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Video Reflection in Teacher Professional Development

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Video Reflection in Teacher Professional Development

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Abstract

Video Reflection in Teacher Professional Development

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The goal of this report is to synthesize my current understanding of teacher reflective practice as addressed in academic literature and to specifically examine the potentials and limitations of video recording in the reflective process of teachers. I trace my experience and growth in reflective practice as a bilingual elementary school teacher and consider how teachers as researchers/participants in reflective practice cohorts can contribute to the professionalism of teaching. As a result of my findings I make recommendations toward appropriate professional development using video reflection as a key component in the development of novice teachers via the mentor/mentee framework. This report contributes to the knowledge base regarding reflective practice and to the growing literature on video recording in the reflective process of teachers. It also provides insights into the potential for action-based research by practicing teachers. Implications and recommendations for teachers and researchers are included.

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Introduction

Scholars have found teacher quality to be the primary factor affecting student academic achievement (Hanushek, 2011 and Darling-Hammond, 2010). Over the course of my 12-year career as a bilingual teacher at the elementary level I have witnessed firsthand the effects excellent teachers can have on groups of students. At a purely empirical level I have based my assessment of other teachers' high quality of practice on such diverse outcomes as displayed student work, student presentations, standardized test scores and observed motivation and participation by students. What is less clear to me are the specific characteristics, dispositions and practices of teachers who have the highest impact on student achievement. Indeed, I am not alone in my inability to articulate what makes a highly effective teacher. While research has shown that students starting an academic school year at comparable levels of achievement can finish the same school year at very different levels of achievement due to the quality of the assigned teacher (Hanushek, 2011), researchers have struggled to identify the characteristics of teachers that reliably relate to student outcomes (Hanushek, 2011). In fact, studies have failed to link teacher characteristics such as possession of a Master's degree, total years of experience, conventional teacher certification, source of teacher training, or salary level to classroom learning (Hanushek, 2011).

Professional development has been a common source of teacher training that is frequently assumed to be related to student achievement. One form of professional development is in-service sessions in which entire days are dedicated to workshops typically designed by outside consultants or school administrators with little planning or

input from the attending teachers. Another form of professional development involves seminars away from campus during the school day, with the school district providing substitute teacher coverage for classroom duties. These two types of professional development typically focus on a new learning program or teaching strategy that experts present from a banking or transmission perspective of education (Freire, 1970). That is, teachers are assumed to have no knowledge of the new content and need to be filled as empty vessels collecting discreet skills and decontextualized knowledge. Typically there is little follow-up or coaching. Teacher researchers have expressed frustration that “[o]perating on this premise, professional developers find it compelling to adopt a technical-rational approach to professional development cramming teachers with external and ready-made solutions and ignoring their reflective practice” (Sarsar, 2008: p. 1).

Based on such models of professional development, it is not surprising that some studies have actually found minimal gains on student outcomes as a result of targeted professional development. Garet and colleagues (2008) sought to measure the impact of early literacy professional development on urban school districts serving high numbers of non-English language learner students from low-income households. Despite intensive training for teachers using a professionally designed early literacy professional development curriculum, the researcher’s findings indicated that professional development intervention did not result in higher student test scores after one year (Garet, 2008). The need for appropriate professional development is an ongoing concern in education.

As a public school teacher reading research with such findings can be demoralizing. However, knowing that my practice in the classroom is the most important factor in student success offers a tantalizingly frustrating challenge. As a current and proudly practicing teacher I have faith in my colleagues and myself to improve our practice and to establish teaching as an esteemed professional field. I also believe my experiences and perspective can contribute to the professional discourse regarding teacher quality. This report is my attempt to establish reflective practice via video as a potentially powerful means to improve teacher professional development. In this attempt I situate elements of my own experience within historical and current understandings of reflection as defined by the academic research literature. Specifically, I seek to analyze my experience with the use of video in the reflective process by comparing it to how researchers have used video with teachers. My goal is that the resulting knowledge I gain will enable me to more effectively engage myself and other teachers in purposeful and effective forms of reflective professional development.

Research Questions

I formulated the following research questions in order to better understand scholarly concepts of reflection, how researchers have used video to mediate reflection, and how this knowledge will benefit my peers and me professionally.

- 1) Who are the influential educational theorists who have addressed reflection and how have they conceptualized reflective practice?
- 2) How have teachers, including myself, and researchers used video in order to affect reflection and what have been the results?
- 3) What are my insights concerning video and reflection as a result of this report? How will I use this knowledge professionally?

First, I examine ways reflection has been defined and conceptualized by educational theorists. Then I frame some of my work with video and reflection within these conceptualizations of reflective practice. Specifically, I address my experience with the National Board Certification process and focus on the benefits of the video recording requirements of the process. I also detail a preliminary study I conducted examining video recording as a tool in promoting teacher reflection. Next, I examine current literature regarding reflection as mediated by video recording. Finally, I address issues and recommendations for professional development using video and pose further questions.

Reflection in Teaching

Many of the scholarly articles addressing reflective practice in teaching cite the educational theorist, John Dewey, as a key figure in developing an understanding of reflection in education. Dewey distinguishes between reflective thought and “the random coursing of things through the mind,” (Dewey, 1933, p. 4) which he describes as the ‘Stream of Consciousness.’ He defines reflective thought as “[a]ctive, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends...” (1933, p. 12). Dewey outlines the process of reflective thought:

Phases of reflective thinking, (1933, p. 12)

- (1) a state of doubt, hesitation, perplexity, mental difficulty, in which thinking originates, and
- (2) an act of searching, hunting, inquiring, to find material that will resolve the doubt, settle and dispose of the perplexity

According to this model we begin to reflect when we are surprised and then perplexed and that the reason we reflect is to re-establish our emotional equilibrium (Dewey, 1924, p. 150). Dewey frames the value of reflective thinking as enabling “us to *know what we are about* when we act. *It converts action that is merely appetitive, blind, and impulsive into intelligent action* (1933, p. 17, emphasis original). For Dewey reflective thinking is dependent on three attitudes that must be present in an individual, they are: *open-mindedness, whole-heartedness, and responsibility* (1933, pgs. 30-32). Dewey’s

emphasis on intelligent action as a result of reflective thought seems especially crucial to consider if we want to increase levels of teacher professionalism.

Donald Schon is another scholar who has had a profound influence on how we think of reflective practice. In contributing to the knowledge of reflective practice Schon (1987) positioned reflective thinking in opposition to “the prevalent idea that professional practice depends primarily on the application of the scientific knowledge and that everyday problems can be solved simply by employing the principles and theories professionals have gained in the process of their formal professional education” (Sarsar, 2013, p. 4). Instead, he believes much can be learned by examining what he calls artistry, or “indeterminate zones of practice” of teaching (Schon, 1987, p 13). In practice artistry goes beyond research based technique and can be thought of in terms of the art of problem framing, art of implementation, and art of improvisation. For Schon, the analysis of artistry in the practice of competent practitioners has great potential to contribute to more formal professional knowledge. Schon describes how professionals demonstrate intelligent action as *knowing-in-action*. While this type of intelligent action is difficult to articulate, in the sense that explaining how one throws a ball or rides a bike is not easily explained, Schon believes “[n]evertheless, it is sometimes possible, by observing and reflecting on our actions, to make a description of the tacit knowing implicit in them (Schon, 1987, p. 25). He goes on to distinguish between *reflection-on-action* and *reflection-in-action*. Whereas the former takes place after an action, reflection-in-action takes place in the midst of it and has the potential to affect the outcome.

Other scholars have sought to add to Schon's definitions of *reflection-on-action* and *reflection-in-action*. Killion & Todnem (1991) conceptualized *reflection-for-action* as the goal of *reflection-on-action* and *reflection-for-action*. They argue "[w]e undertake reflection, not so much to revisit the past or to become aware of the metacognitive process one is experiencing (both noble reasons in themselves), but to guide future action (the more practical purpose) (p. 15)". These scholars see the value in *reflection-for-action* as taking place subsequent an action but affecting a positive proactive approach to the improvement of future professional practice.

The desire to categorize levels of reflective thinking is borne out in other academic literature as well. Van Manen (1977) as cited in Sparks-Langer, Simmons, Pasch, Colton & Starko (1990) distinguishes between three stages of critical reflection in a hierarchical model specific to teaching in which levels gain in complexity. At the lowest level of the hierarchy there lies *technical reflection* in which a teacher considers how best to achieve an unexamined goal. *Practical reflection* involves more pedagogical concerns and include teacher questioning such as "What should we be learning?" (Sparks-Langer et. al., 1990, p. 24) For Van Manen, the highest stage of teacher reflection involves the ethical and moral implications of teaching, which is commonly thought of as *critical reflection* (Freire, 1970).

The impulse to value different types of reflection over others has also been extended to the language that teachers use when reflecting. Sparks-Langer *et al.* (1990) developed a *Framework for Reflective Thinking* that assigns a numbered level to student teachers' written and verbal reflections of teaching events.

Table 1Framework for Reflective Thinking (Sparks-Langer *et al.*, 1990)

Level	Description
1	No descriptive language
2	Simple, layperson description
3	Events labeled with appropriate terms
4	Explanation with tradition or personal preference given as rationale
5	Explanation with principle or theory given as the rationale
6	Explanation with principle/theory and consideration of context factors
7	Explanation with consideration of ethical, moral, political issues

Table 1 shows Van Manen’s technical/practical/critical hierarchy of reflection with lower levels indicating technical concerns and the highest level taking into account more critical concerns of ethics, morality and politics.

Although the inclination to qualify reflective thinking by categorized levels of value may be appealing as a method to define effective reflection, researchers have also considered reflective practice in less competitive ways. For example, Sparks-Langer and Colton (1991) describe a much less evaluative system to examine teacher reflective thought. In it the authors describe three elements they consider “important in teachers’ reflective thinking” (p. 37). Table 2 shows a more holistic view of elements often encountered in teacher reflective practice.

Table 2

Elements in Teachers’ Reflective Thinking (Sparks-Langer & Colton, 1991)

<i>Cognitive Element</i>	<i>describes how teachers process, information and make decisions</i>
<i>Critical Element</i>	<i>focuses on the substance that drive the thinking such as experiences, goals, values and social implications</i>
<i>Teachers’ Narratives</i>	<i>teachers’ own interpretations of the events that occur within their particular contexts</i>

That the cognitive and critical elements echo previous conceptualizations of reflective practice is apparent. Of particular interest here is the central role of teachers' interpretation of their own contexts in reflective thinking through teacher narratives. Sparks-Langer and Colton (1991) cite Cohran-Smith & Lyle (1990) to argue that, at that time, missing from the traditional knowledge base "are the voices of the teachers themselves" (p. 41). They go on to identify three major benefits of teachers' narratives.

First, these studies give us insights into what motivates a teacher's actions and an appreciation for the complexity of teachers' everyday lives. Second, teachers' narratives provide us many detailed cases of teaching dilemmas and events.The third, and most valuable benefit is the insight gained by teachers themselves as a result of this self-inquiry. (Sparks-Langer and Colton, 1990, pgs. 42-43)

Willis (1999) provides an interesting and useful conceptualization of the value of description, as found in narrative forms, as it pertains to the philosophical field of phenomenology. In considering phenomenological principles in reflective practice Willis examines and argues the value of an expressive approach to description in reflective thinking. Like Sparks-Langer and Colton (1991) Willis conceptualizes reflective accounts of practice as 1) instrumental/(cognitive), 2) critical, and 3) expressive/(teachers' narratives). He summarizes the reflective practice cycle as consisting of four stages; "description, appraisal, suggested correction and planning for subsequent action" (p. 91) In contrast to scholars such as Killion and Todnem (1991) who concern themselves primarily with the practical outcomes of the reflective process, or Sparks-Langer (1990) who prioritizes critical outcomes, Willis (1999) focuses his

attention on the benefits of focusing attention on the first phase. He posits the following in reference to an expressive phenomenological approach:

This approach is concerned to present events of practice in so far as they are experienced by the practitioner. It is suggested that when practitioners have the opportunity to dwell on the experienced dimensions of a purposive activity, the process can evoke approval or disapproval and with it energy to continue or desist, and, if to continue, to proceed with or without change. (Willis, 1999, p. 92)

Willis also positions representation, often in the form of texts, as a powerful and necessary component in this type of descriptive process. The potential is rich for video to provide such opportunities “to dwell on the experienced dimensions,” of activity in the classroom. Before turning to the possibilities video offers as a means of enhancing this type of reflection I will turn to a focus on what actions or “episodes of practice,” (Willis, 1999) might best generate an expressive approach.

Tripp (1993) promotes teachers’ analysis of critical incidents as crucial in the development of professional judgment. He borrows the historical term *critical incident*, which he identifies as “some event or situation which marked some significant turning point or change in the life of the subject” and applies it to “how the term could also be used in the sense of making something that had hitherto appeared normal and natural, critical by showing how it exemplified underlying patterns and values,” (p. 97). Tripp seeks to examine what at first appear to be commonplace events in the classroom but which often come to be seen as critical as a result of description. (p. 25) Tripp, like Schon, also recognizes that there exists within quality teaching ineffable skills that even practitioners can struggle to identify, much less describe. Also like Schon, Tripp believes educators should seek to develop the ability to name such practice, which he terms *tacitly*

held practical conduct knowledge, a term borrowed from Polanyi and Prosch, 1975.

Beyond naming the phenomenon, Tripp argues it is possible for teachers to grow professionally by learning to diagnose the significance of events of tacitly held practical conduct knowledge. Tripp critiques and expands on Dewey's conceptualization that we reflect in order to re-establish our emotional equilibrium.

Dewey's definition limited reflection to the systematic processing of cognitive disequilibrium, whereas it seems logical to say that we are reflecting whenever and however we direct our thinking towards understanding something sufficiently well in ways that will enable us to come to terms with the feelings we have about it. (Preface, xii)

Based on his experience with teachers Tripp encourages those working to improve reflective thinking to focus on emotional responses, which he argues are the most common responses to critical events in teaching. Interestingly, Tripp also encourages written description in recording critical incidents. In describing the benefit of writing about critical incidents he states the following.

The written account not only facilitates and formalizes our telling or retelling of them, but simultaneously encourages and records the way we inevitably reshape the experience, highlighting or suppressing features according to how we are feeling about them when writing. (p. 109)

Critical incident analysis thus offers an interesting and potentially useful framework in which teachers' descriptive narratives take center stage as teachers examine their work technically, practically, and critically. By becoming versed in the description of tacitly held practical conduct knowledge Tripp argues teachers can improve society's perceptions of the teaching profession.

John Dewey and Donald Schon are two academics whose conceptualizations of reflective practice have had a lasting impact on scholarship in the field. Their theories of reflective practice have been refined and extended in diverse ways. Contemporary scholars differ on what the most beneficial outcomes of reflective practice should be. Some value more practical outcomes while others promote critical awareness. Schon, Tripp and others have described how implicit knowledge and skills hold the potential to enhance the professional nature of teaching. A common means thought to enhance and develop reflective thought is through writing. In the next section I describe my own experience with reflective practice specifically in relation to video recording of my classroom teaching.

Video in Reflection (My Experience)

The following teacher narratives are my own and represent some of the purposive activities I have engaged in as a teacher using video to mediate reflection. The inclusion of my voice is intended to showcase some of the events and dilemmas from a teacher perspective in attempting to utilize video as a reflective tool. By situating my narrative experience within the broader context of this report I hope to contribute teacher voice to the traditional knowledge base. (See Sparks-Langer & Colton, 1991)

National Board Certification Professional Development and Video Reflection

In assessing my own professional development over the course of my career I have come to the conclusion that my growth in the ability to reflect on my teaching has had the greatest impact on my practice in the classroom. My ability to reflect on my practice stems directly from a professional development experience -- becoming a National Board certified teacher. The National Board for Teaching Standards, commonly referred to as National Board, grew out of a belief that teacher quality is of paramount concern related to student success in the 21st century. In *A Nation Prepared: Teachers for the 21st Century*, a task force of educators, teachers' unions, business leaders and policy makers "provided specific suggestions for strengthening standards in teaching and professionalizing the teacher workforce" (National Board For Teaching Standards). The result was a certification process based on 5 core propositions describing the task force's characteristics of successful 21st century teachers.

Table 3

National Board 5 Core Propositions

1. Teachers are committed to students and their learning.
2. Teachers know the subjects they teach and how to teach those subjects to students.
3. Teachers are responsible for managing and monitoring student learning.
4. Teachers think systematically about their practice and learn from experience.
5. Teachers are members of learning communities.

Under the umbrella of the 5 Core Propositions common to all areas of the National Board framework there are standards according to the certification area a teacher chooses to pursue. Below are the standards for the certification area I pursued, *“English as a New Language, Early and Middle Childhood.”*

Table 4

National Board English as a New Language: Early and Middle Childhood Standards

- Standard I: Knowledge of Students**
- Standard II: Knowledge of Culture and Diversity**
- Standard III: Home, School, and Community Connections**
- Standard IV: Knowledge of the English Language**
- Standard V: Knowledge of English Language Acquisition**
- Standard VI: Instructional Practice**
- Standard VII: Assessment**
- Standard VIII: Teacher as Learner**
- Standard IX: Professional Leadership and Advocacy**

Providing evidence that the five propositions and certification area standards are being met is an integral part of the certification process in which teachers seeking National Board certification develop a teaching/learning portfolio and complete computer based assessment tasks. Two of the 4 piece portfolio requirements of the National Board

process require teachers to video record their lessons in response to specific prompts. In my certification area, the video prompts were “Scaffolding Learning” and “Facilitating Interactions: Small Groups.” The instructions for these two portfolio pieces provide detailed descriptions concerning the types of lessons to be recorded as well as parameters involving video length, editing, and student participation requirements. Teachers must also develop a written commentary describing what transpired on the video(s) and support their instructional choices in response to targeted questions structured within 4 “Composing Written Commentary,” prompts, Instructional Context, Planning and Teaching, Video Recording Analysis, and Reflection. *I found through the writing process of describing and justifying my teaching from the videos that I became more knowledgeable about my students and cognizant of how the choices I made as a teacher affected the students I taught.* Some of the questions included:

*What are the language proficiency levels of the students?
What are their cultural backgrounds?
What type of program is this?
What were your language and content objectives for this lesson?
How did you determine that these objectives were appropriate for this group of students?
Did your objectives vary from student to student? Explain.*

During the process of responding to these questions I noticed that in writing about evidence of my knowledge of students I was actually growing in that same knowledge. I also became aware that in thinking about and attempting to justify my instructional choices based on the above questions that I began making better choices. A concrete example concerns the question dealing with varying objectives from student to student. My initial lesson plan for the “Scaffolding Learning” video addressed the mathematical

concept of patterning at the first grade level. In the process of designing the lesson I put together a task for small groups of students without initially considering their unique abilities in math. As I was using the questions from the portfolio directions related to the video to guide me in my pre-video planning, the question “Did your objectives vary from student to student?” caused me to pause and admit that the small group activity addressed a baseline level of performance. The question forced me to consider the differing needs of my students. In the end I grouped students strategically and varied the patterning objective in terms of complexity.

Another beneficial outcome of the video process were the insights I gained from being able to see myself from the outside. During the process of responding to the questions I repeatedly viewed the videos of myself teaching, stopping often to rewind. In doing so I became aware of subtle aspects of my teaching that could be affecting student learning. My reflections included analysis of my body language and the messages students may perceive from my facial expressions. While such concerns may seem superficial, my instruction changed as a result of the process I was engaged in via video. For example, I became more aware of my mannerisms and worked to eliminate aspects of my physical presence that might be sending unintentionally negative messages to students.

Findings from National Board experience

- 1. Seeing myself from the outside led to an examination of body language and facial expressions during instruction. I became more aware of unspoken signals/messages students might be interpreting.*

2. *Writing descriptions based on video increased my knowledge of my students which in turn led to more differentiated instruction to meet individual student needs.*
3. *Responding to guided questions provided a useful scaffold in recording written reflection.*

It was with this experience using video in the classroom as a tool to promote my own professional development that I came to be interested in the act of reflection as a specific phenomenon to be developed in the profession of teaching.

Previous study

In the Spring semester of the 2012-2013 school year I developed an action based research project designed to evaluate the effects of video on the reflective practice of a group of volunteer teachers at the elementary school at which I worked. I, too, was a participant as well as lead researcher. I based the parameters of the study on a cursory review of the extant literature on video in teaching. Basically, teachers were to record themselves teaching, write a reflection, choose a part of the video to show to the group of teachers, and participate in a group reflection after viewing the video together. The project met with limited success as all but one of the volunteers dropped out of the study before attempting to video their teaching. The particular group of teachers were a close knit bunch of 5th grade teachers who felt pressure to prepare their students for a standardized test to take place within my study's duration. Despite the initial enthusiasm these teachers showed at the informational meeting I held to recruit participants, ultimately they felt they needed to dedicate all of their time and energy outside classroom instruction to lesson planning in order to prepare for the state test. I was able to work

with one teacher who remained committed to the study and gained some powerful insights into how teachers beside myself can use video in order to promote reflective thinking. The teacher participant was a novice teacher who reported never having videoed his instruction before. In comparing the written reflection and transcripts of our discussions I noticed differences in what we each considered significant in our videos. My teacher participant focused much of his reflection on himself and on how his students might perceive him during a whole group lesson. I did not find this surprising as I recalled my own experience during the National Board process when I too viewed my first videos with most of my attention on my physical presence in the classroom. However, what I found interesting this time was the lack of emphasis I placed on myself in the reflection I wrote about my video. Indeed the video itself focused more on student interactions as a consequence of the type of lesson I chose to record. Could it be that I no longer focused so much of my attention on myself when watching videos because I had gone through the process already when viewing previous videos? Would every teacher upon initially seeing oneself on video need to focus on him/herself before focusing on students? Was this to be expected?

Findings of study

1. *Novice teacher focused majority of reflection on personal attributes and body language. Teacher/researcher focused on students and student products. (As a result of prior experience with video?)*
2. *One video recording from each participant did not offer opportunity to apply insights based on reflection.*
3. *Time must be prioritized to favor this type of teacher collaboration. (Top down support of bottom up initiative?)*

Although few, if any, concrete conclusions can be drawn from such limited experience the process of conducting a small scale study on reflective practice as mediated through video fueled my interest in the uses of video as a potential vehicle toward effective teacher professional development and increased student achievement.

Video Reflection in Professional Literature

There exists a great deal of research addressing the use of video as a tool for reflection with teachers. Tripp and Rich (2012) recently published a review article that aimed to “review past studies in order to help educators make more informed decisions as they establish their own video analysis processes.” (p. 679) The article includes an appendix with short descriptions of 63 studies that address video as a tool for teacher reflection. Included sections are *authors/date, participants, video procedures, reflection method, data collection, and results.*

Tripp and Rich’s thorough yet concise article provides an excellent overview of the current scholarly knowledge concerning video as a reflective tool in education and has served as a major reference point in my study of the topic. Tripp and Rich (2012) identify three areas of current knowledge regarding the topic of video recording and teacher analysis and reflection:

1. *Video is a powerful tool for teacher reflection.*
2. *Video enables teachers to more effectively “see” their practice.*
3. *Teachers who engage in video reflection report recalling prior videos of their teaching during future teaching, enabling them to more effectively, “reflect in practice.”* (p. 679)

The authors also describe implications for practice and policy. They found that teachers generally prefer to engage in analysis around video recordings with others and that they feel changes to their instruction are more likely to take place as a result of collaborative analysis. Guided frameworks are also important to teachers and serve to focus their attention. However, teachers typically want to choose their own focus. The

authors recommend a balance between predetermined frameworks and teachers' choice of focus. Finally, video-aided teacher reflection has affected change as seen through various measures including self-reports, case studies, lesson plans, and pre/posttest scores. But, what combination of these measures leads to the greatest change is unknown and area in need of future research.

Finally, Tripp and Rich (2012) examine six key dimensions they see in current studies of video recording and teaching but that differ across the existent research. I return to consider this table later in this report.

Table 5
Dimensions of Video Analysis (Tripp and Rich, 2012)

Table 1: Dimensions of video analysis

<i>Dimension</i>	<i>Definition</i>	<i>Question</i>
1. Reflection tasks	Tasks teachers participated in during or after viewing their teaching: (1) completing codes or checklists, (2) participating in interviews or conferences, (3) writing reflections and (4) video editing.	What type of reflection tasks will I ask teachers to engage in during their video reflections?
2. Guiding reflection	How the reflection process was facilitated. For example, in some studies participants chose their own reflection focus, while in other studies researchers or supervisors guided the teachers' reflections.	Will I provide teachers with a framework to guide their reflections?
3. Individual/ collaborative reflection	Individual reflection refers to instances where teachers viewed and reflect on their video individually. Collaborative reflections describe when participants reflected on their videos with supervisors, researchers, peers and/or colleagues.	Will I ask teachers to reflect individually, collaboratively, or both?
4. Video length	In past studies the length of video used for reflection varied from 3 minutes to an entire teaching episode.	What length of video will teachers use for reflection?
5. Number of reflections	In past studies the number of times teachers reflected on their videos varied from one to more than three reflections.	How many times will teachers reflect on their videos?
6. Measuring reflection	This refers to how studies determined the influence of video on teachers' reflections.	What methods will I use to determine if video was beneficial for teacher reflection?

Based on my findings to this point and on insights gained from Tripp & Rich (2012) I now examine common themes via the academic literature on video and reflection. First, I examine studies that incorporated writing into the reflective process. Then I address studies in which teachers' self-perceptions and focus on self in relation to the reflective process changed as a result of video. Next, I examine how researchers have incorporated hierarchical assessment systems of reflective thought into video reflection. Finally, I review studies that have incorporated critical incident analysis, as operationalized by Tripp (1993). I address these four areas as common and important themes I see across my own experience as well as represented in academic literature.

Writing in Video Reflection

Griswold (2004) conducted a study of thirteen practicing teachers using video to spark reflection. The teachers reflected with one another after viewing the video and kept reflective journals throughout the process. The researchers also collected data from a Video Self-Assessment/Reflective Writing questionnaire, teaching competency forms, professional development forms, and a concluding response survey. The researcher analyzed the journals for themes and created a frequency chart. The three most frequent themes or categories addressed in the reflective journals were: 1) venting/expressing job related frustrations, 2) analysis or concern regarding student behavior/learning during the lesson, 3) reflections on peers tapes from study group viewing session (p. 66).

Significantly, the most frequent theme was emotional responses in the form of job related frustrations. This is line with Tripp's (1993) observation that teachers' initial reflective thoughts are typically based on emotion. Not addressed in this study are the outcomes of

the frustration expressed by teachers. That is, do teachers come to re-establish their emotional disequilibrium as a result of their individual/group reflections.

Bryan & Recesso (2006) offer an interesting perspective of Science student teachers as they utilize a web-based video analysis tool, VAT, that video records classroom activity and allows teachers to view and collaboratively reflect on their teaching. Prior to any recorded video, the student teachers wrote narratives concerning their visions and beliefs about science teaching and learning. They were later specifically asked to base their written and oral reflections of their videos on direct evidence from their video that supported or contradicted their previously written visions/beliefs about teaching and learning. The goal of the experience was to “help prospective teachers articulate, analyze, and refine ways of conceptualizing teaching and learning in the process of developing professional knowledge” (p. 36). In the case of one teacher participant, Catherine, the process of journal writing about a videoed lesson offered her the opportunity to reflect and reaffirm values and beliefs she had previously expressed as important in her narrative. (Catherine reflects that students’ high level of involvement proves the relevance of a science lesson to their lives.) “For a novice teacher like Catherine, finding some evidence of desirable practice affirms her ability to make sound pedagogical decisions” (p. 35). Again it is evident that writing can be powerful in the reflective process in conjunction with video recording of classroom instruction.

The task of writing connected to video and reflection is a common theme of studies reporting positive results. Of the 63 studies reviewed by Tripp and Rich (2012) thirteen incorporated writing. Although the writing tasks were different, varying from

personal narratives to post video reflections, ten of the 13 studies reported beneficial outcomes from video reflection supported by writing.

A particular writing task not often present in academic studies is writing in response to guided questions such as those provided in the National Board portfolio directions. Brantley-Dias *et al.* (2008) did utilize guided questions asked by researchers to elicit reflective thinking from participants. However, in response to the lower levels of reflective thought proffered by participants the researchers suggest it is possible “candidates needed additional questions to scaffold their written reflections—questions that asked why or how do you know?” (p. 17). More analysis on the development and potential benefits of effective guided questioning in response to video reflection is needed.

Self-Perceptions and Shifts of Focus

Many studies of video and reflection note a shift in focus among teachers as they go through the process of using video to engage in reflection. Yerrick, Ross and Molebash (2005) studied a group of postbaccalaureate teachers participating in an elementary credential program. The group of teachers videoed themselves teaching and then were able to edit their videos for episodes they felt were significant and wanted to discuss. Among the researchers findings was that over the course of the study teachers shifted attention from themselves in terms of what they felt was significant and began focusing on students’ thinking. The researchers frame this shift positively in that it represents a progression from “especially shallow aspects of instruction, to a deeper understanding of student thinking” (p. 363). Of particular interest as well is the researchers’ finding, based

on participants' personal accounts of the experience, that the editing process facilitated this type of shift in focus.

Sherin and van Es (2005) found a similar shift in focus in their study of four middle school math teachers participating in a year-long video club. The teachers met monthly for one hour to view and discuss each other's videos of classroom practice. The researchers found that the teachers focused on teacher centered pedagogical concerns for 57% of the time during initial video club meetings. This contrasts with the final video club meeting in which the participants focused more on the mathematical thinking of the students and discussed teacher centered pedagogical concerns for only 14% of the time. The researchers attribute this shift in thinking to reform recommendations from the American Association for the Advancement of Science (1993) and the National Council of Teachers of Mathematics (2000).

Although the reasons are unclear, a shift in focus from oneself onto students and their thinking seems to be a common occurrence when using video in the reflective process. Whether it be a shift from teacher centered pedagogical concerns to student thinking as in Sherin and van Es (2005) or a shift in the way one carries oneself after viewing one's own mannerisms on video (Romano and Schwartz 2005) there exists strong evidence to suggest that teacher self-perceptions change as a result of the video reflection process. These findings are in line with my own experiences with the National Board Certification process. I also witnessed the participant in my study focus his attention on himself upon viewing his first and only video of his classroom instruction.

Left unanswered is if he, too, would have shifted his focus to student learning as a result of further videos.

Hierarchies and Priorities of Reflective Thought

Scholars have categorized reflective thought in different ways according to their respective theoretical assumptions. Killion and Todnem (1991) position the practical purpose of *reflection-for-action* above *reflection-on-action* or *reflection-in-action*. Van Manen, (1977) and Sparks-Langer *et. al.* (1990) value critical reflection above all else. Different priorities regarding reflection have shaped academic studies in interesting ways. Byra (1996) studied fourteen preservice PE teachers who recorded one 30 minute lesson each. Responses to questions were coded as *technical*, *situational*, and/or *sensitizing*. The author found that answers to questions tended to focus on technical aspects of their teaching. The theoretical assumption that *sensitizing* reflection, in which teachers' develop critical consciousness, is the highest form of reflection serves to frame the *technical* reflections the teachers made as being superficial or basic. Calandra, Brantley-Dias, and Dias (2006) utilized the Sparks-Langer *et. al.* reflective scale (see table 1) to rank the reflective practice of one preservice Science Education teacher who recorded her teaching during two teaching cycles. The teacher demonstrated high levels of *critical* reflection during a final video-stimulated interview, which the authors attribute to the video process as well as the guided nature of the interviews. Again a theoretical assumption that *critical* reflection is more substantive than *technical* or *practical* informs the authors' interpretation of "high" levels of reflection. The authors contrast what they see as high reflective thought/*critical reflection* with lower levels of thought/*technical or*

practical reflection during initial interviews. Calandra, Brantley-Dias and Fox (2007) used the Sparks-Langer *Framework for Reflective Thinking* hierarchy again in their study of twenty-four secondary English teacher candidates engaged with video in order to identify and analyze critical incidents. In this study the researchers found the hierarchical framework did not adequately portray teacher reflective thought:

Because the framework is based upon the belief that “analysis of students’ language can shed light on their ability to use concepts and principles to explain classroom events” (Sparks-Langer et al., 1996, p. 27), we found the levels somewhat useful in describing the overall nature of the teacher candidates’ written reflections, although we noted that two or more levels may be applied to the same data segment. Therefore, in terms of being descriptive of our data, these levels may function more as a continuum rather than a strict hierarchy of levels. (p. 2)

The researchers also found that participants progressed in their uses of professional language as a result of critical incident analysis, which Tripp (1993) argues holds potential to improve the standings of teaching as a profession.

Brantley-Dias, Dias, Frisch, & Rushton, (2008) also found the depth of participants’ reflective thought to remain mostly *technical* in their study of eight preservice science teachers. It should be noted that, as in the Byra (1996) study, the participants only recorded themselves one time. The question could be posed if, whether like teachers’ tendencies to focus on themselves when reflecting on first time videos, teachers are more likely to focus on *technical* issues of teaching as a result of initial videos for reflection. A possible limitation of studies finding primarily technical levels of reflection is their lack of multiple video and reflective opportunities.

The need to distinguish types of reflective thought is a pervasive concern in some literature regarding video reflection. However, the ways in which reflective thought have been conceptualized has varied greatly. It seems apparent that researchers' theoretical assumptions regarding optimal forms of reflection can serve to frame actual instances of teacher reflection as untrained. The following section analyzes ways in which teacher reflection can illuminate sometimes unnoticed aspects of professional knowledge.

Implicit/Tacit Knowledge

The role of video in reflection has also been useful in encouraging teachers to become aware of the implicit knowledge that affects the ways in which they teach. Senger (1998) in her study of two elementary school teachers found that video reflections served to illuminate teachers' tacit beliefs and linked the ability to relate belief to practice to potential for positive teacher change. The participant Catherine from Bryan & Recesso (2006) illustrates this potential empowerment through her ability to link her stated beliefs from her narrative to the practice on the video of her teaching. Willis' (1999) expressive phenomenological approach seems applicable here as well. Catherine was afforded the time and direction to "dwell" on her beliefs and later her practice via the video recording. As such she was able to reach the informed conclusion that she approved of her practice as it coincided with her beliefs.

Powell (2005) found that participants became much more aware of their tacit assumptions about teaching as a result of video reflection. The six participants, all working on their Masters of Arts degrees benefited from recognizing and analyzing

elements of their videos that made apparent their assumptions concerning, in this case, active learning.

The potential for video to aid teachers in identifying and examining their tacit assumptions about teaching and learning is great. A further aspect of this realm of reflection would be a focus on highly skilled teachers and their “tacitly held practical conduct knowledge,” (Tripp, 1993). Such an analysis of what Schon refers to as “indeterminate zones of practice,” could, as he argues, contribute to professional knowledge in the field of teaching. (Schon, 1987).

Conclusion

I see the potential for reflection based on video to be a powerful alternative to more traditional forms of professional development. As I move forward in my career as a classroom teacher I plan on utilizing video mediated reflection in my classroom and with other teachers. Specifically, I plan to incorporate video and reflection into a mentoring program that has resulted as a partnership between the district in which I work and the BTEN (Building a Teaching Effectiveness Network), supported by the Carnegie Foundation. I have recommended to the BTEN committee at my campus, of which I am part, that we develop a library of sorts containing videos of skilled teachers in action. I see this as an opportunity to provide new and novice teachers with access to experienced teachers' breadths of knowledge and as a means to encourage experienced teachers to articulate skills and knowledge they may not know they possess.

To conclude this report I offer a synthesis of my current understanding of video mediated reflection by way of response to the questions posed by Tripp and Rich's (2012) table *Dimensions of Video Analysis*. I use this space to plan how I will use video analysis in my role as a mentor teacher. As I am about to start a new academic school year I want to have some concrete starting points for how I can use video in the mentor/mentee relationship. Secondly, I hope my reflections might serve to inform teachers or researchers interested in using video for reflection as another knowledge base to reference. Finally, I offer my perspective in response to Sparks-Langer & Colton.

[W]hat is missing from the knowledge base of teaching, therefore, are the voices of the teachers themselves, the questions teachers ask, the ways teachers use writing and intentional talk in their work lives, and the interpretative frames

teachers use to understand and improve their own classroom practices (Sparks-Langer & Colton, 1991 from Cohran-Smith & Lyle, 1990).

Ultimately I want my practice and that of other teachers to improve as a result of this report.

What type of reflection tasks will I ask teachers to engage in during their video?

I will encourage teachers to keep a written journal to document their experience(s) throughout the process of taking videos and reflecting. I believe this form of writing will provide the teachers with a non-threatening venue for expressing their reflective thoughts. In thinking of Willis (1999) journal writing can provide teachers with the opportunity to “dwell” on lived experience which may lead to insights as a result of rich description.

Will I provide teachers with a framework to guide their reflections?

Depending on teacher characteristics I will also include guided questions for teachers to respond to after video recording their practice. For newer teacher these questions could focus on more technical and/or practical aspects of teaching. More experienced teachers might benefit from more critically influenced questioning in which they are encouraged to address ethical and moral issues in teaching. Also, guided questions in conjunction with critical incident analysis could serve as a means to make experienced teachers’ tactic knowledge apparent (Tripp, 1993).

Will I ask teachers to reflect individually collaboratively, or both?

Some studies have explored collaborative reflection, (Sherin and van Es, 2005). Others have examined individual reflection (Calandra, Brantley-Dias and Dias, 2006). One possible configuration of teachers I did not see in the academic literature was a

group of highly experienced teachers working with new teachers collaboratively to reflect on video of instruction. I am very interested to explore the possibilities of video and reflection within the mentor/mentee relationship. It seems logical that both groups could benefit from the experience of recording instruction and reflecting individually and then together.

What length of video will teachers use for reflection?

Given the time constraints I know teachers work under I am curious of the potential for critical incident analysis, Tripp (1999) as a productive way to respect teacher time. Encouraging teachers to record what they choose and then selecting incidents of significance to edit out for presentation to others teachers seems like a promising possibility. Also, evidence suggests that the editing process can lead to important beneficial shifts in teachers' self-perceptions (Yerrick, Ross and Molebash, 2005). Of course the time involved to edit video would need to be addressed. Perhaps a component of the mentor/mentee relationship could involve training on video editing software.

How many times will teachers reflect on their videos?

Teachers will participate in multiple video recording episodes and will be encouraged to reflect in an ongoing manner. Much of the academic literature, Byra (1996) and Brantley-Dias *et al.* (2008) as well as my own experience, has demonstrated that teachers focus on technical sometimes superficial aspects of their own teaching and appearance when first reflecting on video taken of their instruction. Also, teachers must be provided the opportunity to apply what they learn as a result of the reflective practice. One recording is simply not enough.

What methods will I use to determine if video was beneficial for teacher reflection?

I plan to conduct video recorded interviews of teachers as they respond to questions about the values and benefits of the video process. These recorded interviews will serve to inform me as to the practical benefits of video mediated reflection as voiced by practicing teachers and can serve as a resource to recruit more teachers to the process. (Teachers nervous about the prospect of being video recorded might benefit from seeing their colleagues talk about the process on camera.)

I also plan to photocopy or keep participating teachers' journals and responses to guided questions in order to evaluate them for themes and evidence of reflection and professional growth.

The potential for video mediated reflection to improve teacher quality is immense. While many studies have examined video as a means to enhance reflective thought in teachers, more research is necessary to explore ways in which video technology can best support teachers in their professional development journey. The stakes of this journey are high. A need for well-versed professional teachers becomes increasingly apparent in light of the proliferation of sterilized standardized curriculums. I agree with Tripp (1993) who stressed the importance of being able to express one's professional knowledge.

One can imagine serious conflict occurring when teachers are told that there is one best way to organise a class, for instance. It may not fit with their professional experience, but they will have to comply if they cannot articulate a critique and defend an alternative (p. 143).

Our educational system stands to benefit greatly as a result of the continued development of professional, articulate and reflective teachers. The alternative is bleak to consider.

Bibliography

- American Association for the Advancement of Science (1993). *Benchmarks for scientific literacy*. New York: Oxford University Press.
- Brantley-Dias, L., Dias, M., Frisch, J. & Rushton, G. (2008). *The role of digital video and critical incident analysis in learning to teach science*. Paper presented at the American Educational Research Association, New York, NY.
- Bryan, L. A. & Recesso, A. (2006). Promoting reflection with a web-based video analysis tool. *Journal of Computing in Teacher Education*, 23, 1, 31-39.
- Byra, M. (1996). Post-lesson conferencing strategies and preservice teachers' reflective practices. *Journal of Teaching in Physical Education*, 16, 48-65.
- Calandra, B., Brantley-Dias, L. & Dias, M. (2006). Using digital video for professional development in urban schools: a preservice teachers experience with reflection. *Journal of Computing in Teacher Education*, 22, 4, 137-145.
- Calandra, B., Brantley-Dias, L. & Fox, D. (2007). Examining Preservice Teachers' Reflective Practice using Digital Video and Critical Incident Analysis. In R. Carlsen et al. (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2007* (pp. 34-39). Chesapeake, VA: AACE. Retrieved June 17, 2013 from <http://www.editlib.org/p/24496>.
- Cochran-Smith, M., and S.L. Lytle. (1990). Research on teaching and teacher research: The issues that divide. *Educational Researcher*, 19, 2: 2-11.
- Darling-Hammond, L., & Center for American Progress. (2010). Evaluating Teacher Effectiveness: How Teacher Performance Assessments Can Measure and Improve Teaching. *Center For American Progress*.
- Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process*. Boston: Heath.
- Dewey, J. (1944). *Democracy and education*. New York, Free Press. (Original work published 1916.)
- Freire, P. (1970). *Pedagogy of the oppressed*. New York: Seabury Press.
- Hanushek, E. A. (2011). The economic value of higher teacher quality. *Economics of Education Review*, 30(3), 466-479.

Garet, Michael S., Stephanie Cronen, Marian Eaton, Anja Kurki, Meredith Ludwig, Wehmah Jones, Kazuaki Uekawa, Audrey Falk, Howard Bloom, Fred Doolittle, Pei Zhu, and Laura Szejnberg. *The Impact of Two Professional Development Interventions on Early Reading Instruction and Achievement* (NCEE 2008-4030). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.

Griswold, S. L. (2004). Videotaped performances: guiding teacher professionalism development within a competency-based framework. *Dissertation Abstracts International*, 65, 10. (UMI No. 3150452).

Killion, J., & Todnem, G. (1991). A process for personal theory building. *Educational Leadership*, 48(6), 14-16.

A Nation Prepared: Teachers for the 21st Century. (1986). *The Report of the Task Force on Teaching as a Profession*. New York, N. Y., Carnegie Corp.

National Board For Teaching Standards website,
<http://www.nbpts.org/beginnings-movement>, Retrieved July 5, 2013.

National Council of Teachers of Mathematics. (2000). *Principles and standards for school mathematics*. Reston, VA: NCTM, Retrieved July 8, 2013.

Polanyi, M. and Prosch, H. (1975). *Personal knowledge in meaning*. London: University of Chicago Press.

Powell, E. (2005). Conceptualising and facilitating active learning: teachers' video stimulated reflective dialogues. *Reflective Practice*, 6, 3, 401-418.

Romano, M. & Schwarz, J. (2005). Exploring technology as a tool for eliciting and encouraging teacher candidate reflection. *Contemporary Issues in Technology and Teacher Education*, 5, 2, 149-168.

Sarsar, N. (2008) Adopting a Reflective Approach to Professional Development. Online Submission [serial online]. October 12, 2008; Available from: ERIC, Ipswich, MA. Accessed July 16, 2013.

Senger, E. S. (1998). Beyond classroom description: methods of understanding reflection and beliefs in mathematics teaching. *Educational Research Quarterly*, 21, 3, 21-39.

- Schon, D. A. (1987). *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions*. San Francisco: Jossey-Bass.
- Sherin, M.G. & van Es, E. A. (2005). Using video to support teachers' ability to notice classroom interactions. *Journal of Teacher Education*, 60, 1, 20-37.
- Sparks-Langer, G. M., Simmons, J.M., Pasch, M., Colton, A., & Starke, A. (1990). Reflective pedagogical thinking: How can we promote it and measure it? *Journal of Teacher Education*, 45, 310-318.
- Sparks-Langer, G., & Colton, A. (1991). Synthesis of research on teachers' reflective thinking. *Educational Leadership*, 48(6), 37-44.
- Tripp, D. (1993). *Critical Incidents in Teaching: Developing Professional Development*. London: Routledge.
- Tripp, T. & Rich, R. (2012). *Using video to analyze one's own teaching*. *British Journal of Educational Technology*, 43, 4, 678-704.
- Van Manen, M. (1977). Linking ways of knowing with ways of being practical. *Curriculum Inquiry*, 6, 205-228.
- Willis, P. (1999). Looking for what it's really like: Phenomenology in reflective practice. *Studies in Continuing Education*, 21(1), 91-112.
- Yerrick, R., Ross, D. & Molebash, P. (2005). Too close for comfort: real-time science teaching reflections via digital video editing. *Journal of Science Teacher Education*. 16, 4, 351-375.