaching (Teale, 2002), which has consequently helped them create more complete and meaningful learning experiences (Collins, 2004). Stadler (2003) also identified that video has had a positive influence on expanding teachers' knowledge about ways of teaching and learning, and serves as an excellent starting point for professional discussion. Finally, it was been found that video helps pre-service teachers follow up on past instructional decisions (Storeygard, 1995; Nicol, 2004) because video improves a pre-service teacher's ability to "notice" (Sherin and Van Es, 2003). Although the literature revealed several important theoretical characteristics of video analysis, most of the literature focused on the influence video analysis had on pre-service teachers and training situations.

The specific contributions this study made to the theoretical underpinnings of video analysis concerned resolving three issues outlined in the literature: 1) "There are few systematic methods currently available to teacher educators and their students for analyzing video" (Pailliotet, 1995, p. 138); 2) "Some have argued that video is too cluttered for teachers (especially novices) to focus on anything in particular" (Brophy,

2004, p. 302); and 3) There is limited empirical research on how video can be used to promote reflection, and or be used with in-service teachers. This study incorporated several possible solutions for these three issues.

Concerning the first issue of *providing a systematic method for analyzing video*, this study developed and implemented a video analysis process that was found to be efficient and effective within the context of this study. In the process teachers were expected to first select a standard and or goal to work on, then they were to choose a teaching moment when this goal or standard could be observed. Next, they were to video record the teaching moment. Following the recording, they would import the video into a video analysis program where they would sit, watch, and critique (or analyze) their teaching moment according to various criteria that were pre-established and agreed upon by the teachers. Finally the teachers were expected to share their analysis with a peer and or mentor who would help them additionally interpret and analyze their teaching in an effort to further promote their pedagogical growth.

Second, this study seems to have helped resolve the issue of *video being too cluttered for teachers*, by breaking the video analysis into three parts: description, analysis, and action, and by having the teachers focus on only one or two specific evaluation criteria (i.e., the teachers were to select one or two of the SET teacher evaluation standards to analyze while watching their performance). By providing teachers a way to “chunk” their video analysis sessions and by outlining specific criteria they were to look for, the teachers were better able to identify specific things pertinent to the standard they had selected. For example, in this study the teachers would watch their video while looking for descriptive evidences of a specific standard and then comment on

the evidences according to how it related to the standard the teachers had selected to work on.

Finally, this study addressed the issue concerning *limited empirical research on how video can be used to promote reflection*, by developing and completing a study where video analysis was used with in-service teachers for purposes of increasing their reflective practices. Although additional research needs to be done to further clarify the influence that video analysis has on in-service teachers' reflective practice, this study established a seminal baseline that can be used for future efforts.

Teacher evaluation. The findings from this study add to the theoretical underpinnings of teacher evaluation by addressing several of the issues outlined in the literature review that have often prevented effective teacher evaluations. The issues addressed by the findings concern: (a) teacher evaluations are typically biased by the principal's subjective lenses (Griffee, 2005); (b) evaluations rarely produce meaningful lasting effects (Arter, 1999); and (c) "There is no codified body of knowledge that theoretically, or empirically defines effective teaching" (Margolin et al., 1998, p. 4).

The study addressed the first issue concerning *the bias and subjective nature of teacher evaluation* by shifting the burden of evaluation from principal to teacher. This shift of responsibility empowered the teachers with the autonomy and opportunity to look for things in their teaching that were most pertinent to them. The shift of responsibility motivated the teachers to more actively self-assess their performances, which Dewey (1933) theorized would help them experience a greater opportunity for growth. Because the teachers were empowered with the responsibility and opportunity to guide their own evaluation via self-reflection, the teachers in this study were more willing to look for

those things that are more difficult to pinpoint, remedy, and or accept as weaknesses. For example, in this study the teachers would often highlight areas where they did not think they were doing well, and then during their consultation ask the principal for insight and ideas on how they might remedy the issue. The teachers reported that because they were responsible for directing the experience and had originated the discussion and or located the issue they wanted to address, they were more willing to listen and accept feedback. Finally, it should also be mentioned that although the bias and subjectivity was not completely removed (and in some ways only transformed into teacher bias) it did alleviate the belief teachers had concerning the one-sidedness of their evaluations and helped them to more willingly engage in evaluation experiences.

The second issue addressed by this study concerned *the belief that evaluations rarely produce meaningful lasting effects* (Arter, 1999). Although this study cannot empirically prove that the outcomes of the video-enhanced reflection process were both meaningful and lasting, it does show that video-enhanced reflection has great potential to be more meaningful and lasting. Particularly, the study showed that teachers could identify issues and decide upon the solutions. In addition, the teachers also shared that because they were able to see on video what they were doing wrong (or ineffectively), their capacity to resolve the issue was greatly enhanced. For example in this study, the teachers felt because they were empowered with the responsibility to direct their own reflection (being provided the freedom to choose the standard they wanted to work on, and given the opportunity to review and analyze their teaching performance via video), the outcome of the experience was more significant and long-lasting.

The final issue the study addressed regarding teacher evaluation concerned the *definition of effective teaching*. Margolin (1998) argued that one of the reasons teacher evaluation rarely makes any significant difference in teacher performance is because “there is no codified body of knowledge that theoretically, or empirically defines effective teaching” (p. 4). While I do not believe this study completely answers this dilemma, it does propose a work-around. Because the teachers in this study were provided the autonomy to decide what they wanted to work on, and formulated goals and or action plans to do so, it appears that the issue of what effective teaching looks like was diminished. That is not to say the definition is not important, because it is. Rather, the work-around allows the teachers the opportunity to define what effective teaching looks like for them - at their current level and understanding of teaching. Had the teachers been provided the perfect example of what their teaching needed to resemble (i.e., an empirical definition of what effective teaching should look like), I do not think it would have been as meaningful because it would not have represented them, or where their current understanding and abilities were at. In this study because the teachers were empowered with the ideal to simply grow their practice, they did just that. And although their experiences may not have resulted in perfectly effective teaching, the teachers in this study believed they made positive adjustments in their teaching as a result of engaging in the process. Both Jacky and Becky are great examples of this phenomenon. For example, at the beginning of the study the principal had shared that she was worried about these teachers and hoped this process would make some type of positive influence on their teaching performance. By the end of the study the principal stated that of the five teachers, Jacky and Becky were the two who had grown their practice the most.

Practical Implications

Although the findings of the study outline and focus on several of the positive takeaways, there are definite costs to implementing a process such as this. I should also mention that I believe my involvement in the study hid several of the costs. For example, one of the major costs of implementing this process concerned camera and digitizing logistics. In this study I shouldered the responsibility to gather all the cameras, make sure they were all working, set them all up, collected all the tapes, and then digitized all the teaching samples. I also compressed and uploaded all the videos to a server where the teachers could access and download them. Although these tasks were not difficult, they did require a significant amount of time and effort. Practically speaking if a school was to implement this process it would need to invest both time and money to ensure the process, would efficiently and effectively work. In this study, the financial cost of implementing this process was again hidden because I provided all of the cameras, tripods, digital videotapes, and video analysis software. However, if a school was to implement this process it would have to borrow and or purchase digital video cameras, tripods, digital videotapes and or disks, and the video analysis software (note: there are free video analysis software programs on the market, however, the video analysis software used in this study currently needs to be purchased). The other significant cost to implement this process is the time expense. As mentioned above, my involvement covered several of the time expenses a school would probably incur if it were to implement this process. A solution would be to have a trained individual (or individuals) who could handle all of the technical issues, and who could also support the reflection

process – although, obviously there would be a cost associated to hiring and training this individual.

I believe the benefits of implementing this process far outweigh the costs; however, school leaders would need to consider both the costs and the potential gains in selecting to implement a process such as this.

Suggestions for Future Research

Overall, the teachers valued this experience and felt they were able to grow their reflective practices because of their participation in the study. Because the context of this study was very specific and limited by demographics and sample size, the following suggestions outline a few things that need to be considered for this to be successful in other contexts. The suggestions are grouped into two parts: logistical concerns and research design concerns. The logistical concerns are: administrative buy-in, teacher ownership, accommodating process, support staff, accountability measures, and in-service teacher focus. The research design concerns are: sample size and limitation, internal biases, tool consideration, and timing.

Logistical Concerns

Administrative buy-in. In order for this process to work there needs to be administrative buy-in. If the administrator(s) is not supportive of the process, or does not feel that increasing teacher reflective practice is an essential attribute of an effective teacher, then the process will have little impact on the teachers. Principal buy-in will increase teacher motivation because the teachers will see that their principal believes in and supports their professional development. In addition they will believe the principal

will provide the required time and means they need to successfully engage in the reflective process.

The principal in this study was very keen on teacher reflection, teacher development, was talented at conducting effective reflection dialogues, and the use of video to improve teacher performance. She had used video as a means for teacher evaluation and training in the past and therefore already had an immediate buy-in to this process and tool. In talking with her I asked her how her peer administrators might perceive this video-enhanced reflective process. Although she stated that she believed “they would definitely be bettered by the process,” she noted,

Depending on their personality, willingness to try something new, invest more time in teacher training, and in essence do their job—what they are supposed to be doing—it could be hard to get them all on board. You would have to show them how the process would benefit them, and ensure it was easy to implement.

Teacher ownership of the process. Teachers need to feel ownership and be supported throughout the duration of the process. As teachers are taught about the importance of reflection, provided the means for an effective reflection experience, and given a demonstration of how to engage in the process, they will have more buy-in. However, buy-in alone is not enough. Teachers need to take ownership for their reflective practices. By ownership I mean, teachers need to willingly and actively engage in reflective exercises because they want to and because they believe in and see the benefits of reflection. When they have this type of buy-in they will organize their teaching and pedagogy so that it is informed by their reflective practices. Teacher ownership also means the teachers have the autonomy to control, manage, and systematize their reflective efforts in ways that fits their abilities and interest (i.e., they are provided the time, means, and ability to experiment, and select the standards they want to work on).

They need to understand that the process is for them and not for administrative evaluation purposes. When this is done they will inculcate reflection into who they are, and as Jay and Johnson (2002) suggest, allow reflection to guide their educational “way of being,” demystifying and rendering “accessible one of the most powerful aspects of teaching”: teacher reflection (p. 80).

In this study, depending on the teacher’s training and familiarity with reflective practice, it took a little time to pique their interest and convince them of the benefits of reflection. At first, the teachers also had to get used to the idea that the reflective process was for them (since it was a paradigm shift for them), that they were not being graded, or evaluated, and that they did not need to put on a performance. As soon as the teachers understood the process was for them, they were immediately more at ease and willing to engage in the process. An example of their increased ownership was evidenced in their willingness to openly engage and direct the flow of the consultation with the principal.

A final note regarding teacher ownership is to ensure the teachers quickly get over the superficial effects of the video (i.e, they do not pay attention or worry about how they look or sound). Several of the teachers in this study mentioned how during their first video analysis they were distracted by how they looked and sounded. Then when they later engaged in the consultation they also mentioned how embarrassed they were by their voice and or mannerisms. When I asked the teachers about this, they reported that although it was a little distracting at first, the quicker they overcame it, the quicker they were able to focus on the more important task.

Accommodating process. By an accommodating process I suggest that the process fit the needs and wants of both the teachers and administrator. Although there needs to be

a method in place that provides a routine for the teachers, there needs to be some flexibility in the process that accommodates to the specific needs of the school, teachers, and administrator. For example in this study, despite outlining a framework the teachers were supposed to follow (i.e., the teachers were first supposed to select a standard and goal, a teaching moment, then teach, fill out the written reflection form, then do the video analysis, and finally engage in the consultation), they were provided several facets of flexibility. For example the teachers had the autonomy to choose the standard and teaching moment they wanted to evaluate, they were allowed to set up the camera and do the video recording in the way they believed would best fit their needs, and in addition they were given the freedom to run the consultation, engaging the principal in a discussion that best met their needs.

Support staff. I believe it is important to have a trained individual at the school to facilitate the implementation and support of the process. One of the main concerns the principal asked me at the conclusion of the study concerned how she could continue to implement the process. We decided that it would be most effective to train one of her TSA (teachers on special assignment) people on how to use the tool and process. Having a locally trained individual would alleviate the principal from having to administer the process. In addition, it would add one more expert to the process who could troubleshoot issues, support teachers in the reflection process, and manage all of the logistical camera, computer, and calendaring things.

Although few issues cropped up when I implemented the process, having a trained individual at the school would have been helpful. For example, there were a few camera issues (i.e., forgetting to put the tape in the camera prior to recording, not

understanding how to use the camera) and computer software questions (i.e., how to import the video, how to create personalized tags), which required that I drive across town to quickly resolve. I believe it would have been helpful to have a teacher or some other school representative (i.e., technologist, librarian, TSA) trained and available to resolve the issue. I believe that not only would this logistically be simpler for a researcher, but it would also better assist the teachers, because then if an issue ever did develop, someone would be present who could more efficiently and effectively resolve the issue.

Accountability measures. Accountability measures need to be built into the reflection process. The accountability measures help keep both the teachers and principal on track and on task. During my study I found that when we had exact dates for when the teachers were expected to complete their video recordings and paper reflections, they were more apt to have them done. In contrast, during the times when I allowed for more flexibility and/or changed the date, the teachers typically left the recording, paper reflection, or video analysis to the last minute. In my study, I found that pre-establishing due dates was very helpful. For example, during the first consultation we scheduled the subsequent consultation dates. This allowed the principal and teachers to plan ahead, scheduling when they would tape, do their video analysis, and so forth. The principal also went to the extent of blocking out her entire day for the consultations, hiring a “floating sub” for the day, who covered each teacher’s class while they were meeting with her. The only drawback to this method is that by the last consultation the principal risked being a little “burned-out” from the process. When I asked her about this she said,

I liked having the whole day to focus my attention on the teachers; I thought it worked out well. It was a little hard to keep finding and giving new feedback by

the end of the day with the last teacher – I guess you could say I was a little burned out, but I managed and I think logistically it is the best way to do it. If you did them from day to day it would get confusing I think, and be harder to schedule.

In-service teacher focus. Generally, most of the literature related to this study concerned pre-service teacher situations, where researchers tried to understand the influence video had on pre-service teacher development, learning, growth, performance, reflective abilities, and so forth. The literature, however, outlines very little empirical research in the area of video usage for observation and reflection with in-service teachers. This study is one of only a few to discuss how video can be used to increase in-service teacher reflective practices. I believe this in itself is an important finding, because first, it suggests that there needs to be more research done concerning video usage with teacher observation and reflection; and secondly, there is a great need and opportunity to study the influence video can have with in-service teachers. The reason I believe this is a significant opportunity concerns both the need to support new teachers, and the requirement to evaluate them. I find it interesting that even though there is a lack of statistically significant findings regarding the influence video has on a pre-service teacher's teaching ability, understanding of pedagogy, and or reflective aptitudes and skills, most of the research concerning the use of video in teacher training continues to focus on pre-service teachers. The literature suggests the limited findings result from the pre-service teachers' inadequate teaching experience, their focus on other issues (i.e., learning content matter, figuring out classroom and school logistics, and so forth), and their inability to conceptually and practically understand educational theory.

In saying this, I am by no means suggesting video research with pre-service teachers be halted, rather I am making the suggestion that more efforts be placed to study

the influence video can have on in-service teachers. In-service teachers have more experience to reference actual teaching examples to draw upon and typically have multiple sources of rationale to justify their participation (i.e., teacher evaluation, professional development, teacher portfolios, personal growth, and so forth).

Research Design Concerns

Sample size and limitations. I believe the homogeneous and relatively small sample group limited my study. In future research I believe sampling larger groups of teachers of different grade levels (i.e., elementary, middle schools, and high schools), and from different schools in various communities (i.e., outside of Utah, and or in lower and higher socio-economic areas) would prove very beneficial. The findings would be more transferable and helpful for making more wide-ranging conclusions.

Account for internal biases. As the primary researcher I had three significant biases that may have influenced this study: (a) I had prior experience using video and video analysis methods. Because of my relative familiarity with the process and past successes with it, it was hard to separate my feelings and findings from past experiences from what could have been occurring during this study. (b) Because of my relative familiarity with technology and teaching, I made several assumptions about the process and teachers. I assumed most of the teachers would be interested in an innovative reflective process and that they would not have any significant issues learning and or implementing the process. Although there seemed to be very few issues, perhaps my biases and past experiences blinded me from seeing other events. (c) Finally, I have been a fairly reflective teacher, keeping a teaching journal, actively participating in professional learning communities, and by continuously seeking feedback and adjusting

my teaching. Perhaps my immediate interest, experience, and personal buy-in concerning the need and benefits of reflection swayed and or limited my perspective. In future research I believe a secondary researcher or assistant would benefit the study, because he or she would be able to help collect and analyze the data using a different set of experiences, lending a new perspective and opinion on the direction and findings of the study.

Tool considerations. Although this study used MediaNotes as the video analysis tool, I believe future researchers would be wise to demonstrate and consider other video analysis tools before committing to one particular tool. I also believe it would be interesting to have teachers try out various tools and report back which tool they felt was the most effective and efficient. In retrospect it would have proven helpful to this study had I considered other video analysis tools before selecting MediaNotes. Although the teachers were able to easily learn MediaNotes, they did report that there were several elements they believed should be added, modified, or deleted. The most prominent feedback about MediaNotes was that it did not break down the reflection into the three clear parts the written reflection form did (description, analysis, and action). Several teachers in their exit interview said, “It’s too bad the video program didn’t break down the reflection process into the three parts like the written form did.”

Some issues arose with the written form. Some of the teachers reported that the written form did not have enough space to write. One teacher in particular said, “I felt like the form was constrained by the paper you gave us... I didn’t know I could write outside of the boxes on it... I think you should have given the form more space to write on.” Although I based the content of the written form on several reflection typologies, I

believe it was limited because I personally developed it and only sought and received limited feedback on its design. Future research should consider getting additional feedback regarding the design and use of the form.

Timing. I believe future research in this area would be benefited from lengthening the data collection period. Several of the teachers in my study reported in their exit interview that they wished they could have engaged in the process over the course of the entire school year. They reported that they felt a little rushed while engaging in the process. Several of the teachers said that they left their reflections to the last minute because other immediate and pressing classroom issues required them to do so, which means there was often a week or more delay between their teaching performance and their reflection. Obviously this limited their ability to recall exactly what they taught and what was occurring during their teaching performance.

The teachers also mentioned that it would have been interesting to video tape various teaching performances at the beginning of the year while they are busy establishing themselves, classroom policies, instructional procedures, and so forth, and then compare their performances with end of the year performances. Finally, I believe this study and future studies would benefit from doing a follow-up study analyzing the lasting effects of teacher reflections.

Conclusion

In comparing the written reflections with the video reflection experience, the findings implied that video provides a more rich and deep description than what the teachers recollected and wrote about in their written reflection papers. The findings also

reported that the teachers felt their analysis of their teaching performance was more effective when done while using the video-enhanced reflective process because “it provided them a tool, a different perspective, and more evidence to consider.”

Consequently the teachers reported that they believed their actions to be more relevant and applicable to their teaching. It is believe the video-enhanced reflection process helped the teachers: (a) identify and describe the “puzzles of [their] practice” (Jay & Johnson, 2002, p. 78); (b) more effectively analyze and critique their performance, helping them, as Jay and Johnson (2002) put it, “find significance in a matter so as to recognize salient features, extract and study causes and consequences, recontextualize them, and envision a change” (p. 78); and (c) establish an action-oriented goal to further their teaching abilities, thus accomplishing what Dewey (1933) believed the overriding purpose of reflection is: intelligent, thoughtful, purposeful action.

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Appendix A: Instruments

Written Baseline Instrument

The teacher participants in this study used the Alpine School District's SET (Scales for Effective Teaching) evaluation standards as the criteria to guide their written self-reflection exercises (see Table 1). The written baseline instrument was therefore composed of the various standards associated to the SET evaluation of the Alpine School District. Fourteen standards make up the SET evaluation, however, only the first ten are readily observable and pertinent to this study. The final four that were not included involve areas that are difficult to observe and that do not readily influence a teacher's observable classroom performance. These items include: communication with parents and other educational stakeholders, teaming with other teachers, organizational commitment, and professional development. The ten that were used involve the areas of: learning outcomes, utilization of instructional media/materials, instructional techniques, academic learning time/student involvement, positive reinforcement of student academic responses, correction of student academic responses, classroom discipline, instructional style, instructional efficiency, and monitoring of student progress. The written baseline instrument is a simple one-page form that has a table on it outlining the SET evaluation standard and its associated descriptives. The standard and its various descriptives are located on the left of the table, and an area for the teacher to write about their performance is located on the right side of the table.

Table 1

The written baseline self- reflection form outlining the SET (Scales for Effective Teaching) evaluation standards.

SET Evaluation: Standard 1 – Learning Outcomes	Teacher Performance Analysis: Commentary		
	Describe	Analyze	Action
<p>Teacher communicates measurable learning outcomes; checks to determine that students understand expectations; responds appropriately to feedback.</p> <p>Cues: <i>statement of learning outcomes, clarity of statements, questions used to check understanding of outcomes, responses to student questions regarding learning outcomes, and measurability of outcomes.</i></p>			

SET Evaluation: Standard 2 – Utilization of Instructional Media/Materials	Teacher Performance Analysis: Commentary		
	Describe	Analyze	Action
<p>Appropriate instructional materials should meet the identified needs of students and should successfully integrate the critical elements of the instructional processes in the material. The appropriate use of instructional materials in education requires the teacher not only to follow published instructions, but also to modify, when necessary, adapt, and integrate measurement monitoring with media and materials.</p> <p>Cues: <i>clarity of materials; visibility, copy quality. Quantity of materials, condition of material. Suitability of materials to learning objectives. Monitoring of correct use of materials. Determinations that materials are affecting desire learning. Creative and or logical modifications of materials.</i></p>			

SET Evaluation: Standard 3 – Instructional Techniques	Teacher Performance Analysis: Commentary		

	Describe	Analyze	Action
<p>Effective teachers understand and believe that how they teach is as important as what they teach. There exists a wide variety of teaching techniques that have the potential of producing learning. The teacher might use techniques that require students to read, listen, observe, discuss, experiment, record, etc. Teaching requires continuous decision making regarding the use of instructional techniques. These decisions will be made based on the appropriateness of the techniques, that is, how well they facilitate the accomplishment of the learning outcome. The effective teacher is constantly validating or modifying teaching and learning behavior on the basis of cues that are surfacing or being elicited during lessons.</p> <p>Cues: <i>evidence of pre-planning; use of review techniques; use of advanced organizers; clarity of presentation; suitability of techniques to learning outcomes; eliciting student feedback; modification of techniques based on student feedback.</i></p>			

SET Evaluation: Standard 4 – Academic Learning Time/Student Involvement	Teacher Performance Analysis: Commentary		
	Describe	Analyze	Action
<p>The amount of time that teachers allocate to instruction in a particular curriculum content areas is positively associated with student learning in that content areas. The proportion of allocated time in which students are engaged is positively associated with learning. The proportion of time that reading or math task are performed with high success is positively associated with student learning. Increases in academic learning time are not associated with more negative attitudes toward math, reading, or school.</p> <p>Cues: <i>Quantity, quality, and use of questions, individual and choral responses; extensions of learning;</i></p>			

<p><i>teacher reaction to student idleness; type/appropriateness of seatwork assignments; frequency of distractions; control over distractions.</i></p>			
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<p>SET Evaluation: Standard 5 – Positive reinforcement of Student Academic Responses</p>	<p>Teacher Performance Analysis: Commentary</p>		
<p>The quality and quantity of research on the demonstrated effects of reinforcement techniques for student academic responses is overwhelming positive. Careful use of positive responses (i.e., stickers, praise, tokens, etc.) has been found to result in significant gains in academic achievement and appropriate classroom behavior. A substantial body of literature documents relationships between the rewards for achievement the overall effectiveness of the classroom. Cues: <i>Frequency of positive responses; latency of positive responses; specificity of positive responses; student reaction to positive responses; it is suggested that the teacher use the student’s name and specify the behavior for which they are being complimented.</i></p>	<p>Describe</p>	<p>Analyze</p>	<p>Action</p>

<p>SET Evaluation: Standard 6 – Correction of Student Academic Responses</p>	<p>Teacher Performance Analysis: Commentary</p>		
<p>Correction of student errors is considered an important part of the instructional process. The correction of an academic mistake should occur as an immediate response to the student. The exact type of correction procedure used may depend upon the nature of the error but should ensure that the learning will perform correctly in future presentations of the activity in which the mistake occurred. Cues: <i>Clarity of corrections; immediacy of corrections; modeling of correct responses; student confirmation</i></p>	<p>Describe</p>	<p>Analyze</p>	<p>Action</p>

<i>of corrections; shaping procedures.</i>			
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SET Evaluation: Standard 7 – Classroom Discipline	Teacher Performance Analysis: Commentary		
<p>Effective teaching and learning cannot take place in an environment that is disorderly, distracting, or threatening. In order to make learning possible the teacher must utilize methods that promote student behaviors that have a positive influence on learning. Due to the complexity and variability of discipline problems with a classroom, no one single solution has been found to eliminate these problems entirely. There are, however characteristics of teacher behavior that have been identified that, if consistently applied, lead to better prevention of discipline problems, more effective handling of problems that do occur, and continuous maintenance of order in the classroom.</p> <p>Cues: <i>Develop a plan for managing student behavior; Unambiguous explanations of classroom rules, procedures, and consequences both positive and negative; Consistent delivery of meaningful positive or negative consequences to students who exhibit positive or negative behaviors; there is evidence of discipline plan, system, set of procedures; there is verbal references to behavior expectations; what is the delivery of positive reinforcers (praise, smiles, tokens, points, tickets, etc.); what is the delivery of negative consequences (verbalizations, loss of privileges, detention, etc.), use of proximity, etc.</i></p>	Describe	Analyze	Action
SET Evaluation: Standard 8 – Instructional Style	Teacher Performance Analysis: Commentary		
<p>The effective teacher is concerned with positive change in student behavior. A common goal of educators is to foster a positive attitude toward learning in the students they teach. This is encouraged by the positive attitude toward teaching</p>	Describe	Analyze	Action

<p>possessed by the teacher. Such an attitude is expressed in formal classroom procedures and methods as well as in informal interactions. Classroom quality is enhanced by instructional style based on enthusiasm for and interest in students, subject matter, and the act of teaching itself. Cues: <i>Liveliness of presentation; pace of presentation; voice tone, facial expressions; positive interaction with students.</i></p>			
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<p>SET Evaluation: Standard 9 – Instructional Efficiency</p>	<p>Teacher Performance Analysis: Commentary</p>		
<p>In order to achieve maximum power from instruction, the teacher should ensure that time is not waster during group instruction, independent work, or transitions from one activity to another. The pace during lesson presentation should promote high rates of correct responses. The pace of activities should be such that student involvement and interest is maintained while covering a maximum amount of material. There is a correlation between achievement, efficiency, and effective teaching. Cues: <i>Pace of instruction; duration of presentation/instruction; frequency of interruptions/distractions; types of transitions/durations of transitions (what students do during transitions – are they instructional or just behavioral function moments?)</i></p>	<p>Describe</p>	<p>Analyze</p>	<p>Action</p>

<p>SET Evaluation: Standard 10 – Monitoring of Student Progress</p>	<p>Teacher Performance Analysis: Commentary</p>		
<p>Effective teachers document their effectiveness by monitoring what they teach. The congruence between what is taught and tested needs to be high! This can be accomplished by using procedures to directly monitor and record student progress toward the achievement of predetermined</p>	<p>Describe</p>	<p>Analyze</p>	<p>Action</p>

<p>objectives of instruction. To be of greatest benefit, student progress information should be gathered while teaching, as this is the time when information about achievement is most needed. Student progress should be collected everyday. Daily sampling of student behavior using direct measures yields data that can be used to make immediate instructional modifications as well as longer term decisions. Cues: <i>Collection of process data; frequency of data collection; recording/charting data; correlation of data to learning outcomes.</i></p>			
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Video Analyst Intervention Instrument

The software application MediaNotes, developed by Blue Mango Learning in collaboration with the Center for Instructional Design (CID) and the J. Ruben Clark Law School at Brigham Young University, was used as the vehicle for the video analysis intervention instrument. The software itself is a video coding application that provides users the ability to view and analyze performance. The analysis component of the software provides users the ability to code their performance with tags representative of areas they are interested in. For example, in this study, the teachers video recorded a teaching performance, then imported a digitized copy of the teaching performance into the software, and coded their performance according to the SET (Scale for Effective Teaching) standards. The SET standards and their associated cues were added to the software by the researcher prior to the study (see image 1).

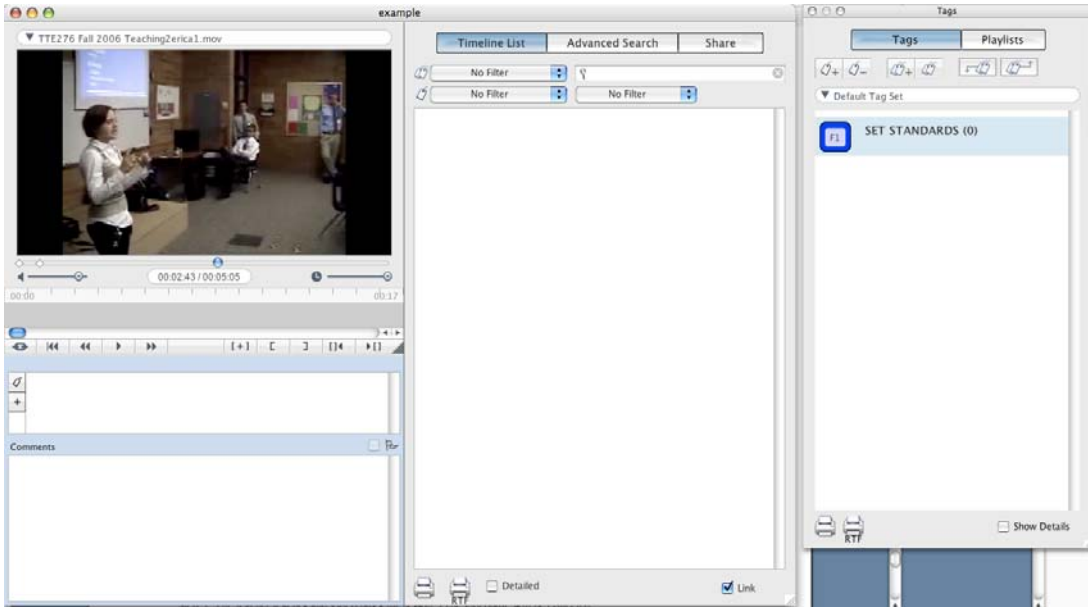


Image 1. A screen shot of the video analyst software application, MediaNotes.

Appendix B: Research Protocol

Baseline Protocol

Step 1: The teacher will select one of the SET standards to work on. This standard will be used to evaluate one hour of their teaching performance.

Step 2: The teacher will select a lesson and teaching moment where this SET standard can/will be evidenced.

Step 3: The teacher teaches and video tapes the lesson. (The videotape will be collected the day following the teaching performance. The tape will then be digitized and returned to the teacher. A link where the teacher can download the digitized video teaching performance will be emailed to them.)

Step 4: The teacher uses the baseline form to reflect on and evaluate the associated teaching performance.

Step 5: The teacher gives the baseline form to the researcher.

Video Intervention Protocol

Step 6: The teacher opens the video analyst program MediaNotes.

Step 7: The teacher downloads their digitized video teaching performance from a link provided to them from the researcher.

Step 8: The teacher imports the video file into MediaNotes.

Step 9: The teacher uses the SET evaluation standard they had previously selected to code/tag their digitized teaching performance. (The coding/tagging process involves the teacher watching their teaching performance, and at each instance that they view

evidence or something related to the SET standard they had selected as the standard to work on, they will time stamp and comment on the evidence.)

Step 10: After completing their video-enhanced reflection using MediaNotes, they will save their file.

Step 11: The researcher will then come by and copy the MediaNotes file of their coded teaching performance they created to an external hard drive.

Consultation Phase Protocol

Step 12: The teacher will then schedule a time to meet with the principal for a consultation. The consultation will be in essence a follow-up and feedback session regarding their teaching performance and the associated reflection based on the SET evaluation standard the teacher had selected. During the consultation the teacher and principal will engage in a critical dialog about the teaching performance in an effort to help the teacher ultimately improve their teaching efforts, performance, and pedagogy.

Step 13: The teacher establishes a goal to work on for the next reflection experience.

Step 14: The teacher re-engages the reflection process. See step 1.

* The teacher will complete three cycles of this reflection process. At the conclusion of the third use of the process, the teacher will be invited to participate in an focus group exit interview. However, the teacher will also be involved in several formative interview sessions with the researcher, where he/she will be invited to share their thoughts, reflections, feelings, etc. about the tool and process.

Appendix C: Interview Questions

1. Tell me about your experience using the Performance Analyst tool within this process of teacher led evaluation/ reflection.
2. What did you like/dislike?
 - a. What do you think are the benefits of this tool and or process?
3. Would you use, and or recommend others to use, this tool and or process again?
4. Why would principals be interested in video observation (this method)?
5. Why would untenured teachers be interested in video observation?
6. How might video enhanced teacher reflection influence teacher performance?
7. How does the video enhanced teacher reflection process influence beginning teacher reflective practices?
8. How can it be ensured teachers are using video enhanced reflection effectively?
9. What could make video observations more effective?
10. What does effective reflection look like (descriptives, cues?)
11. Is teacher evaluation important? Why, explain.
12. Do you think a guided self-evaluation or principal led evaluation is more helpful?
13. Do you think/ feel self-evaluation (as practiced in this method and process while using the Performance Analyst tool) is an effective way to do teacher evaluation? Explain.
14. Why do you think this tool and process was used for teacher evaluation?
 - a. What did this tool provide to the teacher evaluation process (if anything)?
How could the tool be improved?
15. What did you think about the training? How could the training be improved?

16. What elements need to be added to ensure more accurate data collection?
17. How did your personal teacher performance analysis go?
18. List 5 things that would have encouraged a more profound teacher performance analysis.
19. What might have been done to encourage more dynamic and critical discussion with your administrator?
20. What was the process you followed/ did while using the Performance Analyst tool and method?
21. Were there any barriers that caused issues when using this tool and process? (Technology, time, understanding expectations, etc.)
22. Did the use of this process influence your teaching? How? Explain.
 - a. Do you feel the personal analysis influenced your teaching? How? Explain.
 - b. Do you feel the critical discussion (consultation) with your principal influenced your teaching? How? Explain.
 - c. Do you feel the PA tool increased your ability to analyze your teaching performance? How? Explain.
23. Do you feel this process has helped (or has potential) to have a positive affect on your ability to function as a reflective practitioner (helped reflective practice)? Explain.
24. List a few suggestions of how this tool and process might be improved.
25. Do you think it's important to be a reflective practitioner?
 - a. Define what it means to be a reflective practitioner.

b. How does it help to be a reflective practitioner?

26. Compare this observation, reflection, and portfolio method with what you have done in the past.

a. Observation method?

b. Reflection method?

c. Portfolio method (did you keep one – did you know it was necessary?)

Appendix D: Survey

1. Welcome to the Video Enhanced Reflection Survey

Thank you for taking the time to complete this survey - your answers will provide wonderful insight and evidence towards further developing this research.

The survey has 36 questions; 6 of the questions are demographic questions, the remaining 30 questions relate to your experience while engaged in the video enhanced reflection process.

Please be as honest as possible - your anonymity will be preserved. The survey will take at the most between 15 - 20 min. (depending on how fast you can read and write.)

Again, we thank you for your willingness to help support this important research project.

1. I agree to start and complete this survey, and answer as truthfully as possible. I also permit my answers to be used for purposes of this research study.

- Yes
 No

2. Demographics**1. Gender**

- Male
 Female

2. Teaching Year (re: years of formal teaching experience)

- First Year Teacher
 Second Year Teacher
 Third Year Teacher
 Fourth Year Teacher
 Fifth + Year Teacher

3. Grade Taught

- K
 1st
 2nd
 3rd
 4th
 5th
 6th
 Special Ed.
 Other

4. What teacher prep program (school) did you graduate from? (ie. BYU, USU, UVSC, other)

5. Did your teacher prep program require (and or did you take) any course that taught you about being (becoming) a reflective practitioner?

- Yes
 No

6. Ethnicity

- Hispanic
 Asian
 African American
 Native American
 Caucasian

3. Enhanced Video Reflection Questions

Please answer the following questions regarding your use and engagement in the enhanced video reflection process as honestly and completely as possible. Thank you.

1. Describe the process you engaged in.

2. What do you think the purpose of the process was?

3. Tell me about your experiences engaging in this process.

4. Compare the written reflection component with the video enhanced reflection component. Like/ Dislike, Effective, Non-effective, etc.

5. What does it mean to reflect?

6. Is reflection important to you?

- Yes
 No

7. Is reflection more important to you than before you engaged in the process?

- Yes
 No

8. When was the time you spent most of your time reflecting on your teaching (ie. home, school, both)?

9. How much time do you usually spend reflecting?

10. How much time did you spend reflecting during the video enhanced reflective process?

11. According to you, what would be an effective method of reflection?

12. What are a few things that could be done to make reflection more effective?

13. What did you get out of this experience?

14. Did this process have any influence on your reflection abilities/ desire, etc.? (If so, how?)

15. Did this process have any impact/ influence on your teaching? If so, explain.

16. Did this process influence your consultation with the principle? If so, explain.

17. Tell me a few bad/ difficult things about this process.

18. Tell me a few good/ helpful things about this process.

19. How could this process be improved?

20. Has your ability to reflect since starting this process increased? If so, explain.

21. Do you think that this process has or can positively influence/ increase your reflective abilities/ aptitude? Explain.

22. Do you think reflection for action can improve your performance (is there a correlation between reflection and performance)? Explain.

23. What kind of impact has the process had on your reflection abilities?

24. Can you better now identify areas for improvement (action) because of the video enhanced reflection process?

- Yes
 No
 A little

25. Are you better able to critique the areas for improvement (action) you identified as a result of the video enhanced reflective analysis?

- Yes
 No
 A little

26. Are you better able to support/ justify the need (or lack of need) for action as a result of the video enhanced reflection process?

- Yes
 No
 A little

27. What is the effort involved (cost) to you to implement the process?

28. Was the effort (cost) worth what you got out of it?

- Yes
 No

29. Other Feedback?

Appendix E: Journal Article

Introduction

This paper presents an empirical research study analyzing the influence video-enhanced reflection has on teacher reflective practices. The purpose of this study was to study the effects video has on teacher reflection practices based on Dewey's (1933) three levels of reflection: description, analysis, and action. The study involved developing and implementing a video-based reflection technique at an elementary school with five level one in-service teachers. A baseline and intervention research design was used to study the influence the video-based reflection process had on the teachers' reflective abilities. The baseline was based on a written reflection experience, whereas the intervention centered on a video reflection experience. Data was collected using various qualitative measures including field observations, participant interviews, focus group interviews, and a participant survey. A thematic analysis based on the QDA methodology was used to aggregated, categorize, analyze, and interpret the findings. The qualitative measures for research trustworthiness developed by Spradley were used to ensure the accuracy and validity of the findings. The findings from this study suggest that the video-enhanced reflection process developed and used in this study had a positive influence on teacher reflective practice because it helped the teachers more vividly describe, analyze, and critique their teaching.

Purpose

Reflective practice is an integral component of a teacher's classroom success (Zeichner, 1996; Valli, 1997). Reflective practice requires a teacher to step back and consider the implications and effects of teaching practices. Zeichner and Liston (1999) define reflective practice as an "active, persistent, and careful consideration of any belief or practice in light of the reasons that support it and the further consequences to which it leads" (p. 20). Research has shown that formal reflection on teaching can lead to improved understanding and practice of pedagogy, classroom management, and professionalism (Grossman, 2003). Several methods have been used over the years to stimulate reflective practice. In the past, because many of these methods required teachers to use awkward and time consuming tools, they have proven to have a minimal impact on teaching performance (Rodgers, 2002). Considering the potential benefits of reflective practice, there is a need to develop more effective and efficient tools and techniques that encourages reflective teaching. Recent technological video advancements provide better and easier to use tools to support reflection. This current study defines and analyzes an innovative video-supported reflection process that serves as a context for these new tools. The purpose of the enhanced video analysis process is to improve teacher reflective practices.

Statement of problem

The primary question of this study is "How does video analysis used in the context of an improved reflection technique impact teacher reflection-for-action?" Reflection-for-action is a focused, persistent, critical reflection aimed at accomplishing a goal (Dewey, 1933). To be effective, teacher reflections must lead to an improvement of

teaching. Without action, the reflection falls short of its initial purpose. To study the process of “reflection for action” the main question was subdivided into five parts in an effort to focus on the key elements of the primary research question. They are: (a) Are teachers better able to identify areas for teaching improvement through video-enhanced reflective analysis? (b) Are teachers better able to critique their teaching as a result of the video-enhanced reflective analysis? (c) Are teachers better able to understand the potential for improvement as a result of the video-enhanced reflective analysis? (d) How much influence does the video-enhanced reflective analysis have on an administrator-teacher consultation? And (e) What investment of time and effort is required of teachers and administrators to employ a video-enhanced reflective analysis?

Background

Many state departments of education require beginning teachers to demonstrate pedagogical growth during their first three years of service in order to obtain a level-two licensure and tenure status. School administrators are responsible for formally evaluating these teachers to ensure that they demonstrate this competence. Teachers who practice active reflection have an advantage in meeting this requirement. Current research has shown that when teachers are reflective practitioners, their teaching improves (Schon, 1987; Zeichner & Liston, 1996; Valli, 1997; Jay, 2000; Grossman, 2003; Farrell, 2004; Warden, 2004). School administrators have used various methods to encourage teacher reflection. Some of those include providing teacher mentors (Tauer, 1998), engaging teachers in collaborative reflective groups and exercises (Dufour, 1998), training teachers on the benefits of reflective practice, providing them a theoretical understanding and

rationale to engage in reflection (Zeichner, 1996), and by inviting and providing time and or incentives to engage in reflection.

Recently researchers have examined the use of video supported reflection techniques to encourage and enhance teacher reflection (Jensen, 1994; Storeygard, 1995; Cunningham, 2002; Miyata, 2002; Spurgeon, 2002; Stadler, 2003; Griswold, 2004; Sherin, 2005). The findings suggest that the use of video appears to be a productive method for improving teacher reflection and performance. The benefits include, (a) enhancing “teacher knowledge about the ways of teaching and learning” (Stadler, 2003, p. 1); (b) providing “an excellent starting point for professional discussion” and development (Stadler, 2003, p. 1); (c) defining a formal reflection method to facilitate measurable teaching improvement (Cunningham, 2002); and (d) improving classroom performance and a greater understanding of student learning (Jensen, 1994).

Despite the theoretical benefits, there are several logistical and organizational challenges that pose barriers to the use of video supported reflection. For example, reflection is not accepted as a critical part of a teacher’s job (Jay & Johnson, 2002), teachers are unsure how to and what to reflect on (Jadallah, 1996), “There are few systematic methods currently available to teacher educators and their students for analyzing video” (Pailliotet, 1995, p. 138), and video is too cluttered for teachers (especially novices) to focus on anything in particular” (Brophy, 2004, p. 302). This study provides an in-depth look at the implementation of a video-enhanced reflective analysis process, in an effort to gain a better understanding of the impact this process has on teacher reflection.

“Reflection-for-action” is a key phrase for this study. For the purposes of this study, reflection-for-action represents a reflective process that requires three stages: description, analysis, and action (Dewey, 1933). Reflecting on teaching is not a simple process whereby events are simply recorded and discussed. Although this is a component of reflection-for-action, it is only a portion of the entire process. John Dewey suggested reflection that stops or “does not lead to action falls short of being responsible” (Rodgers, p. 885). Dewey believed the sole purpose of reflection was to create an “action that is both intelligent and qualitative...based on careful assessment and thought” (Dewey, 1933, p. 9). Dewey’s belief that the purpose of reflection is action is also a common theme among many of the authors who also researched reflective practice (Bruce, 1999; Daniels, 2002; Dershimer, 1989; Higgins, 2001; Jadallah, 1996; Jay, 2002; Majolda, 2001; Norton, 1997; Rodgers, 2002; Ross, 2007; Schon, 1987; Smith, 1988; Spalding and Wilson, 2002; Tillema, 2000; Zeichner and Liston, 1996).

Research Methods

The purpose of this research is to study the impact of a video enhanced reflection process on in-service untenured elementary school teachers. The hypothesis of the study is that when teachers engage in a video enhanced reflective process, their reflective practices increase. The subjects of the study included five untenured teachers and one principal from an elementary school in a middle class residential area. This school was selected because the principal had used video-based teacher evaluation methods in the past. The five teacher participants were selected because they were untenured novice teachers, and because two of the five were in risk of losing their teaching positions

because they were underperforming. The participants took part in the study from September 2007 through December 2007.

The reason five novice teachers were selected is based on the Utah State requirement that non-tenured (level 1 licensure) teachers demonstrate growth during their first three years of teaching. It was believed because this study would help the teachers demonstrate growth by helping them improve their reflective practices, they would likely engage in the process. The research compared their normal reflective practices (the baseline), with a video-enhanced “self-reflection for action” model (intervention).

Research Design

A comparative case study approach was used to study the influence of a video enhanced reflection model on teacher reflection practices. The research method involved comparing the reflective practices of five untenured teachers before and after they had received training on reflection, and engaged in a video enhanced reflection process. The reflection process consisted of a teacher using a video analysis-tool to critique their own teaching performances, and then meeting with administrators for a video supported critical dialogue.

Research Design Background

This research makes the assumption that teachers normally reflect on their teaching as a result of administrator-led evaluations as described in chapter two. In this research a modified form of administrator-led evaluations was used.

Typical administrator-led evaluations consist of an administrator visiting a teacher’s classroom, observing for an allotted amount of time, taking notes, and later engaging the teacher in a consultation (see Figure 1). During the consultation, teachers

typically explain and justify their teaching performance. This generally requires that they have reflected on their teaching performance. It is assumed that teachers will improve their teaching practice as a result of the critical discussion and feedback they receive. In this process, the teacher is not usually asked to make his or her reflection explicit, therefore it is not quantified.

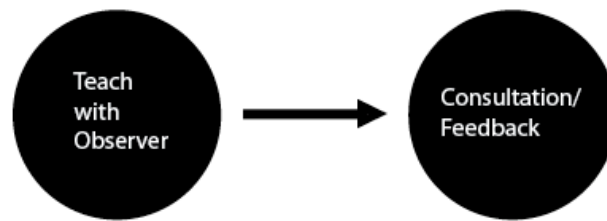


Figure 1. A typical administrator-led evaluation pattern

In contrast, in the video-enhanced reflection process, the reflection experience becomes formalized, and is made explicit. The process involves the teacher video recording and analyzing his or her performance using special video assessment software, which will be described later. Then a consultation is held in which the teacher takes the lead, presenting areas of strength and weakness noted during their video supported self-analysis. The administrator acts as a mediator during the consultation to focus the discussion and provide additional feedback. The text that is created during the video analysis becomes a residual documentation of the evaluation. Teachers were encouraged to document new goals following the consultations (see Figure 2).



Figure 2. The video-enhanced teacher-led evaluation pattern

Data Collection

The data collection in this study was based on a research procedure shown in figure 3. This procedure included a baseline reflection experience, an intervention involving a video supported self-evaluation, and a consultation.

The research procedure in figure three consists of a baseline data collection part an intervention part. The baseline resulted from the written evaluation data, whereas the intervention resulted from the video analysis.

The baseline collection required the teacher to first: identify a teaching standard/skill from the Scales for Effective standards (SET) they wanted to improve; second: videotape and teach a lesson while implementing this standard; and third: complete a written reflection form of the teaching performance. The written evaluation form required the teacher to first describe their teaching performance, second, analyze and critique the performance, and finally, create goals or statements of areas they wanted improve.

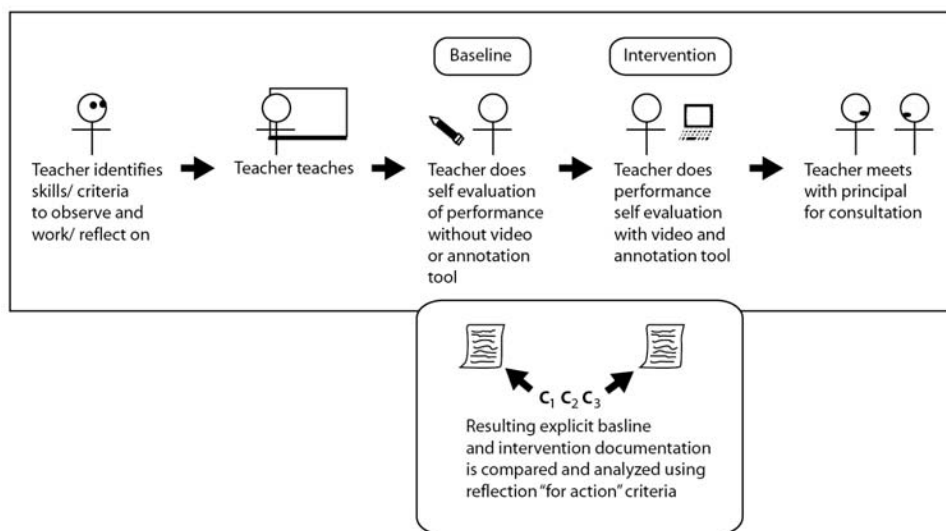


Figure 3. The research procedure

For the intervention the teacher was provided the video copy of their teaching performance. The teacher would import the video into a video analysis software program, where he or she would critique and analyze the performance by typing commentary about what was observed into a video analysis-tool called MediaNotes. MediaNotes is a video analysis software program developed by the BlueMango Learning Group that “allows for detailed, concise analysis of recorded performance and exercises” (<http://www.bluemangolearning.com>).

Following the video analysis, the teacher met with the principal for a consultation to present their written and video analysis findings, and receive additional feedback about their teaching. The teacher was responsible for directing the flow of the consultation, whereas the principal was to mediate by listening and asking additional questions about the teaching performance. The consultation usually lasted thirty minutes, and resulted in the teacher stating a goal they planned to work on. The data resulting from the baseline and intervention were later compared to help analyze the influence video has on teacher reflection.

Data Collection Events

Seven primary data collection events were used to collect the data for this study: baseline reflection, video supported reflection, teacher interviews, principal interviews, observations, focus group interview, and an exit survey. The purpose of the data collection was to ensure rich and sufficient data collection (Seidel, 1998). Agar (1991) suggested multiple sources of data collection help create rich research descriptions, and provide the means to accurately compare and analyze data.

Data Analysis

A thematic analysis technique was the primary data analysis method used in this study. A thematic analysis involves creating and considering cover terms, included terms, and semantic relationships between various data points. Cover terms are categories used to organize data. The cover terms used for the thematic analysis in this study were: description, analysis, and action.

The basic thematic analysis process involves comparing and scrutinizing patterns within and across data. This leads to an increased understanding of phenomena, which contributes to the creation of theoretical and practical applications (Spradley, 1979; Seidel, 1998). This approach was used because it is considered a practical method of analyzing qualitative data (Jorgenson, 1989; Spradley, 1979). Concerning this method, Jorgenson (1989) said, “[thematic analysis] helps assemble or reconstruct data in a meaningful and comprehensible fashion” (p. 107).

Thematic Analysis Criteria

The cover terms: description, analysis, and action served as the primary categories for the sorting and organizing of the thematic analysis (as described above.) These terms were selected because collectively they define effective reflection (Dewey, 1933; Rodgers, 2002). The following three paragraphs define and describe each of the three categories.

Description. The first part of effective reflection is to “describe the teaching experience” (Dewey, 1933, p. 9). The description involves an explanation and interpretation of the teaching performance (i.e., the teacher describes in vivid detail what

occurred during a particular performance by outlining what students were doing, the lesson plan, instructional methods, and so forth.)

Analysis. The second part of an effective reflection is the analysis phase. The success of the analysis phase depends upon the accuracy and depth of a teacher's ability to describe a teaching performance. The analysis phase involves the teacher: confronting assumptions (Drake, 1997), critiquing the gaps in their performance, connecting successes and failures to educational theory and student performance data, and naming "the problem(s) or the question(s) that arises out of the experience" (Rodgers, 2002, p. 885). At the conclusion of this phase the teacher will compile several "possible explanations for the problem(s) or question(s)" the teacher discovered during their analysis (Rodgers, 2002, p. 885).

Action. The final phase of effective reflection is: action. Dewey said, "Reflection that does not lead to action falls short" (Rodger, 2002, p. 885). The action phase, involves the teacher establishing a plan based on the description and analysis of their teaching performance. Rodgers (2002) suggested, "This phase could be understood as a series of intellectual dry runs through the problem and its various conclusions," and the associated solutions (p. 854). According to Dewey (1933) the action should be based on careful assessment and thought. Rodgers (2002) said this phase offers teachers "the possibility of settledness, [and] a resolution to [performance] disequilibrium" (p. 855).

Data Analysis Process

Five derivative research questions were developed to help organize and focus the thematic analysis, breaking the primary research question into a more detailed format.

Table 1 outlines each of these questions and their associated data analysis and collection techniques.

Table 1

Research Derivative questions and their Associated Data Collection and Analysis Techniques

Question	Data Analysis	Data Collection
Are teachers better able to identify areas for improvement as a result of the intervention?	The quantity of areas for improvement the teachers identify.	Comparing the areas for improvement the teachers listed on the written reflection form with the areas for improvement they listed as a result of their video analysis.
	The specificity of the areas for improvement.	
Are teachers better able to critique the areas for improvement they identified?	Compare the quantity of analysis (critiques) statements listed in the written reflection form with the number listed in the video analysis.	Baseline and intervention comparison.
		Self-report
Are teachers better able to support/ justify the need (or lack of need) for action?	Do the descriptions align with the analyses (critiques)?	Consultation observation
		Baseline and intervention comparison.
		Self-report
		Consultation observation
Are teachers better able to support/ justify the need (or lack of need) for action?	Do the descriptions align with the analyses (critiques)?	Focus Group
		Exit Survey
		Baseline and intervention comparison.
		Self-report
		Consultation observation
		Focus Group
		Exit Survey

Question	Data Analysis	Data Collection
Are teachers better able to support/ justify the need (or lack of need) for action?	Do the descriptions align with the analyses (critiques)?	Baseline and intervention comparison. Self-report Consultation observation Focus Group Exit Survey
How much influence does video analysis have on the consultations between principal and teacher?	How is video analysis used during the consultation? How often is it referenced during the consultations?	Consultation observation Teacher interview Principal interview Focus group Exit survey
What is the effort involved (cost) to teachers and administrators when trying to implement the video-enhanced video self-reflection process?	Amount of time spent learning how to use the video analysis tool. Amount of time spent engaging the written reflection form. Amount of time spent doing video analysis. Amount of time spend in consultation. What is the monetary cost of the tool and process (cost of software, camera, and so forth) and do the benefits of the video enhanced reflection process out weigh the costs?How much training and support is required? What other issues need to be considered (how will the culture need to changed, who will need to be involved to ensure the process runs smoothly)?	Preliminary observation Consultation observation Teacher interview Principal interview Focus group Exit survey

A series of vignettes and thematic analysis discussions were used to disaggregate, discuss, and present the data and findings in a clear and understandable way.

Findings

Part I: Getting started - Vignette. Vallen was the last teacher to arrive to the meeting, and did not seem in too much of a rush despite being several minutes late. He had remembered to bring his computer, but failed to bring a pen and paper to take any notes during the presentation. Although Vallen was new to the school, he had been teaching for one year, and was now in his second year of teaching sixth grade. He had attended a university elementary teacher education program where he said he had learned about reflective practice. During the consultation Vallen seemed to be a little distant; he did not engage in any of the presentation activities, nor did he have much to say during the question and answer session. He did seem to be comfortable with the idea of having to use technology, because when I passed out the CDs he was able to quickly load the software, however, he did not express the same enthusiasms as the other teachers. Notwithstanding, when I asked him what he thought about the process, he stated, “I think this is going to be a great opportunity.” He did, however, voice a few concerns; he wondered about scheduling issues (i.e., one of the times we were planning to meet and discuss his experience he had a field trip and wouldn’t be able to meet). He also voiced a concern about “having to” watch himself on camera, “you mean I will have to watch myself on camera, I hate how I sound and look. You know what they say, the camera adds twenty pounds – I can’t afford to add twenty pounds.” Despite these limited issues, he did leave the impression he was moderately excited about the process, because before

he left, he shared that he thought this process would definitely make him think more about his teaching.

Part I: Getting started - Thematic analysis. Overall the teachers reported that they were initially enthusiastic about the process. They believed it would have a positive influence on their reflective abilities, and stated they were willing to engage in the process. Prior to engaging the teachers in the process I asked them about their past reflection experiences. Seventy-five percent of them said they had learned about reflective practices in their university preparation programs, and one hundred percent of them believed they were already fairly reflective; notwithstanding, the majority of them (60%) acknowledged that their reflections were mostly informal (i.e., short written notes in their lesson plan). Those who stated they were reflective said they reflected on their teaching on average nearly twelve minutes per day.

When the teachers were asked what they thought the primary purpose of this process was eighty percent reported they believed the process was designed to help them increase their reflective abilities. In contrast, when the teachers were asked about what they wanted to get out of the experience, only three of the teachers reported that they wanted to increase their reflective abilities (the other two stated that they simply wanted to “get better at teaching.”) When asked if they were enthusiastic about this process, all five of the teachers positively responded, despite a few of them having similar concerns (ie. don’t like watching themselves on camera, not having a lot of extra time to engage in lengthy reflection processes, and how to use the technology.)

Part II: Teacher written reflections experience. The focus of this second section is to present the teacher’s feelings and reactions to the written reflection experience. The

teachers were expected to complete the written reflection following their teaching performance and prior to engaging the video reflection component. Most of the teachers reported they did the written reflection either the day of, or the day following their teaching performance. The written reflection form had three components to it: a section where the teacher was expected to describe the teaching performance, a section where the teacher was to analyze and critique their performance, and a final action area where the teacher could write out their future plans, goals, and or actions related to their analysis. In general the teacher's said that they liked the written reflection component, however, they did not think it was as beneficial to use as the video reflection component. The major themes resulting from the teachers' use of the written reflection form suggest that the teachers liked how the written form guided their reflection experience by helping them break their reflection into the three parts of an effective reflection, and because the written experience informed their later video reflection and consultation experiences. The following vignette and thematic analysis further present and discuss these findings.

Part II: Teacher written reflections experience – Vignette. Becky was the teacher who had claimed to be very reflective, despite not receiving any formal reflective practice training. Out of the five teachers, Becky's written reflections were always the longest, filling up the entire sheet with descriptions, analysis, and various action oriented goals. When asked how much time she spent on the written reflection part, she said that it usually took at least thirty minutes. The following is her description of her written reflection experience.

Usually, I write a few rapid notes to myself in my lesson-planning book, and then at the end of the day, after the kids leave, sit at my desk and think about what

happened. I typically try and play back what happened during class and pick out those things I thought either went well or didn't, and then write down why I think why they did or didn't go well. Usually this will prompt to think of a goal I want to work on, or something I want to change or try out for next time. Sometimes I will reference my lesson plan book and see what I have coming up and how I might change things around, but usually it is more of just a cognitive thing.

Even though Becky said that she liked the writing process and spent a lot of time and energy doing her written reflections, she said, "I actually enjoyed the video better than the written. It was easier to do, and took me less time. But, I also believe you need both." Becky also hinted that she used the written reflection as a means to inform her video reflection, stating "the written was used by me as a planning time; it helped me to develop a direction before I video taped myself."

Part II: Teacher written reflections experience – Thematic analysis. The written reflection experience required the teachers to write about their teaching performances immediately after they taught. Their writing needed to include a description of what took place, an analysis (critique) of their performance -according to the standard they had selected, and then an outline of resulting actions and or goals they thought they should work on. They completed this written component before participating in the video component of the study. Eighty percent of the time the teachers completed their written reflection the day of or immediately following their teaching performance, however, there were three instances when the teachers left the written reflection until just before engaging the video reflection. Typically there was a delay of one week between the

written reflection and the video reflection (due to video digitizing efforts and travel logistics).

In comparing the written reflection form (baseline) to the video reflection experience (intervention) it was difficult to evaluate and determine which method was more effective. Quantitative data suggests the teachers seemed to engage the video process more than the written (there were more video evidences tagged and commented on than written descriptive and or analysis points. For example in the first reflection experience there were thirty-two written descriptive and analysis comments total, whereas there were sixty-five counted in the video analyses. The average comments and analysis statements on the written form was thirty-eight, whereas the average for the video analysis was eighty-four.) It is, however, important to note this data does not provide substantial evidence regarding exactly how the video process better served the teachers; quantity does not connote quality, nor does quality, guarantee growth and development, rather it simply demonstrates the increase in comment volume that resulted from video usage. It is also important to note that the survey data and teacher interview self-reports suggested that the majority of the teachers (60%) thought a mixed method using both the video and a written system, or just a video-based method, would be the most effective approach. The two major themes surrounding the use of the written reflection form were: 1) teachers preferred either a mixed written and video process, or just video process to the written process; and 2) rarely did the teachers' suggestions regarding the video process have to do with statements about how or why they believed the process to be superior, rather, their comments had more to do with the logistics of the actual software program and how it could be changed, or modified.

Part III: Video-based reflection experience. The purpose of this third section is to present and describe how the teachers felt about and used the video reflection component. The major themes emerging from the findings suggest that the teachers preferred the video method more than the written method because it gave them more insight into their teaching due to the multiple perspectives video offered, and because the video analysis process was simple and efficient to use. The vignette will present one teacher's video-based reflection experience, and the thematic analysis will draw upon this narrative, other self-reports, and additional survey data to present and discuss the major themes.

Part III: Video-based Reflection experience – Vignette. Jacky had a little technological hiccup during the first recording time, she failed to put the tape in her camera. When I arrived to collect her tape, she said that it was still in the camera, however, when I went to get it out of the camera and reported that it was not there, she looked shocked. Immediately she started to blush and look really embarrassed, she then said, "Oh, no, I must have forgotten to put the tape in! I can't believe I did that. I can't believe that I thought I was taping that whole time. Shouldn't the camera tell me that there isn't a tape in it?" Because of the mix-up, Jacky decided that she would tape record again. When I arrived the next day to pick up her tape she was visible excited, and eagerly told me that she had this time put her tape in and recorded a full teaching lesson (sixty minutes of tape). I asked her how she felt knowing that she was teaching while being taped, and she said that besides the kids asking her what she was doing taping them, that she felt things went really well. She reported that the students quickly forgot about the camera and were soon enough "acting pretty normal." She had positioned the camera in front of the middle part of her white board facing out, and had adjusted the

level of the tripod and camera to be the same height as the students. She felt this would allow the camera to record student reactions more than what she was actually doing. Becky reported that the recording part was easy each time after the first mix-up, and noted, “my students didn’t mind the video camera being on, and neither did I. I would tape the entire class and so, soon enough we all would just forget it was there.” Jacky said that she really liked the video process, and found it to be much more enjoyable than the written reflection process. She said reported that she would usually watch and analyze her video at home. She reported that she would spend on average forty-five minutes watching and tagging thirty minutes videos (her videos ranged from 30 – 45 minutes in length). When asked how she went about tagging her video she said that she would usually tag and comment while watching; pausing the video when she had a comment to make and type it in. When I asked her what her overall feelings and impression of the video reflection experience was, she said,

I really liked it... sure, you have to be honest with yourself, but now I feel like I know what to look for. At the beginning I was looking at the lesson as good or bad. Now I look for what I can improve in and what I am doing good at... I would love to do this again; I really think it has helped me.

Part III: Video-based Reflection experience – Thematic analysis. This thematic analysis concentrates on several of the key areas of the study, and addresses one of the primary research questions: are teachers better able to identify areas for improvement (action) because of video-enhanced reflective analysis? The primary sources for these findings come from: video intervention data, teacher self-reports aggregated from informal interviews, researcher observations, and survey results.

The general answer to the question: “*Are teachers better able to identify areas for improvement (action) because of video-enhanced reflective analysis?*” is yes. Four of the five teachers responded with a “yes” response to this question. The one teacher who responded differently said, “I am a little bit better at it now.” Another teacher reported, “Yes, it (the video-enhanced process) has allowed me to see my weaknesses and helped me see my strengths; things that I never thought about before.” Both past research, and the data collected in this study, suggest that video does help teachers better identify areas for improvement. In looking at and comparing the written reflections with the video experience, it is obvious the video provides a more rich and deep description than what the teachers could recall and wrote about in their written reflection papers. Although, it is difficult to quantify and compare the description component of the written reflections to the video descriptions, of the fifteen descriptive statements recorded on the written reflection papers, there was only a single entry that exceeded four sentences. This may have resulted from the teachers’ belief that they were limited to using a single sheet of paper, Bethany said, “I wished the form provided more space to write”; however, I believe this resulted from the teacher’s inability to clearly recall and describe in rich written detail all that was happening during their teaching performance. The following written description statement seems to support this finding, “While walking about the room, I noticed people and told them thank you. I also gave a few students a nod letting them know I recognized their positive behavior.” Although this statement provides some insight into the teacher’s performance, it is very limited in both detail and perspective. Consider this second example: “Students learned to read and spell “like”; they had to find the word “like” on fifteen pages and circle it. We did one book together, then they did

their own.” Again, although this statement provides a nice descriptive summary of the overall purpose and or direction of the lesson, it does not provide any rich description of student reaction, how the instruction and example was given, what the students were doing during the demo, the teacher’s proximity, use of voice, social cues, and so forth.

Part IV: Video supported consultation experience. The purpose of this fourth section is to present and describe the teachers’ experiences and feelings about the consultation component of the video-enhanced reflective process. The consultation component required each teacher to meet with the principal after first completing the written and video tagging phases of the reflection process. The primary purpose of the consultation was to help each teacher improve his or her teaching. It was anticipated that the teacher and principal would engage in a critical conversation about their teaching and establish goals and or action plans based on the teacher’s reflections, in hope of helping the teacher improve their teaching. The major themes emerging from the findings suggest: 1) the teachers believed the consultation to be an integral component of their reflection experience; and 2) they liked being empowered with the responsibility to evaluate their own teaching, where the principal was used as a resource rather than the authoritarian evaluator.

Part IV: Video supported consultation experience – Vignette. Michelle arrived for each of her consultations very keen and professional; she always greeted us with a smile and handshake. At each of her consultations she had a pad of paper and her computer. She would normally first open up her computer, state the goal she had worked on, and then start showing Kristi her coded video evidences. Similar to how she did with the other teachers, Kristi always sat right next to Michelle. During each of the consultations

Michelle would go from tag to tag and talk about what she had noticed and learned, and then ask for Kristi's perspective. She would then take notes on the ideas Kristi would share with her. Although this approach seemed very efficient, when I later asked Kristi what she thought about her consultations with Michelle she said that she thought they were a "little dry." She stated, "I appreciated how Michelle was always ready and very thorough, but it seemed sometimes that either I wasn't asking the right questions, or maybe it was just too systematic; either way, I am sure she got something out of the experience, I just wish it could be more... collaborative." In contrast, when I asked Michelle about the experience she expressed that she felt it was always a positive experience, where she came away with several helpful ideas. In an effort to get a better understanding of how she perceived the consultation, and what the role of the administrator was, I further probed her for her feelings regarding the experience, she said, "The consultation parts were really helpful. It was great to have an expert point out things that I hadn't thought of or seen in the video myself. I kind of knew of what I wanted to work on, and usually she reaffirmed those ideas, but then also gave me other good ideas." Michelle also pointed out that she appreciated how the process provided her the opportunity to play the role of the evaluator, taking the perspective of the principal, watching and analyzing the performance from an outside perspective. Concerning this she said, "I liked being able to watch what she sees when she comes in to evaluate me. It's nice to be kind of in charge of one's own evaluation. I believe we were better able to talk about my performance because of this."

Part IV: Video supported consultation experience - Thematic analysis. The thematic analysis suggests: 1) the teachers believed the consultation to be an integral

component of their reflection experience; 2) the teachers liked being empowered with the responsibility to evaluate their own teaching, where the principal was used as a resource rather than the authoritarian evaluator; and 3) typically the teachers would modify and or add to their written reflection goal as a result of their consultation experience.

In the first theme each teacher (100%) reported that they believed the consultation to be an integral component of their reflection experience. They suggested that the consultation provided them a chance to get feedback and learn from the principal, an opportunity to share some of their thoughts and ideas about their teaching, and an opportunity to have the principal validate their efforts.

The second theme concerns how the teachers liked being empowered with the responsibility to evaluate their own teaching, where the principal was used as a resource rather than the authoritarian evaluator. Consistent with teacher evaluation literature, where research has shown that teachers feel uneasy and often do not perform as they normally do when they are observed and evaluated (Protheroe, 2002), the teachers in this study said they were more comfortable with this process because they controlled what was being observed and evaluated. In support of this finding, one teacher shared, “ultimately the process was for us, which made it so much less stressful and fun to do.” T

The third theme reported that the teachers (87% of the time) typically modified and or added to their written reflection goal as a result of their consultation experience. It is believed this resulted from the principal’s ability to focus the teacher’s attention on additional details, and from the supplementary opportunity the consultation gave the teachers to further analyze and reflect on their performance. The principal stated that she believed her experience, and being able to see the teachers’ performance on video,

informed this occurrence. The teachers supported the principal's statement, however, they also reported that simply having to "re-watch and further talk about their performance" helped them identify areas for improvement and establish goals (actions).

Part V: Principal's experience. The purpose of the fifth section is to present and describe the principal's experiences and feelings regarding the use and influence the video-enhanced reflection process had on her and the teacher participants. The principal's primary role in the process was to help organize the calendaring logistics of the consultations, then meet with each teacher for a consultation, where she engaged the teacher in a critical dialogue regarding their performance. It was anticipated that during the consultation the principal would work with the teacher to build upon the teacher's personal self-reflection/assessment experience; helping them to further identify areas of weakness/strength, and more intensely critique and analyze performance, and finally establish an action plan or goals for future teaching efforts. The major themes emerging from this section suggest: 1) the principal enjoyed the reflective process; 2) the principal believed the process had a positive influence on her teachers reflective habits; and 3) the principal's enthusiasm to engage and belief in the process probably influenced the teacher's willingness to engage in the process.

Part V: Principal's experience – Vignette. Kristi approached the research study with a lot of enthusiasm. Prior to starting the research Kristi was asked how she felt about the process and what she hoped to get out of it. She said,

I am really excited about this process; it's such a great way to help my beginning teachers... I hope my teachers become more reflective; that they see the benefits

of being reflective and that it has a positive influence on who they are and how they teach.

She used this same enthusiasm as she engaged each of the teachers in the consultation phase, which consequently seemed to have a positive influence on the teachers. One teacher reported,

I really appreciate how Kristi is always so supportive and excited about helping me improve my teaching. She puts so much effort into helping us look for and understanding things about our teaching.

I also felt the principal's preliminary efforts to get the process going further validated her enthusiasm and support of the project. She organized a specific time and location for the initial pitch of the research project to her teachers, and ensured they were all present. During the introduction of the project, Kristi visibly and vocally ensured the teachers knew she was supportive of the project. In support of this finding Kristi said,

I hope you guys know that I personally feel reflection is important. That doesn't mean, however that this is something you have to do, or that I am going to be controlling this study. This is an opportunity for you guys. It's not for me; it's for you. I do however; want you guys to take ownership of the process and to see what kind of impact it might have on you.

The video-enhanced reflection process required the principal to meet with each of the teachers for a post consultation that usually lasted approximately thirty minutes, and was essential a focused critical discussion about teaching. During this time she would invite the teachers to open MediaNotes and show her what they had tagged. During this "show and tell" stage, she would consistently watch and intently listen to the video clips.

She would typically pull her chair up close to the teacher and huddle around the teacher's laptop. While she watched the clips she would usually have the teacher pause at each of the "tagged" clips and have discussion about them. Immediately after watching the video clips and giving instructional feedback she would ask the teacher how they believed they did, and what their goal would be for the next reflective exercise. She would have the teacher write down the goal and then give some ideas of what to be aware of while working on it. During the subsequent interview consultations she would follow-up on the previous goals and find out how the teachers believed they were doing on past goals.

Part V: Principal's experience - Thematic Analysis. The primary themes from the study regarding the principal's consultation use and experiences are: 1) The principal personally felt the process made a difference in the teacher's reflective abilities, and in her own performance; 2) The principal's willingness and ability to work with each teacher, coupled with her ability to recognize and communicate helpful instructional feedback is an integral part of the consultation and process; and 3) The principal provided additional commentary to how the teachers had already defined and interpreted their teaching.

The data suggests that Kristi's efforts helped the teachers further examine and critique their performance, consequently helping them see other things they wanted to work on, and in some cases helped them adjust and or clarify their original goal. When I asked Kristi about this she said,

I think the consultation did help the teachers consider other things, I provided another set of eyes, and my experience also helped them see things that perhaps they didn't understand or recognize. And although it was hard at times to hold

back, I really wanted them to take ownership of the process, because then it would make more of a difference. If I told them what to do to change it wouldn't be as meaningful if they came up with the changes. But I do think that our conversations often led them to see and thinking about other things they wanted to do in addition to their goal.

Implications for Research and Practice

General Discussion

The literature review, and findings from this study suggest video supported reflection facilitates effective teacher reflection because it provides additional perspectives (or point of views) of teaching performances, therefore increasing the quantity of things teachers notice about their teaching, consequently helping them more effectively identify areas for improvement. In addition, the findings also suggest that video supported reflection exercises can increase a teacher's ability to reflect when the reflective process includes a method, means (time and tool), rationale, and peer (mentor, administrator) support.

Method. A method is important because it outlines the overall objective and approach teachers should have while engaging in the reflective process. The method does not have to be systematic, inflexible, or rigid, however, it should include a description of expectations - outlining the benefits and purpose, and the routine of the reflection experience.

Means (time and tool). By time, I mean specifically allocating and specifying a moment when the teachers know they are to sit and analyze their teaching. The findings suggest that teachers understand the importance of reflection, appreciate the opportunity

to reflect, and reported that if they were provided a specific time when they could reflect, they would be more willing to engage in reflective practices. The issue of tool is also important, simply because it provides the vehicle that facilitates and gives direction to the teacher's reflection. In the past many pre-service programs required their teachers to keep reflection journals, complete various reflection-based forms, and so forth. More recently video analysis has become a means others have started to use. Regardless of the means (although the teachers in this study preferred the video tool), having a tool does help focus and facilitate reflective practice; however, the tool needs to be properly defined and taught to the teachers. For example in this study, the paper form and video analysis-tool was shown and demonstrated to the teachers, where they were taught about and shown how the tools worked and were to be used (i.e., the teachers watched and then practiced using three parts of reflection: description, analysis, and action to complete a practice reflection experience with both the paper and video reflection processes.)

Rationale. What I mean by rationale is providing a clear, coherent, sensible reason for the teachers concerning how reflection will benefit them. If the teacher's do not understand how increasing their reflective practices can benefit them, they will either minimally participate, or get very little out of the experience. As the teachers understand why and how reflection will directly benefit them they will have an increased motivation to engage in reflective practices. The rationale can range from holistic teacher improvement justifications, to administrative led teacher evaluations reasons.

Support. The final component that will help towards a successful reflection experience is ensuring there is appropriate peer and or mentor support for the teacher. The peer and or mentor support may come from an administrator, mentor teacher, peer

teacher, or an outside observer. The purpose and need for providing the support is to ensure encouragement and accountability. Reflection is not always an easy process, sometimes it is difficult to analyze a personal performance, and or difficult to identify areas of weakness or strength, and to then focus in on methods to improve specific areas. A mentor will bring in different perspectives, experiences, skills, and understanding that will help brainstorm possible solutions. In addition a mentor can also help to keep the teacher accountable for their reflection. When teachers, or people in general, know they will have to report and work with someone towards completing a task they are usually more prone to complete and engage in the task.

Implications

The findings from this study support and build upon several of the ideas, theories, and findings from research related to this study. Generally, most of the literature related to this study concerned pre-service teacher situations, where researchers tried to understand the influence video had on pre-service teacher development, learning, growth, performance, reflective abilities, and so forth. It should however, be noted that the literature outlines very little empirical research in the area of video usage for observation and reflection with in-service teachers. This study is one of only a few to discuss how video can be used to increase in-service teacher reflective practices. I believe this in itself is an important finding, because first, it suggests that there needs to be more research done concerning video usage for observation and reflection; and secondly, there is a great need and opportunity to study the influence video can have on in-service teachers. The reason I believe this is a significant opportunity concerns both the need to support new teachers, and the requirement to evaluate them. Consider the following rationales for why

research needs to be done with video and in-service teachers: 1) Beginning in-service teachers are expected to demonstrate growth over the course of their first three years of teaching. Obviously, one method to do this is to help them better understand, interpret, and analyze their teaching; video provides a tool to do this. 2) In-service teachers typically try to monitor and make efforts to improve their teaching, or at a minimum engage in some form of reflection. Oftentimes this is done through professional development opportunities, in-service school or district wide trainings, collaborative reflection exercises, peer observation and mentoring, and so forth; again, video provides a great tool to accomplish this. 3) In-service teachers, specifically new teachers, have a need to reflect on their teaching. Schon (1987) suggested that effective teachers are those who are capable of reflecting while in action; however, he did make note that novice, or beginning in-service teachers, typically are unable and struggle to reflect in-action because of their relative newness to the classroom, and inability and lack of confidence to monitor and adjust while they teach. Again, video provides an accessible and effective tool to help improve and or study this process. 4) Finally, considering the large amounts of teachers who leave the teaching profession within their first three years of teaching, there is a significant need to support beginning in-service teachers. Perhaps video would be a tool that would aid in the training, building, support, and retention of these teachers.

Suggestions for Future Research

Overall the teachers valued this experience, and felt they were able to grow their reflective practices because of their participation in the study. Because the context of this study was very specific and limited by demographics and sample size, the following suggestions outline a few things that need to be considered for this to be successful in

other contexts. The list also includes suggestions for future research efforts. The areas of suggestion concern: administrative buy-in, teacher ownership, accountability measures, sample size and limitation, internal biases, tool consideration, and timing.

Administrative Buy-in. In order for this process to work there needs to be administrative buy-in. If the administrator(s) is not supportive of the process, or does not feel that increasing teacher reflective practice is an essential attribute of an effective teacher, then the process will have little impact on the teachers. Principal buy-in will help teacher buy-in and motivation because the teachers will see that their principal believes in and supports their professional development. In addition they will believe the principal will provide the required time and means they need to successful engage in the reflective process.

The principal in this study was very keen on teacher reflection, teacher development, and how video could be used to improve teacher performance. She had used video as a means for teacher evaluation and training in the past and therefore already had an immediate buy-in to this process and tool. In talking with her I asked her how her peer administrators might perceive this video-enhanced reflective process. Although she stated that she believed “they would definitely be bettered by the process”, she noted,

Depending on their personality, willingness to try something new, invest more time in teacher training, and in essence do their job – what they are supposed to be doing - it could be hard to get them all on board. You would have to show them how the process would benefit them, and ensure it was easy to implement.

Teacher ownership. Teachers need to feel ownership and be supported throughout the duration of the process. It is believed as teachers are taught about the importance of

reflection, and are provided the means for an effective reflection experience, and a demonstration of how to engage in the process, they will have more buy-in; however, buy-in is not enough. Teachers need to take ownership for their reflective practices. By ownership I mean teachers need to willingly and actively engage in reflective exercises because they want to, because they believe in and see the benefits of reflection. When they have this type of buy-in they will organize their teaching and pedagogy so that it is informed by their reflective practices. Teacher ownership also means the teachers have the autonomy to control, manage, and systematize their reflective efforts as they feel best fits their abilities and interest (i.e., they are provided the time, means, and ability to experiment, and select the standards they want to work on). They need to understand the process is for them, and not for administrative evaluation purposes. When this is done they will inculcate reflection into who they are, and as Jay and Johnson (2002) suggest, allow reflection to guide their educational “way of being”, demystifying and rendering “accessible one of the most powerful aspects of teaching” – teacher reflection (p. 80).

In this study depending on the teacher’s training and familiarity with reflective practice it took a little time to pique their interest and convince them of the benefits of reflection. At first, the teachers also had to get used to the idea the reflective process was for them (it was a paradigm shift for them), that they were not being graded, or evaluated, and that they did not need to put on a performance. As soon as the teacher’s understood the process was for them, they were immediately more at ease and willing to engage in the process. An example of their increased ownership was evidenced in their willingness to openly engage and direct the flow of the consultation with the principal.

A final note regarding teacher ownership is to ensure the teachers quickly get over the superficial effects of the video, meaning they do not pay attention or worry about how they look or sound. Several of the teachers in this study mentioned how during their first video analysis they were distracted by how they looked and sounded. Then when they later engaged in the consultation they also mentioned how embarrassed they were by their voice and or mannerisms. When I asked the teachers about this, they reported, that although it was a little distracting at first, the quicker they overcame it, the quicker they were able to focus on the more important task.

Accountability measures. There needs to be accountability measures build in to the reflection process. The accountability measures help keep both the teachers and principal on track and on task. During my study I found when we had exact dates when the teachers were expected to complete their video recordings and paper reflections they were more apt to have them done. Whereas the times when I allowed for more flexibility and or changed the date, the teachers typically left the recording, paper reflection, or video analysis to the last minute. In my study, I found that pre-establishing due dates was very helpful. For example, during the first consultation we scheduled the subsequent consultation dates. This allowed the principal and teachers to plan ahead, scheduling when they would tape, do their video analysis, and so forth. The principal also went to the extent of blocking out her entire day for the consultations, hiring a “floating sub” for the day, who covered each teacher’s class while they were meeting with her. The only draw back to this method is that by the last consultation the principal risked being a little “burned-out” from the process. When I asked her about this she said,

I liked having the whole day to focus my attention on the teachers, I thought it worked out well. It was a little hard to keep finding and giving new feedback by the end of the day with the last teacher – I guess you could say I was a little burned out, but I managed and I think logistically it was the best way to do it. If you did them from day to day it would get confusing I think, and be harder to schedule.

Sample size and limitations. I believe the homogeneous and relatively small sample group limited my study. In future research I believe sampling larger groups of teachers of different grade levels (i.e., elementary, middle schools, and high schools), and from different schools in various communities (i.e., outside of Utah, and or in lower and higher socio-economic areas) would prove very beneficial. The findings would be more transferable, and helpful for making more wide-ranging conclusions.

Tool considerations. Although this study used MediaNotes as the video analysis tool, I believe future researchers would be wise to demo and consider other video analysis tools before committing to one particular tool. It also might be interesting to have teachers try out various tools and report back which tool they felt was the most effective and efficient. In retrospect it would have proven helpful to this study had I considered other video analysis tools before selecting MediaNotes. Although the teachers were able to easily learn MediaNotes they did report that there were several elements they believed should be added, modified, or deleted. The most prominent feedback about MediaNotes was that it did not break down the reflection into the three clear parts the written reflection form did (description, analysis, and action). Several teachers in their exit

interview said, “It’s too bad the video program didn’t break down the reflection process into the three parts like the written form did.”

There were also some issues with the written form tool. Some of the teachers reported that the written form did not have enough space to write, one teacher in particular said, “I felt like the form was constrained by the paper you gave us... I didn’t know I could write outside of the boxes on it... I think you should have gave the form more space to write on.” Although I based the content of the written form on several reflection typologies, I believe it was limited because I personally developed and only sought and received limited feedback on its design. Future research should consider getting additional feedback regarding the design and use of the form.

Timing. I believe future research in this area would be benefited from lengthening the data collection period. Several of the teachers in my study reported in their exit interview that they wished they could have engaged in the process over the course of the entire school year. They reported that they felt a little rushed while engaging in the process. Several of the teachers said that they left their reflections to the last minute because other immediate and pressing classroom issues required them to do so, which means there was often a week or more delay between their teaching performance and their reflection. Obviously this limited their ability to recall exactly what they taught and what was occurring during their teaching performance.

The teachers also mentioned that it would have been interesting to video tape various teaching performances at the beginning of the year while they are busy establishing themselves, classroom policies, instructional procedures, and so forth, and then compare their performances with end of the year performances. I believe this study and future

studies would benefit from doing a follow-up study analyzing the lasting effects of teacher reflections.

Conclusion

In comparing the written reflections with the video reflection experience, the findings implied that video provides a more rich and deep description than what the teachers recollected and wrote about in their written reflection papers. The findings also reported that the teachers felt their analysis of their teaching performance was more effective when done while using the video-enhanced reflective process because “it provided them a tool, a different perspective, and more evidence to consider.”

Consequently the teachers reported that they believed their actions to be more relevant and applicable to their teaching. It is believed the video-enhanced reflection process helped the teachers: 1) Identify and describe the “puzzles of (their) practice” (Jay & Johnson, 2002, p. 78); 2) More effectively analyze and critique their performance, helping them as Jay and Johnson (2002) put it, “find significance in a matter so as to recognize salient features, extract and study causes and consequences, recontextualize them, and envision a change” (p. 78); and 3) Establish an action oriented goal to further their teaching abilities, thus accomplishing what Dewey (1933) believed the over-riding purpose of reflection is – intelligent, thoughtful, purposeful action.