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ACCEPTANCE

This dissertation, INVESTIGATION OF IN-SERVICE TEACHERS' USE OF VIDEO DURING A CRITICAL FRIENDS GROUP, by KAREN CZAPLICKI, was prepared under the direction of the candidate's Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree Doctor of Philosophy in the College of Education, Georgia State University.

The Dissertation Advisory Committee and the student's Department Chair, as representatives of the faculty, certify that this dissertation has met all standards of excellence and scholarship as determined by the faculty. The Dean of the College of Education concurs.

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ABSTRACT

INVESTIGATION OF IN-SERVICE TEACHERS' USE OF VIDEO DURING A CRITICAL FRIENDS GROUP

by
Karen Czaplicki

Critical Friends Groups (CFGs) were established in 1995 as a form of professional development for teachers. The current study employed the use of video as a medium for documenting the effects of CFG participation on teaching practices. This allowed links to be drawn between CFG participation and teaching practice, a critical gap in the literature. This qualitative case study drew upon Knowles's Adult Learning Theory to help provide a framework for thinking about Critical Friends Groups and analyzing the findings. The 9 participants in this study included 1 third grade Early Intervention Program teacher and 8 CFG members from an urban elementary school. Multiple data sources were analyzed including classroom teaching practice videos, focal teacher's and CFG members' written reflections, CFG meeting verbatim transcriptions, focal teacher and CFG member interviews, and researcher memos. Data analysis was iterative and axial coding led to a code book depicting the final 6 key themes: change in teacher attitude toward the use of video, shared teaching practice, pedagogical-driven conversations, change in pupil engagement, captured classroom practice and promotion of teacher reflection. Barriers to the use of video in a CFG included logistics and teacher resistance. The researcher used data triangulation, member-checking and an audit trail to assure the trustworthiness of the study. Teachers reported that they learned from watching one another's practices and from discussing each other's ideas. The use of video in this study appeared to offer a viable innovation in an already prevalent model of

professional development, CFGs. Video appeared to have much potential at the in-service level as it helped to cultivate knowledge, skills, and attitudes among teachers.

INVESTIGATION OF IN-SERVICE TEACHERS'
USE OF VIDEO DURING A CRITICAL
FRIENDS GROUP

by
Karen Czaplicki

A Dissertation

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in
the College of Education
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ABBREVIATIONS

| | |
|------|---------------------------------|
| CFG | Critical Friends Group |
| NSRF | National School Reform Faculty |
| PLC | Professional Learning Community |
| IPT | Interactive Phase Theory |
| CST | Curriculum Support Teacher |
| EIP | Early Intervention Program |
| PMRS | Post Meeting Reaction Sheet |
| FT | Focal Teacher |

CHAPTER 1

STATEMENT OF THE PROBLEM

Cultivating the knowledge, skills, and attitudes of teachers is alternately referred to as professional development, staff development, teacher development, teacher learning, or teacher education. For the purpose of this paper, it will be referred to as professional development. Professional development includes training of both preservice and in-service teachers. It is a continuous experience for teachers, usually starting with colleges providing training and education for preservice teachers and persisting with school districts providing training for in-service teachers. Induction programs ideally support new teachers for the first 3-5 years of teaching and help bridge the preservice and in-service continuum of learning. New teacher induction programs are typically designed to improve teaching practices by providing teachers with orientation programs, one-on-one mentors, support teams, a network of teachers to collaborate with, and professional development opportunities such as workshops and training seminars (Easley, 2000).

Professional development is intended to bring about changes in teaching practices, teacher beliefs and knowledge, and student achievement (Guskey, 1986). However, historically professional development has been described by some researchers as a misaligned endeavor typified by disorder, conflict, and criticism (Guskey, 1986; Supovitz & Herbert, 2000). One reason why professional development might be viewed in this way is because professional development literature is difficult to classify. Wilson and Berne (1999) state, "our review of the literature [related to teacher professional development] leads us to conclude that the field is oddly discontinuous" (p. 204). Teacher professional development may be challenging to classify because researchers have not established one agreed upon path for effectively facilitating teacher learning (Guskey,

1994). As a result there is limited empirical evidence linking professional development to teacher learning and student achievement (Joyce & Showers, 1980; Wilson & Berne, 1999; Fishman, Marx, Best, & Tal, 2003).

When considering the characteristics of effective professional development, researchers have largely written conceptual pieces (Darling-Hammond & McLaughlin, 1995; Desimone, Porter, Garet, Yoon & Birman, 2002; Kedzior & Fifield, 2004). This theoretically-based literature reveals marked differences in perspectives related to the attributes of effective professional development. Guskey (2003) did empirically review research in which he analyzed a list of characteristics from 13 credible studies to identify similarities and differences among effective professional development. The findings show no common characteristic across all 13 studies, which might be due to the differences in purpose and audience of the professional development. The lack of clear goals and attributes of efficacious professional development constrains improvement in this area (Guskey, 2003).

Theoretical Framework

To address the misalignment of previous professional development literature, researchers have recently been trying to re-conceptualize professional development by considering it in conjunction with assumptions about adult learners (Gregson & Sturko, 2007; Beavers, 2009). Adult learners tend to be independent and self-directed, therefore effective professional development needs to embrace these attributes of adult learners (Beavers, 2009). In the late 1960's, Malcolm Knowles was one of the first to propose and popularize the notion of adult learners as independent and self-directed. Knowles discussed his theory in terms of andragogy, which is adult learning. Andragogy is based

on four assumptions, including that adult learners: a) are self-directed learners, b) have a large sum of experiences to draw upon when learning, c) link their readiness to learn to their social role, and d) are more problem-focused versus subject-focused in learning (Knowles, 1973). Knowles later extended his theory by also stating that adults are motivated internally rather than externally, and adults need to be informed as to why they are required to learn something (Merriam, Caffarella, & Baumgartner, 2007). Knowles viewed these assumptions about adult learning as critical components to any form of professional development for adults, since professional development involves andragogy, or adult learning.

While Knowles's adult learning theory is still widely accepted today, the challenge is successfully translating theory into practice. There remains a disconnect between professional development that promotes meaningful teacher change and the one-time training seminars that teachers often receive and report as less than effective (Joyce & Showers, 1980; Gregson & Sturko, 2007). Grounded in Knowles's assumptions about adult learners, Gregson and Sturko (2007) suggest that professional development needs to create a respectful climate, encourage active participation, build on experiences, be collaborative and inquiry-based, provide learning for immediate application, and provide reflection time. Additionally, teachers need to be involved in the implementation and design of their own professional development, and this design should be collaborative in nature and foster a community of learners. Beavers (2009) also suggests that schools can incorporate adult learning characteristics into professional development by following eight guidelines: (a) allowing teacher input in professional development, (b) drawing upon teachers' experiences, (c) applying applicable topics versus theoretical topics, (d)

utilizing problem-solving dialogue, (e) accommodating different learning styles, (f) letting teachers facilitate activities, (g) encouraging a diverse environment with openness and critique, and (h) supporting alternative theories of teaching strategies. When considering desired outcomes of teacher professional development, Guskey (1986) recommends that it should result in changes in classroom practices, teacher beliefs, and student learning. These three common goals of professional development can best be accomplished by giving teachers a more active voice and role in their participation in the professional development.

Critical Friends Groups

One suggested format for professional development that incorporates aspects of Knowles's theory of adult learning is Critical Friends Groups (CFGs). CFGs involve teachers working collaboratively within a group of eight to twelve participants. Teachers can examine student or teacher work, discuss literature, or design their meeting to suit their needs as professional learners (Dunne, Nave, & Lewis, 2000). CFG meetings by design are structured and follow a specific format, including development of group norms and adherence to set protocols. The meetings are intended to help teachers collaboratively consider student work while examining their own practices (Bambino, 2002).

The National School Reform Faculty (NSRF) first implemented CFGs in 1995. The NSRF is "a professional development initiative that focuses on developing collegial relationships, encouraging reflective practice, and rethinking leadership in restructuring schools" (NSRF, 2010) in order to promote student achievement. The NSRF (2010) suggests that CFGs prompt teachers to make connections between curriculum and

instruction and also that CFGs positively impact teachers' beliefs. However, according to Key (2006) research on CFGs is limited and the extant literature is mostly theoretical in nature. Additionally, Curry (2008) points out that because of the lack of empirical evidence on CFGs, little is known about the effects of this form of professional development on teaching practices and school policy. Given the lack of research examining the link between CFG participation and teacher practices, a study that extends the current body of evidence on CFGs is certainly warranted. Specifically, there is a need for examination of the effects of CFGs on teachers' practices in the classroom.

This study will examine the effects that CFGs have on teaching practices by situating CFGs within adult learning theory. Knowles's framework provides the grounding for adult learning theory. His theory and its relevance to CFGs are outlined in Table 1.

Teacher Socialization

While Knowles's theory of adult learning provides the theoretical framework for this study, Zeichner and Gore's study of teacher socialization is useful when considering CFGs. Teacher socialization is the process by which an individual becomes part of a society of teachers (Zeichner & Gore, 1990). Teacher socialization is relevant to professional development, such as CFGs, because CFGs are collaborative in nature. It is therefore impossible to study a CFG without giving consideration to group dynamics and the ways teachers within a group interact in their given context. The variables that influence teacher socialization differ from school-to-school and teacher-to-teacher. Zeichner and Gore's (1990) study of the teacher socialization literature reveals five environmental demands that have an impact on teacher socialization: students, ecology of

Table 1

Knowles's (1973) Theoretical Underpinnings of Critical Friends Groups

| Adult Learning Theory Concept | CFG Characteristics |
|--|---|
| Adults are self-directed learners. | CFGs are ideally teacher driven. CFG members decide which norms and protocols to follow in their meetings. Members also bring student work or literature to discuss and direct their group discussions based on the individual needs of the group members (Dunne, Nave, & Lewis, 2000). |
| Adults are more problem-focused versus subject-focused in learning. | CFGs are compromised of various stakeholders within a school versus arranged by subject matter. Therefore, content is problem-focused versus subject-focused (Dunne, Nave, & Lewis, 2000). |
| Adults have a large sum of experiences to draw upon when learning. | CFGs draw upon teachers' previous experiences and provide opportunities for critique and feedback from group members (Dunne & Honts, 1998). |
| Adults link their readiness to learn to their social role. | CFGs are collaborative in nature and embrace social and cultural components of learning (Curry, 2008). |
| Adults are motivated internally rather than externally. | CFGs are ideally voluntary in nature with the expectation of teachers intrinsically wanting to grow professionally (Dunne, Nave, & Lewis, 2000). |
| Adults need to be informed as to why they are required to learn something. | CFGs are diverse in nature with each CFG covering multiple topics decided upon by the group members (Key, 2006; Curry, 2008). |

the classroom, colleagues, administration, and parents. These environmental demands can vary depending upon the socioeconomic status of students, political mandates of different school districts, and cultural influences of schools. Joining a group of teachers in a CFG, which encourages reflective practices, collaboration, shared leadership, and authentic pedagogy, could assist teachers in navigating environmental and cultural influences of schools. CFGs may also enhance teacher quality by helping teachers examine situations from multiple perspectives and serving as a platform for critical

thinking (Franzak, 2002). Critical Friends Groups are designed to prompt teachers to be reflective on their own pedagogy through the discussion and feedback provided by colleagues (Dunne & Honts, 1998). This reflective thinking is encouraged in the practice of CFGs. Shared leadership is also a key component to CFGs (NSRF, 2010). This shared leadership implies that no one person holds all the answers, but rather collective and collaborative dialogue prompt teachers to learn ways to improve their teaching practices and expand their thinking on situations.

Study Rationale

The rationale for this study is the much needed look into how participation in a CFG influences classroom practice. Curry (2008) conducted a three-year qualitative case study in which she videotaped, observed, and took field notes on six CFGs. Her goals were to gather data on the structure and process of CFGs with the purposes of illuminating positive and negative results of CFGs on teaching practices and school wide reform. Curry (2008) argues that a limitation of her study included not being able to make explicit connections between CFGs and teacher practices. Examining the effects of professional development on teaching practice is crucial to the endorsement or demise of a particular model of professional development. This present study will incorporate the use of video as a way of documenting the effects of CFG participation on teaching practices to determine if links can be drawn between professional development and practice. Video clubs and CFGs are a natural fit based on reported goals of both video clubs and CFGs. For example, in their 2004 study Sherin and Han indicated that the use of video clubs helped promote teacher inquiry, a sense of community, and a trusting environment where critique was encouraged and valued. Similarly, Dunne, Nave, and

Lewis (2000), who studied CFGs, reported an increased sense of community as a result of CFG participation, and they also reported that teachers learned to work collaboratively by examining student or teacher work within a network of teachers. Notably, both video clubs and CFGs share a common goal of improving student learning. In the current study, it is anticipated that combining these forms of professional development will have a positive impact on teaching practice.

Since the first implementation of CFGs, they have grown in popularity as a successful model of teacher development (NSRF, 2010). In 2007, the NSRF reported that 45 states in the U.S. had certified CFG coaches and 6 countries internationally had certified CFG coaches (NSRF, 2010). At that time, California had 1,315 coaches, which was the largest number of coaches in the U.S. compared to other states. Training of CFG coaches continues to be regularly conducted since the establishment of CFGs in 1995, and the number of trained coaches has significantly increased since 2007 when the last set of CFG data was reported on the NSRF website (nsrfharmony.org). Further, school districts are continuing to implement CFGs as part of their school wide reform. Within this context of increased CFGs, conducting current empirical research is necessary to keep school districts and teachers knowledgeable on the pros and cons of this type of professional development.

Lastly, this study will add to the limited empirical data available on CFGs. Key (2006) synthesized the body of CFG research from 1995 through 2006. At the time, Key found a serious need for future CFG research, and that need still exists. Key points out strengths in the overall existing CFG research, such as the utilization of diverse groups of CFGs across diverse locations. Also, researchers varied the form of data collection and

investigated CFGs for both positive and negative changes. However, she points out that an area of weakness in the studies is a predominant examination of relatively new CFG groups, as opposed to established groups. She suggests that many of the studies were linked to school reforms, such as the NSRF, and she states the importance of researching groups outside of that reform. Although Key critiques studies for being too closely tied to NSRF, it is important to note that she herself presented her paper at their January 2006 research forum. Additionally, researchers such as Dunne and Honts (1998), Dunne, Nave, and Lewis (2000), Bambino (2003), Achinstein (2002), Franzak (2002), and Key (2006), who are among the most quoted CFGs researchers, are all affiliated with the NSRF. Because most of the researchers are tied to the NSRF, their objectivity as researchers could be questioned. The NSRF stands to gain the most from positive CFG research results, and research funded by the NSRF could be questioned for its validity. More research needs to be conducted on CFGs by researchers who are not tied to the NSRF. Additionally, CFG groups which are not affiliated with the NSRF also need to be studied (Key, 2006).

Research Questions

The current study will be conducted by a researcher who is not affiliated with the NSRF. The study will explore how the use of video and participation in a CFG impact teaching practices. There are three main research questions for this study, with question two having two parts.

1. What are the effects of the use of video within a CFG comprised of elementary school teachers?
- 2a. What did the focal teacher report that she learned after participating in a video-based CFG?

- 2b. What did the focal teacher implement after participating in a video-based CFG?
3. What did the CFG members notice about the focal teacher's classroom practice after participating in a video-based CFG?

CHAPTER 2

REVIEW OF THE LITERATURE

Critical Friends Groups (CFGs) are a type of Professional Learning Community that are gaining popularity in terms of professional development and collaboration. CFGs encourage teachers to work collaboratively and to reflect upon themselves as professionals in order to enhance their teaching and learning. Although CFGs are gaining in popularity, there are limited empirical studies conducted on CFGs. Therefore, when reviewing literature on CFGs it is imperative to also include a review of literature on Professional Learning Communities (PLCs) and a review of professional development literature in general. Additionally, video clubs is included in this literature review. Video clubs are a different form of professional development compared to CFGs. Video clubs specifically involve the use of video as a means for teachers to examine their own practices. Communities of teachers come together and use footage of classroom videos to launch discussions surrounding specific classroom dilemmas. While Video Clubs and CFGs differ, they are similar in their involvement of a community of teachers who come together with the desired goal of improving teaching practices and student learning. They both rely on trust and critical critique from colleagues in order to thrive as a form of professional development. Since both forms of professional development have similar goals and similar underlying principles of community and trust, they can easily be combined in the sense that CFGs can incorporate the use of video into some of their protocols. The use of video as part of a CFG protocol has not been studied to date. This review of literature describes the gaps in the research surrounding CFGs and also presents the gaps in the research surrounding Video Clubs.

Professional Development

Professional development has been explored in great depth and breadth. There are qualitative, quantitative, mixed methods and conceptual pieces available on all aspects of professional development. For the purpose of this literature review, search terms were limited to professional development, staff development, and teacher learning using the ERIC database, Psycharticles, PsychInfo, JSTOR, and online search engines such as Google Scholar. Articles that specifically focused on in-service professional development were selected for this review. Some articles were specific to subjects such as math or science; however, articles that were dedicated to exploring a specific type of professional development were excluded from the review. This is largely due to the overwhelming number of articles on a multitude of professional development models. As a result of this search, articles were categorized according to characteristics of professional development, design and implementation of professional development, and challenges of professional development. Ideas for future research on professional development are also outlined.

Characteristics of Professional Development

Characteristics of effective teacher professional development vary from school-to-school. For example, Kedzior and Fifield (2004) wrote an essay in which they described characteristics of high-quality professional development. The ten identified characteristics included: (a) content-focused, (b) duration, (c) collaboration, (d) part of daily work, (e) ongoing, follow-up provided, (f) coherent and integrated, (g) inquiry-based, (h) teacher driven, (i) informed by student performance, and (j) self-evaluated. Additionally, Beavers (2009) wrote a conceptual piece in which she identified desired

characteristics of professional development as: (a) self-directed, (b) based on teachers' prior knowledge, (c) related to social role of teachers, (d) problem-centered, and (e) based on internal versus external factors. Darling-Hammond and Mclaughlin (1995) wrote a conceptual piece in which they also identified what they believed to be critical characteristics of professional development. These characteristics included: (a) engaging teachers in tasks of teaching, assessment, observation, and reflection, (b) providing inquiry-based learning and reflection driven by participants, (c) creating collaborative environments, (d) including teachers' work with students, (e) being sustainable and supported, and (f) connecting professional development to school change. Based on the differing characteristics listed above, it can be argued that there is little agreement among researchers as to the attributes of effective professional development. Perhaps the purpose and audience of why the lists were formed play a part in why characteristics vary. For example, a list that is teacher initiated will include different characteristics than a list that is policy driven.

Professional development is often reported as very diverse among teachers in the same school (Guskey, 2003; Porter, Garet, Desimone, Yoon, and Birman, 2000). Among other factors, the inconsistent nature of professional development is perhaps linked to an incoherent set or list of characteristics of professional development (Guskey, 2003). Not having a set list of characteristics can be confusing and frustrating to educators when trying to design professional development (Guskey, 2003). Guskey (2003) analyzed lists of characteristics of professional development from 13 studies. Three goals of Guskey's analysis included (a) determining whether the lists were made in similar ways, so for example, were the lists made based on similar sources of evidence, (b) discovering

whether the different lists shared characteristics, and (c) verifying how closely the characteristics of professional development from the 13 studies align with "...revised Standards for Staff Development, (National Staff Development Council [NSDC], 2001)" (Guskey, 2003, p. 5). Guskey's results indicated that some characteristics appear on most lists, but not one characteristic is included on all 13 lists. The top three characteristics included: (a) professional development which enhances teachers' pedagogical and content knowledge, (b) professional development which provides sufficient time and resources, and (b) collaboration. In total, Guskey identified 21 characteristics that were compared across the 13 lists. Additionally, Guskey found that characteristics of professional development did not change over time. Guskey concluded that professional development is complex and one list of characteristics might not be sufficient. However, lists of characteristics can be important in guiding the growth of effective professional development. Porter, Garet, Desimone, Yoon, and Birman (2000) recognized that a vast amount of literature is available on characteristics of effective professional development, yet they pointed out there is a difference between identifying characteristics and providing evidence that those characteristics equate to better teaching practices and student achievement. Researchers agree that more research is needed linking characteristics of professional development to teaching practices and student achievement (Wilson & Berne, 1999; Fishman, Marx, Best, & Tal, 2003; Garet, Porter, Desimone, Birman, & Yoon, 2001; Desimone, Porter, Garet, Yoon, & Birman, 2002).

Design and Implementation of Professional Development

Characteristics provide a starting point for creating high quality professional development (Guskey, 2003), yet design and implementation of professional

development is crucial to the success of any program. Guskey (1994) suggested that when designing professional development context should be at the forefront, with designers recognizing that professional development needs to change over time to accommodate changing demands, such as shifts in policy. Guskey (1994) proposed six guidelines for successful professional development implementation which included: (a) recognizing that change is both individual and organizational, (b) starting small, but thinking big, (c) forming teams that collaborate, (d) implementing feedback procedures, (e) providing follow-up support, and (f) integrating programs. Putnam and Borko (2000) suggested that professional development depends on teachers' goals for learning and therefore a variety of training should be offered to accommodate different goals. Some suggestions that Putnam and Borko (2000) offered include summer workshops, group discussions which involve teachers bringing student work, and staff developers working with teachers in classroom settings.

While Guskey (1994) suggested keeping context in mind when creating professional development opportunities, Joyce and Showers (1980) suggested focusing on essential components of professional development that might ultimately transfer into successful teaching practices. Joyce and Showers believed that teachers can acquire new skills but certain conditions are needed to improve their skills. Further, fine tuning existing skills is easier than mastering new skills, and naturally mastery of new skills requires more training. Joyce and Showers (1980) reviewed over 200 studies and found that few studies addressed transfer of knowledge to classroom practice. Since professional development is meant to bring change to teaching practices (Guskey, 1986)

knowing essential components, which will transfer into successful teaching practices, is critical when designing and implementing professional development programs.

Professional development and how it relates to changes in teaching practices were examined by Porter, Garet, Desimone, Yoon, & Birman (2000). Porter, Garet, Desimone, Yoon, & Birman (2000) reported data from a longitudinal study in which they surveyed teachers across 30 schools within 10 districts and across 5 states. Three surveys were administered and results from roughly 300 elementary, middle, and high school math and science teachers who responded to all three surveys were utilized. The researchers concluded that professional development that focused on higher order teaching strategies, active learning, consistency with teachers' goals and which involved teachers from the same subject, grade, or school was more effective. However, little change in teaching practices was reported from 1996-1999, when the data was collected. Teachers also drastically varied in their professional development experiences. Porter, Garet, Desimone, Yoon, and Birman reported teachers only participated in consistent, high-quality professional development some of the time. High-quality professional development in this study consisted of three core features including active learning, content focus, and coherence and three structural features including reform type, duration, and collective participation. Districts often have to choose between mediocre, large-scale professional development or high-quality professional development for fewer teachers. The authors suggested focusing on high-quality professional development for fewer teachers. When designing and implementing professional development strategic, systematic planning of professional development is necessary. Schools need to provide a more coherent format for professional development that largely relies on teacher choices.

Challenges of Professional Development

Funding and political factors. A major challenge to professional development is the cost of implementation (Kedzior & Fifield, 2004; Porter, Garet, Desimone, Yoon, & Birman, 2000). Funding can be responsible for the inconsistent nature of professional development. Districts with little money lack resources and lack an infrastructure to support, design, and implement professional development (Kedzior and Fifield, 2004; Porter, Garet, Desimone, Yoon & Birman, 2000). Due to this lack of infrastructure, teachers can feel frustrated by the inconsistency with professional development and become cynical prompting them to leave the profession (Bell & Gilnert, 1994). Additionally, teachers are sometimes left to choose their own professional development (Desimone, Porter, Garet, Yoon, & Birman, 2002) causing a large variation in the type of professional development received teacher-to-teacher. Darling-Hammond, Wei, Andree, Richardson, and Orphanoc (2009) report data from the National Center for Education Statistics for the 2003-2004 school year. The data is based on the school and staffing survey (SASS), (Porter, Garet, Desimone, Yoon, & Birman, 2000). Their report states that other nations, which outperform the U.S. on professional development, spend more money on their professional development for teachers. Additionally, U.S. teachers pay for professional development out of pocket more so than teachers in other nations (Darling-Hammond, Wei, Andress, Riachardson, & Orphanoc, 2009).

Political factors are another challenge for school districts according to Little (1993), Wilson and Berne (1999), and Kedzior and Fifield (2004). Attempts to bridge teacher and system/state goals are complicated (Wilson & Berne, 1999). Also, trying to fit a reform model with current prevailing models of professional development can be

difficult, especially depending on the complexity of the reform (Little, 1993). Darling-Hammond, Wei, Andree, Richardson, and Orphanoc (2009) report that 50 hours of professional development is needed to improve teachers' skills, and most professional development in the U.S. is shorter in duration.

Teacher voice. There is little opportunity for teacher collaboration and voice when designing professional development (Wilson & Berne, 1999). Districts can certainly mandate attendance at selected professional development, but they cannot mandate the learning of teachers (Wilson & Berne, 1999). Tang and Choi (2009) reported that individuals and schools sometimes compete over implementation ideas. Tang and Choi conducted a qualitative study exploring how five teachers in the Hong Kong, who entered the profession at different times over five decades, made sense of their professional lives and continuing professional development. The teachers reported that as individuals and schools competed with each other over professional development implementation ideas, teachers' work intensified, stress increased, and uncertainty rose. Teachers also felt alienated, isolated, and de-humanized by increased management and top-down effects of professional development (Tang & Choi, 2009). Therefore, it is imperative for teachers to have an active voice in development of professional development and for districts to find a bureaucratic balance between the interest of the individual and the interest of the institution (Little, 1993).

Professional Development Future Research

Literature reviews can be especially helpful in guiding future research since they report on and classify existing research. Borko (2004) conducted a literature review which mapped research on professional development. Two questions Borko wanted to

answer included: 1) what is known about professional development programs and their impact on teacher learning, and 2) what are important directions and strategies for extending knowledge. Borko identified four key elements that make up professional development, including the program, facilitators, teachers, and context. Borko then separated the existing professional development research into three phases. Phase one included researchers who studied a single professional development program, at a single site, and examined teacher learning, but excluded context and facilitators. Phase two included researchers who studied a single professional development, at multiple sites, with multiple facilitators, and teacher learning, yet excluded context. Phase three included researchers who studied multiple professional development programs, at multiple sites, and incorporated all four key elements of professional development programs. Borko's findings suggest that the majority of research fell into phase one. Borko's suggested that existing phase one research needs to be extended even further. For example, researchers need to investigate whether a professional development program that shows effectiveness in math can be adapted and utilized in another subject. Suggested future research for phase two consisted of "examining which elements of a professional development program must be preserved to ensure the integrity of its underlying goals and principles" (Borko, 2004, p.13). Lastly, future phase three research should provide comparative information regarding the impact on teacher and student achievement for well-defined professional development programs. According to Borko, phase three research is essential to policy decisions, yet at the time of her literature review no phase three studies had been conducted nor were any underway.

Also, few studies explicitly examine the effects of characteristics of professional development on teacher learning and student achievement (Garet, Porter, Desimone, Birman, & Yoon, 2001), so more research needs to be conducted in these areas. There have been a large number of conceptual pieces written on characteristics, design, and implementation of professional development, but more empirical evidence is needed linking professional development to teacher learning and student achievement, so that districts can make informed, research-based decisions about professional development (Fishman, Marx, Best, & Tal, 2003; Wilson & Berne, 1999).

Additionally, Guskey (2003) argued that most studies that link professional development to student achievement are focused on math and science. Therefore, more subject-specific investigations are needed beyond math and science. Guskey (1994) also suggested that context is ignored in professional development research and therefore more studies examining professional development within context is imperative.

CFGs and PLCs Defined

Professional Learning Communities are defined as “a group of people that act on an ongoing basis to develop their knowledge of a common interest or passion by sharing individual resources and by engaging in critical dialogue” (Dooner, Mandzuk, & Clifton, 2008, p.565) The primary goal of PLCs is to improve student performance through better teaching practices (Vescio, Ross, & Adams, 2008). CFGs are a form of PLC's and are more narrowly defined as “a Professional Learning Community consisting of approximately 8-12 educators who come together voluntarily at least once a month for about 2 hours. Group members are committed to improving their practice through collaborative learning” (NSRF, 2009). CFGs and PLCs encourage teachers to work

collaboratively and to reflect upon themselves as professionals in order to enhance their teaching and learning. As a form of PLCs, CFGs share the primary goal of improving student achievement through improved teacher performance. CFGs and PLCs both have shared norms, reflective dialogue, and collaboration (Vescio, Ross, & Adams, 2006). However, what makes a CFG a distinct type of PLC is the structure and format of the group. For example, CFGs can be part of a school wide reform, but they can also be voluntary in nature. CFGs also use set protocols that do not exist in regular Professional Learning Communities.

Professional Learning Communities

The literature on PLCs is diverse in terms of breathe and depth. Researchers have written theoretical pieces, along with empirical pieces, and a wide variety of qualitative, quantitative, and mixed methods studies have been conducted. The literature on PLCs revealed the three key themes of trust, community, and coaches as essential to the success of PLCs.

Trust within a PLC. Parr and Ward (2006), Hipp, Stoll, Bolam, Wallace, McMahon, Thomas, and Huffman (2003), and Hipp and Huffman (2003) all found that trust is an essential component to PLCs. Parr and Ward's (2006) article concentrated on the formulation of an online community of learners. This particular topic of learning communities, coupled with online technology, is timely and important because both technology and collaboration are essential to the success of teachers. Parr and Ward conducted a three-year, mixed-methods, qualitative study, across 10 schools, with teachers ranging in grades from K-12. The researchers made site visits, conducted semistructured interviews with principals, curriculum leaders, and ICT coordinators, and

used questionnaires to gather data from the participating teachers. Parr and Ward (2006) also examined the online site which they referred to as "The FarNet Site" (p.780), and they set up a data base to record number of posts, nature of posts, and general statistics related to their study. Lastly, Parr and Ward used documents such as a FarNet newsletter.

Parr and Ward's (2006) findings indicated that teachers were not comfortable with the combination of online and community building. The researchers reported that a successful learning community requires trust, respect, and good leadership. The virtual aspect of the learning community added another obstacle where teachers' thoughts focused on the technical skills, versus the collaborative and community building nature of learning. Parr and Ward acknowledged that building a professional learning community that is grounded in trust is a tough task without the added obstacle of a virtual group.

Trust needs to be developed within a PLC before expecting teachers to open-up and share (Parr & Ward, 2006). Sharing work and ideas can be a very personal act and if individuals feel vulnerable or unsafe within a group, then their willingness to confide in the group will be jeopardized. Trust forms the foundation of PLCs in which future teacher growth can develop and build from (Parr & Ward, 2006). Trust is also closely linked with a sense of community, which also is an important component to PLCs.

A sense of community within a PLC. Andrews and Lewis' (2002) reported that teachers felt an increased sense of community as a result of participating in PLCs. Andrews and Lewis (2002) conducted research in one Australian secondary school with the hopes of describing the experiences of the teachers as they engaged in PLCs. The researchers gathered data through site visits, observations, field notes, semistructured interviews, and focus groups. Ten teachers out of 37, at the school, participated in a

learning community to try and promote change throughout the school. The group was referred to as the IDEAS project. The group collected survey data from parents, teachers, students, and administrators and used that data to develop a plan of action and school vision. The IDEAS group grew together and learned together throughout the school year. They formed a professional learning community, and they reported that they felt an increased sense of commitment to their school, students, and teaching as a result of being part of a PLC. The teachers also reported a positive impact on their classroom practices as a result of being a part of the professional learning community (Andrews & Lewis, 2002). However, one important aspect that Andrews and Lewis pointed out is that the sustainability of such progress is dependent on the ability to get other stakeholders outside of the professional learning community to understand and comply with such a collaborative vision.

A related study by Snow-Geron (2005) also was interested in exploring school change as a result of teachers participating in a professional learning community. Specifically, Snow-Geron was interested in how PLCs impacted individual teachers and conducted a phenomenological case study which investigated how PLCs can lead to teacher sustainability. Participants included teachers at a Professional Development School (PDS). The researcher examined aspects of collaboration and professional learning communities in terms of tensions, professional development, and educational change. Snow-Geron (2005) utilized purposeful sampling and interviewed six PDS teachers. Three interviews were conducted with each participant to gain insight into their perceptions about Professional Learning Communities. Field notes were also collected by the researcher, and participants kept journals on their thoughts and experiences. The

results indicated that teachers reported a shift away from isolationism and they felt an increased sense of community as a result of their participation in their PLC. The teachers also reported being more open to multiple perspectives as a result of their participation in the PLCs.

PLC coaches. PLC coaches were reported as being a significant factor in the success of PLCs. According to Andrews and Lewis (2002) PLCs will have the most success and be the most sustainable when facilitators have strong interpersonal skills. PLC coaches need to be knowledgeable, skilled at promoting dialogue, and they need to display personal characteristics such as having confidence and respect (Ertmer, et.al., 2003). Ertmer, Richardson, Cramer, Hanson, Huang, Lee, O'Connor, Ulmer and Um (2003) conducted a mixed methods study in which they gathered information on the characteristics and skills necessary to be a good coach. They also gathered information on PLC coaches' concerns about being a facilitator. The researchers interviewed thirty-one coaches for 45-60 minutes in order to obtain the coaches' perceptions on being a PLC coach. Additionally, the researchers observed the coaches in their meetings, took field notes, and administered a questionnaire. The results of the study indicated that the coaches identified interpersonal skills as the most important quality of PLC coaches. Also, the strategies that the coaches identified as being the most pertinent to their role as a coach was "...building relationships, communication strategies, assuming a non-evaluative role, and maintaining confidentiality" (Ertmer, et.al., 2003, p.19). The coaches also reported their training to be valuable because they felt they gained the necessary tools to be effective with implementing the suggested strategies. They also felt that their training gave them the necessary confidence to be an effective PLC coach.

Critical Friends Groups

The Critical Friends Group literature is hard to classify, because it is so limited and the majority of the research is theoretical. Key (2006) points out a strength of the overall CFG research is the use of diverse groups across different locations, yet a weakness is the limited amount of research available. Although Key pinpoints diverse groups as a strength of CFG research, it is important to know that CFGs are diverse groups by nature. In other words CFGs are flexible with their groupings. CFGs can consist of any variety of K-12 classroom teachers, or can be made up of teachers from a certain grade level, a certain level of experience, or a certain academic concentration. CFGs can also be any combination of administration, teachers, curriculum specialists, parents, or any other pertinent stakeholder within a school setting. CFGs can also exist in college settings and include various types of students and professors with varying levels of knowledge and experience. Additionally, locations of CFG groups are flexible in the sense that they can be held anywhere the group sees fit. For example, CFGs can be conducted online, can be conducted in teachers' homes, or can be held on school grounds. Therefore, when Key mentions that diverse CFGs groups are a strength of existing CFG literature, it is imperative to know the flexibility of the formation of CFG groups.

CFG content. As a result of having flexible grouping, the content of CFGs changes depending on the members of the group. Although the content varies from group-to-group, it is quite common for participants to bring student work to their CFG and then CFG members ask questions, give feedback, and reflect on the student work (NSRF, 2010). Participants follow a set protocol when providing feedback. The protocol is usually suggested by the facilitator, but members should also have input on the

selection of which protocol to use. Members also write reflective journals, have text-based discussions, and discuss solutions to dilemmas (NSRF, 2010).

Because the types of CFGs can vary so dramatically the content of the groups also vary. Curry (2008) conducted a three-year qualitative case study in which she videotaped, observed, and took field notes on six CFG groups. She also conducted 42 semistructured interviews with 25 of the participants and administrators. She was trying to gather data on the structure and process of CFGs, along with positive and negative results of CFGs on teaching practices and school wide reform. Curry focused on "...four particular design features of CFGs-their diverse menu of activities, their decentralized structure, their interdisciplinary membership, and their reliance on protocols..." (Curry, 2008, p. 742). Her results indicated that having a diverse menu of activities led to sustainability, while negatively impacting the amount of depth and coherence achieved within the group. The decentralized structure of the CFGs positively encouraged controversial conversations that were constructive, within a "low-stakes forum" (Curry, 2008, p.769), yet negatively affected political action. Interdisciplinary membership of the CFGs positively impacted school wide communication, helped teachers feel less isolated, and helped foster school wide responsibility for students, yet negatively affected teacher's focus on specific content knowledge. Furthermore, the protocol reliance of the CFGs positively helped focus conversation and de-privatize practice, yet narrowed the inquiry by encouraging specific patterns of discussion. Curry concluded that "...CFGs are encumbered by trying to be all things to all people" (Curry, 2008, p.770) and instead she proposed that the formation of CFGs should become more focused on subject matter, so teachers can have more in-depth discussions about their subject matter.

Implementation of CFGs. Another group of CFG authors wrote about how to best conduct CFGs. For example, Achinstein and Meyer (1997) examined the tensions of friendship and critique. They explored why feedback among the group should be critical and honest as opposed to insincere comments due to friendship boundaries. Their article contains suggestions about how to enforce critical comments when conducting a group. For example, having group norms helps foster community and gives participants a common ground, even if their thoughts are at odds with each other. Also, having caring deliberation within a group is critical to helping teachers feel safe enough to expose themselves and their teaching practices to the group. Additionally, teachers should question themselves in a reflective manner and question others in the group to help group members reflect as well.

Another article written by Bernacchio, Ross, Washburn, Whitney, and Wood's (2007) documented the process that university professors utilized when implementing a CFG format in their classrooms. A constraint of their study was that the information could not be generalized because the focus was so specific. The professors were in a college setting, trying to apply a Critical Friends Group approach interwoven with what they referred to as an Interactive Phase Theory (IPT) of analyzing curricula. They analyzed their syllabi through the lense of IPT while also calling themselves a Critical Friends Group.

Additionally, Dunne and Honts (1998) discussed the development of CFGs. They discussed how school culture and principal support are essential to the implementation of CFGs and without the right environment CFGs may easily flounder.

Effectiveness of CFGs. In regards to CFG effectiveness, Bambino (2002) tells her personal story and experience with CFGs and depicts CFGs as a positive support that improves teaching and student learning. Additionally, Dunne, Nave, and Lewis (2000) analyzed the results of a two year study conducted by the Annenberg Institute. The study was designed to determine the effectiveness of CFGs in helping teachers improve their teaching practices. There was a team of evaluators who observed CFG meetings within 12 schools, conducted interviews with the teachers, and administered surveys to the teachers. The conclusions of the study were that CFG groups that had strong leaders had the most positive change in regards to teaching practices. Strong leaders in the context of this study were defined by those who encouraged reflective practices and whose group critically examined student work. Coaches who were deemed the least successful focused more on team building exercises early on and postponed analysis of student work and reflective practices for group meetings later in the year. They were deemed less successful because the level of trust it takes to share student work and reflective practices took longer to build in their groups since that type of work was postponed.

Another researcher who examined the effectiveness of CFGS was Franzak (2002). Franzak (2002) conducted a qualitative, interpretive, phenomenological case study. Her study utilized purposive sampling and focused specifically on one student teacher's experience with participation in a CFG. Three, 45 minute phenomenological interviews with open-ended questions were conducted. Also, one 25-30 minute semistructured interview with the mentor teacher was conducted. Observations and documents were also utilized to gather information. Franzak's findings concluded that CFGs help improve teacher quality via improving teacher identity. In other words, Franzak suggested that

CFG participation provided a safety net in which teachers could launch their classroom practices and values. CFGs helped teachers gain the confidence in their sense of self which allowed them to "...explore, change, and reveal their identities" (Franzak, 2002, p.261). Franzak also suggested that the community and collaborative nature of CFGs helped teachers of all levels support one another and therefore enhanced teacher learning and growth.

CFG future research. Key (2006) synthesized the current body of CFG research from 1995 through 2006. Key (2006) suggested that more research is needed in the areas of process, sustainability, impact, and content. Additionally, more research is needed on the influence of CFG participation on student achievement, as well as on the role of CFG coaches. Key included a table at the end of her article which summarized the body of research that she found in relation to CFGs. Many of her sources were already presented in this literature review. Those sources include Dunne, Nave, and Lewis (2000), Franzak (2002), Dunne and Honts (1998), Meyer and Achinstein (1998), and Bambino (2002).

Key (2006) pointed out an area of weakness of CFG research included that most of the studies examined relatively new CFG groups, as opposed to established groups. Therefore, research is needed on established CFGs. Also, she pointed out that many of the studies were linked to school reforms, such as the National School Reform Faculty, and she stated the importance of researching groups outside of that reform. Lastly, Key commented on how researchers relied heavily on teacher perceptions and not enough on quantitative evidence (Key, 2006).

Video Clubs

Van Es and Sherin (2006) define video clubs as "...professional development environments in which groups of teachers come together to view and discuss videos of one another's teaching" (p.125). Video clubs help promote teacher inquiry, a sense of community, and a trusting environment where critique is encouraged and valued (Sherin and Han, 2004). The ultimate goal of video clubs is to improve student learning.

Upon examination of current literature available on video clubs a few underlying themes of video clubs became apparent. First, participation in video clubs helps teachers shift their thinking away from teacher pedagogy and towards student thinking (Sherin & Han, 2004; Sherin, 2000; Van Es & Sherin, 2006; Sherin and Van Es, 2009; Van Es, 2009). Second, video club participation encourages reflection (Sherin & Han, 2004; Van Es and Sherin, 2006; Sherin & Van Es, 2009; Berg & Smith, 1996). Lastly, video clubs help form a sense of community (Borko, Jacobs, Eiteljorg & Pittman, 2006; Van Es, 2009).

Shift in thinking. Participation in a video club helps teachers develop a new perspective and a new lens in which to examine and think about teacher pedagogy and student thinking (Sherin & Han, 2004). Teachers can examine video for multiple purposes. For example, teachers can look at a video and investigate classroom management, but then refer to the same video to examine teacher questions or student responses. Video can be used to encourage inquiry and help narrow a teacher's focus and thinking. Teacher thinking is what professional development and adult learning is all about. In Sherin and Han's (2004) study, teacher thinking shifted from a concentration on pedagogy to a concentration on student conceptions. As the participants became further

enveloped in the study, pedagogy was still an area of interest, but it was viewed differently. Participants began to view pedagogy from the perspective of how it was used to enhance or hinder student conceptions versus being viewed solely as a teacher component of the lesson. A more in depth synthesis took place when teachers reframed their thinking about pedagogy to revolve around students' ideas. What teachers discussed and how they discussed it changed over time. These findings affirm the use of video as a teaching tool in teacher development programs.

Although video clubs can serve as a spring board in which teachers' thinking shifts from overall classroom to specific student ideas, it is not realistic to expect all teachers to shift their thinking as a result of participation in video clubs (Van Es & Sherin, 2008). Sustainability of video clubs is a key factor in ensuring that teachers have multiple years of exposure to and participation in video clubs. As teachers learn to investigate versus evaluate their teaching they can "...begin to reframe their discussions of pedagogical issues in terms of student thinking" (Sherin & Han, 2004, p. 164).

Encouragement of reflection. The use of video within a video club provides reflection time for teachers. During instruction teachers need to provide immediate feedback to students, but when watching a video it gives teachers time to reflect without needing to respond (Sherin, 2000). Video also gives teachers time to "...reexamine events from their classrooms that they might not have noticed initially" (Van Es, 2009, p.102). McCurry (2000) argues that "video offers the reflective practitioner a tool to gather information about the self in authentic practical settings" (p. 3). Van Es and Sherin (2006) argue that teachers need to "learn to notice" (p.125). One medium in the development of learning to notice is video. Video allows teachers to "...make sense of

their experiences and to then use this knowledge to inform future decisions" (Van Es & Sherin, 2008, p.247). Additionally, Berg and Smith (1996) argue that video is more conducive to reflection than written notes. They argue that by watching a video multiple times it allows for deeper reflection, it provides a record of events that occurred in the classroom, and video allows input from multiple people.

Creating a sense of community. Within a video club, groups of people can discuss common practices. An appropriately established video club builds trust and support so that members value each other's ideas (Van Es, 2009). Teachers are ultimately responsible for their own learning, yet video clubs can help provide direction within the support of a community. Van Es (2009) argued that "...professional development environments are valuable when they embody a learning community" (P.104). Borko, Jacobs, Eiteljorg and Pittman (2008) argued that video is a good medium for launching discussions and conversations within a community of teachers. Van Es (2009) found that roles form within video clubs which help promote learning. She conducted a year-long study in which she examined the roles of elementary school teachers participating in a video club. Van Es videotaped and transcribed 10 video club meetings. She found that four main roles were established by the participating teachers. One role of prompter consisted of teachers who prompted others to attend to student thinking. A second role of proposer embodied teachers who "...judged an event, made an observation, and prescribed a course of action to take..." (Van Es, 2009, p.117). The third role of builder was a teacher who connected teachers' ideas and comments to the current discussion. Lastly, there was the role of critic. A critic was a teacher who challenged others' ideas and questioned others' interpretations. Van Es concluded that participation in these roles

helped the teachers accomplish the goals of the video club. She argued that teachers shifted in and out of these roles and that they came together to form a community of learners who supported each other through discussion surrounding video.

Future research. A limitation of the video club research utilized in this literature review is that most of the papers were written by some combination of Sherin and/or Van Es. The video club research is trustworthy and reliable, yet biased through the lens of these two researchers. For example, a large number of studies used for this literature review concentrated on mathematics education because Sherin and Van Es used mathematics as their area of focus for their research. Therefore, future research on video clubs should include other areas of academic interest besides math. Also, due to the large amount of research conducted by Sherin and Van Es on video clubs, a large number of future research recommendations come from their studies. Their recommendations for future research positively impact the area of video clubs, however it can be restricting based on their own agendas.

With that stated, one gap in the literature that has been noted by Sherin and Van Es (2006) includes a deeper look into the effects of video clubs on novice versus veteran teachers. Also, researchers need to examine the impact that video viewing has on teachers when they view their own footage versus footage from someone else's classroom (Sherin & Han, 2004; Van Es & Sherin, 2008). Researchers also need to look into how clips are chosen, why they are chosen, who chooses the clips, and how and why they are ordered for viewing throughout the meeting (Van Es & Sherin, 2008). Additionally, further examination needs to happen in regards to the role of the facilitators (Van Es, 2009). Lastly, a gap in the literature includes how change in teachers' thinking translates

to a behavioral change in regards to classroom practices. Sherin and Han (2004) were quick to point out that although their "...research adds to our understanding of how teachers learn and of the process through which teachers begin to look at classrooms, students, and teaching in new ways" (p.164), their study did not address actual changes in teaching practices. Since a primary goal of professional development, and of video clubs specifically, is to improve student performance a closer look into how teaching practices are affected as a result of participation in video clubs is certainly warranted.

Conclusion

Overall the research on CFGs is lacking and there are significant gaps in the Video Club research. CFG research has been limited in regards to empirical studies and also has been limited to a few researchers who are largely associated in some way to the National School Reform Faculty. Similarly, Video Club research has been largely limited to the scope of two researchers, Sherin and Van Es, who have either conducted the research or have been cited in other researchers' work. Both CFG research and Video Club need to be studied further. Additionally, CFG and Video Club research has not adequately addressed how student performance is affected as a result of teacher participation in CFGs or Video Clubs. Therefore, a future study involving CFGs which incorporates the use of video is warranted. This study will pinpoint how the use of video and participation in a CFG impact teaching practices.

CHAPTER 3

METHODOLOGY

Creswell and Miller (2000) argue that researchers using qualitative methods view their studies through different lenses. For example, a qualitative lens might be that of the researcher, an outside observer, or the participant (Creswell & Miller, 2000). It is therefore important for researchers using qualitative methods to point out the lens in which data have been analyzed. This particular study was analyzed through the lens of the researcher.

The goal of this study was to describe the use of and outcomes of video within a Critical Friends Group protocol and also to explore how the use of video influences classroom practices. A single case study was used to investigate the relationship between video use and Critical Friends Group participation. Merriam (2009) defines case study as an in-depth description of a case. Yin argues that case study describes individual and group phenomena. Yin (2009) adds that a case study is an in-depth investigation within real-life context. Both Merriam and Yin argue that case studies are usually a study of a bounded system. A bounded system means there are boundaries related to time, people, or location. This study was bounded by time and location. Multiple sources of data were collected over a short period of time. An in-depth analysis is then possible based on the multiple sources of data collected from the case.

Context

Setting Description

This study took place in a public elementary school with Title I status. The school is located in an urban community in the Southeastern U.S, and the student

demographics include a racial breakdown of 95% Black, 3% Multi-race, and 2% Hispanic. In addition, approximately half of the student population receives free or reduced lunch, and the school has a 32% student mobility rate.

This is the third year that CFGs have existed at the school, but only the second year that the school has utilized a CFG format during grade level meetings. CFG protocols were first introduced to the staff at school during the 2008-2009 school year. The CFG protocols were initially used in mentor meetings. However, during the 2009-2010 school year CFGs were extended to grade level meetings and were utilized again during the 2010-2011 school year in which the current study took place.

Grade level meetings at the school took place roughly four times a month, during the school day, in the school's Professional Learning Community Room. There were four primary formats for grade level meetings which included: data, curriculum, Response to Intervention (RTI) or team/unit planning. The protocols utilized for each meeting varied depending on the type of meeting being conducted. For example, if the grade level was involved in a data meeting they might use the ATLAS protocol which focuses attention on examining and interpreting data (see appendix I). The protocols were selected by the facilitator of the meeting. The Data Specialist facilitated the data meeting, the Curriculum Support Teacher (CST) facilitated the curriculum meeting, the counselor facilitated the RTI meetings, and the grade level teachers were in charge of the team meeting/unit planning. CFGs, in general, are typically free choice, but at this school teachers selected from a menu of administration controlled choices during the data, curriculum, and RTI meetings. The grade level meetings is where teachers at this school had full choice; therefore, the focal teacher presented her two videos to her grade level

CFG, which consisted of nine teachers, over the course of two months, during the team meeting time slot.

Description of Two CFG Meetings

The focal teacher presented two videos to her CFG over the course of two months during the spring 2011 school year. The first meeting took place in April, during the school day, in the Professional Learning Community Room. The meeting lasted roughly 45 minutes and all nine CFG members were present. The focal teacher selected the "Just My Kids" protocol (See Appendix E) to use during the meeting to guide the group's discussion. Prior to the focal teacher presenting her video, I addressed the participants, explained the CFG study, and obtained informed consent from the participants. I then left the room, and the focal teacher presented her first video segment to the CFG and they discussed the video.

The second meeting took place in May, during the school day, in the focal teacher's classroom. The Professional Learning Community Room was being used for other purposes. The meeting lasted roughly 45 minutes with only seven CFG members present. The focal teacher again used the "Just My Kids" protocol to guide the group's discussion. Prior to the focal teacher presenting her video, I again addressed the group to re-explain the study and ask for clarifying questions. I then left the room and the focal teacher presented her second video segment and the CFG members discussed the video.

Participants

The participants included 9 teachers participating in a Critical Friends Group (CFG). They were all female, third grade teachers each of whom held graduate degrees, had participated in at least one year of a CFG, and who ranged in teaching experience

from 1 to 30 years (See Table 2). Pseudonyms were used for all nine teachers to assure anonymity.

Table 2

CFG Member Information

| Teacher | Years of Experience | Degree | Years in a CFG (at time of study) |
|------------|---------------------|------------|--------------------------------------|
| Sue | 18 | Masters | 3 |
| CoCoa | 26 | Masters | 3 |
| Niko | 12 | Masters | 2 |
| Strawberry | 12 | Masters | 2 |
| Monica | 13 | Specialist | 2 |
| Joyce | 9 | Masters | 2 |
| Diana | 9 | Masters | 2 |
| Suzie Q. | 12 | Masters | 1 |
| Maya | 11 | Masters | 2 |

The CFG members were recommended by a colleague of the researcher and therefore were recruited by the researcher because they had not utilized video in their grade level CFG in the past. Participation in the study was optional, so all the participants were volunteers. One female elementary school teacher was the focal teacher

in this study. Sue (a pseudonym), the focal teacher, had been in education for 18 years at the time of the study (spring 2011). She had been a pre-K teacher for two years, a paraprofessional for two years, and a K-5 teacher for fourteen years. At the time of the study, she had been with her current public school system for thirteen years and she had taught in a K-5 private school setting for one year. Her primary teaching experience had been with grades K-3 with her grade level being 3rd grade during the time of the study. Sue was also part of the Early Intervention Program (EIP) at her elementary school. As an EIP teacher, she serviced students who are at risk of not achieving grade level standards. Specifically, Sue serviced third grade students using a pull-out model in which students were removed from their regular education classroom and were taught by the EIP teacher in a separate classroom. No more than 14 students were allowed to be pulled-out at one time.

Sue participated in two CFGs; one voluntary and one mandated. The voluntary CFG consisted of teachers from various schools and grade levels, and took place off campus after school hours. The mandatory CFG consisted of nine third grade teachers within the same school and took place during the school day. Although Sue originally asked her voluntary CFG to be a part of this study it ended up being her mandatory school CFG that was studied instead. The reasoning behind studying her mandatory CFG versus her voluntary CFG was time constraints. Sue's mandatory CFG was able to accommodate her presenting for two months in a row, while her voluntary group was unable to accommodate the time commitment involved with this study. While the mandatory CFG had never utilized video in their meetings, Sue had utilized video while

seeking National Board Certification. She was comfortable with the use of video since she videotaped her classroom a handful of times prior to participation in this study.

Data Collection

Data was collected in a variety of ways for triangulation purposes and to add trustworthiness to the findings. Data sources for cycle I included: focal teacher oral reflection, video of the focal teacher's identified classroom practice, audiotape of CFG meeting, CFG member written reflections, focal teacher interview, classroom observation guide, and the researcher's memos. Data sources for cycle II included: focal teacher written reflection, video of the focal teacher's identified classroom practice, audiotape of CFG meeting, CFG member written reflections, focal teacher and CFG member interviews, and the researcher's memos. Table 3 displays the research questions and shows the data sources that were used in answering each research question.

Procedures

There were two cycles to this study (see Table 4). Each cycle lasted approximately one month.

Table 3

Research Questions and Related Data Sources

| Research Question | Data Sources |
|---|--|
| 1. What are the effects of the use of video within a CFG comprised of elementary school teachers? | <ul style="list-style-type: none"> ▪ Video of the focal teacher's classroom practice ▪ Focal teacher written reflections (pre and post videotaping) ▪ Focal teacher interviews (semistructured) ▪ CFG member interviews (semistructured) ▪ Audiotape of CFG meeting ▪ Researcher memos |
| 2a. What did the focal teacher report that she learned after participating in | <ul style="list-style-type: none"> ▪ Focal teacher's written reflections (pre and post videotaping) |

| | |
|---|---|
| a video CFG? | <ul style="list-style-type: none"> ▪ Focal teacher's post meeting reaction sheet (PMRS) ▪ Focal teacher interviews ▪ Classroom Observation Guide (Completed by Researcher) |
| 2b. What did the focal teacher implement after participating in a video CFG? | |
| 3. What did the CFG members notice about the focal teacher's classroom practice after participating in a video CFG? | <ul style="list-style-type: none"> ▪ Transcribed CFG Meetings ▪ CFG members PMRS (eight=1st meeting, six=2nd meeting) ▪ CFG member interviews |

Table 4

Research Timeline Showing Data Collection Cycles

| Date | Action |
|--------------------|--|
| March/April | School and teacher contacted; approvals secured |
| April (Cycle I) | <ol style="list-style-type: none"> 1. Focal teacher identified specific classroom practice; 2. Focal teacher provided oral reflection; 3. Classroom practice video-taped; 4. 15 minute videotape segment selected by focal teacher and edited by researcher; 5. Iterative data analysis begun; 6. Focal teacher shared videotape segment with CFG members and obtained feedback; CFG meeting was audiotaped; 7. CFG members completed post-meeting reaction sheet; 8. Focal teacher interviewed; 9. Classroom observation guide completed by researcher |
| May (Cycle II) | <ol style="list-style-type: none"> 10. Focal teacher completed a written reflection on classroom practice; 11. Classroom practice video-taped; 12. 15 minute videotape segment selected by focal teacher and edited by researcher; 13. Iterative data analysis continued; 14. Focal teacher shared videotape segment with CFG members and obtained feedback; 15. CFG members completed post-meeting reaction sheet; 16. Focal teacher and CFG members interviewed; |

17. Researcher continued data analysis

May-August Data analysis completed; member checking occurred

Cycle 1- First month of Critical Friends Group Research

Focal teacher oral reflection. The focal teacher chose a classroom practice to reflect upon and then she and I videotaped that classroom practice. Prior to taping, I asked the focal teacher to write a one- to two-paragraph reflection on the classroom practice she chose to explore, but because of time constraints the focal teacher verbally reflected on her classroom practice and I wrote those reflections on the reflection sheet. The verbal reflection included why this particular classroom practice was a concern (See Appendix C, Cycle 1).

Video of focal teacher's classroom practice. I videotaped the classroom practice which took approximately one hour. I then copied the classroom practice onto a DVD, and the focal teacher watched the DVD on her own and narrowed the video to a 15-minute segment to share with her Critical Friends Group. I created a second DVD which only contained the 15-minute segment chosen by the focal teacher. The focal teacher then presented her video to the Critical Friends Group for feedback. The feedback was guided by a Critical Friends Group protocol, which was selected by the focal teacher. The protocol is a Student Observation Protocol called "Just My Kids" (See Appendix E). This protocol entailed the focal teacher videotaping her classroom practice, watching the video, and then writing down a-ha moments. As part of the protocol, the teacher could then choose to create a list of questions to ask her CFG and in this instance the focal teacher did create a list of questions to ask her CFG. The questions included (a) What are the most effective strategies that I employed? (b) What are the least effective strategies

for this group of students? (c) What could I do differently? The focal teacher created a formal document which explained the Just My Kids Protocol and included the three guiding questions listed above. The formal document also included the four math problems that the focal teacher used in her lesson and included a notes section for CFG members to document ideas during the meeting (See Appendix F). Each CFG member received one of these documents during the CFG meeting.

Audiotape. Because trust and community building are such integral parts of CFGs, it might have changed the dynamic of the group to have an outsider sitting in on the meeting. Therefore, I asked the CFG members to audiotape the conversation, which I later transcribed and analyzed.

CFG members' written reflections. Nine CFG members were asked to independently complete a 5- to 10-minute post meeting reaction sheet (PMRS) on the use of video by the focal teacher. Specifically, the CFG members described how they felt about the use of video, what they took away from the meeting, what they hoped the focal teacher used in her classroom, and they were asked to write any other thoughts they had regarding the meeting and the use of video (See Appendix D, Cycle 1).

Semistructured focal teacher interview. I audiotaped one 30 minute semistructured interview with the focal teacher. The questions were intended to gather information on how the focal teacher felt about the use of video during the CFG meeting. The interview questions are listed in Appendix A.

Classroom observation guide. I created a classroom observation guide (See appendix H) based on feedback provided by the focal teacher's interview. The guide included all the CFG members' suggestions that the focal teacher might implement in her

classroom. The strategies originated from the CFG members' suggestions during their first CFG meeting. The focal teacher identified specific strategies that she wanted to try and implement during her second lesson. It was not imperative that the focal teacher stick to those strategies, but I had created the guide to keep track more easily of which strategies the focal teacher did and did not implement during her second lesson. I used the classroom observation guide to document in writing any strategies used by the focal teacher in the second lesson. I also watched the videotape of the second lesson to confirm the recorded observations. The completed classroom observation guide is displayed in the findings section in chapter 4.

Cycle 2- Second month of Critical Friends Group Research

Focal teacher written reflection. During the second data collection cycle, the focal teacher did have sufficient time to write down her reflection. She answered how she felt about her identified classroom practice and also what were the next steps (See Appendix C, Cycle 2).

Videotape of focal teacher's classroom practice. I videotaped the same classroom practice again. I copied the classroom practice onto a DVD and the focal teacher watched the DVD and narrowed down the video to a 15 minute segment which best displayed information about the desired classroom practice. I then created a second DVD which only contained the chosen 15 minute segment. The focal teacher then shared the video with the CFG group.

Audiotape. I asked the CFG members to audiotape the conversation, which then was transcribed and analyzed by the researcher. Feedback was provided to the focal teacher with the group again following the "Just My Kids" protocol.

CFG Members' Written Reflection. Seven CFG members independently completed a 5 to 10 minute post meeting reaction sheet (PMRS), since two members were absent. The reflection responded to the questions of did the focal teacher solve her question about her classroom practice, are videos helpful, what were strengths and weaknesses of the use of video, and what recommendations does the group have for the use of video during CFGs? (See Appendix D, Cycle 2).

Semistructured interviews. I audiotaped a 30-minute semistructured interview with the focal teacher. The interview questions are listed under Appendix A, Cycle 2. I also conducted one, 30-minute semistructured interview with six CFG members who volunteered to be interviewed. Each CFG member was interviewed independently. The interview questions were designed to elicit whether video was a useful tool for the CFG members and the questions are listed under Appendix B.

Data Analysis

I began data analysis by open coding (Merriam, 2009) the data. This involved my reading the first set of written reflections by the focal teacher, the first transcribed CFG meeting, the first interview with the focal teacher, the first set of researcher memos and the first set of post meeting reaction sheets completed by the CFG members. As I coded information I began to construct categories and tried to group important ideas together. "This process of grouping open codes is sometimes called *axial coding* (Corbin & Strauss, 2007) or *analytical coding*" (Merriam, 2009. p.180). Examples of some initial categories, from the first research question, included a sense of community, opening of teaching practice, collaboration, teachers learning from each other, and sharing classroom practice. Upon closer examination "sharing of classroom practice" seemed like a

category which could consume the other ideas of a sense of community, opening of teaching practice, collaboration, and teachers learning from each other. Therefore the category of "sharing of practice" became a big theme and the other four categories were collapsed into the general theme of sharing of practice. This method continued with some original categories being made into subcategories, some ideas were collapsed or omitted, and some new categories were created upon further examination of the data.

I then gathered the second round of data including the focal teacher's written reflections, the transcribed CFG meeting, the interviews with the focal teacher and CFG members, the researcher's memos, and the post meeting reaction sheets completed by the CFG members. I then made a separate set of open codes for this group of data and then compared the codes with the first set of data (Corbin & Strauss, 2007). Common codes were identified by me, and one list of codes was created from the two data sets. A code book was then created, using the data, to help organize the categories (See Appendix J). The code book included the categories along with the corresponding data source, page number, and quotes. I created the categories based on the data and then member checked with the focal teacher to ensure that categories and ideas were accurately portrayed. Specifically, I spoke with the focal teacher over the phone to confirm that ideas were accurately portrayed. Also, I emailed excerpts of the data to the focal teacher so that the focal teacher could review and comment upon the data. I worked to ensure that the categories were exhaustive, mutually exclusive, and "responsive to the purpose of the research" (Merriam, 2009, p.185).

Trustworthiness of Research Design

It is through a qualitative framework, particularly a constructivist-interpretive framework, that data was analyzed in this study. Merriam (2009) argues that there are numerous ways for qualitative researchers to increase the credibility of their findings. In this study, triangulation, member checking, and audit trails were utilized to help enhance the trustworthiness of the study.

Triangulation

Triangulation is a strategy that researchers can utilize to help aid with the credibility and confirmability of a study. Yin (2009) defines triangulation as "the use of multiple sources of evidence..." (p115). This study utilized data triangulation to enhance trustworthiness. Data triangulation involves the use of two or more sources of data (Denzin, 1978). Data in the form of written reflections, interviews, videotapes, audiotaped meetings, and researcher's memos were collected to help enhance the credibility of this study. The use of data triangulation was intended to negate respondent and researcher bias and reactivity.

Member Checking

According to Merriam (2009) member checking is also called "respondent validation" (p.217). The idea is that the researcher receives feedback from participants on the emerging findings. This study incorporated member checking to help negate researcher bias and ensure that the data properly reflected opinions and ideas of participating members of the study. Specifically, I spoke with the focal teacher over the phone and confirmed that the findings accurately portrayed her sentiments. Also, I

emailed big themes to the focal teacher for her to review and give feedback. I wanted to ensure that the focal teacher's perspective was accurately captured.

Audit Trails

Padgett (1998) states that keeping detailed notes and documenting data collection and data analysis helps with reproducibility. This study incorporated the use of audit trails through the documentation of the researcher's memos and organized collection of written data. I also created a code book in which a detailed description of data analysis was included.

Researcher's Role

As the researcher for this study, it was my responsibility to be ethical and keep information confidential. According to Yin (2009), it is the researcher's role to be sensitive and to conduct his or her study with care. Yin further outlined four main steps to take when conducting a case study. The four steps include obtaining informed consent, protecting participants from harm, shielding participant information to ensure confidentiality, and protecting vulnerable groups. In this study, informed consent was administered to the participants and the participants were not harmed in anyway. I obtained IRB approval to help ensure these steps were taken correctly. All of the information was kept confidential and filed in a locked cabinet or on a password protected computer. Participants were given code names, and only I had the master key.

Additionally, the researcher's role is to be as neutral and as unbiased as possible. Biases that I had coming into the project stemmed from my positionality as a White woman from an upper-middle class neighborhood. I am a wife, mother, and former fifth grade teacher. It was my responsibility to be nonjudgmental of the school, teachers,

administrators, parents, and students within the school. It was also my responsibility to keep an open mind to things that I might not have expected to see or expected to hear.

Lastly, I needed to be as ethical as possible when gathering, coding, and analyzing the data. Merriam (2009) points out authors need to be aware of their own biases which can impact their final product. She also quotes Guba and Lincoln (1981), who discuss how a sole researcher can have the potential to pick and choose data to paint a particular picture, image, or conclusion. Therefore, it was my responsibility to not let biases influence the interpretation of the data. In this study, I sought to let the data speak for themselves. I also reported all of the data regardless of whether I agreed with the outcomes of the data.

CHAPTER 4

FINDINGS

There were three main research questions and one sub-question that guided the investigation of this qualitative case study:

1. What are the effects of the use of video within a CFG comprised of elementary school teachers?
- 2a. What did the focal teacher report that she learned after participating in a video CFG?
- 2b. What did the focal teacher implement after participating in a video CFG?
3. What did the CFG members notice about the focal teacher's classroom practice after participating in a video CFG?

One focal teacher, Sue, and her Critical Friends Group members were purposefully chosen to help explore the answers to these three research questions. To help answer the three research questions, multiple data sources were collected over a two month time span. Data was first analyzed by open coding the data and then categories were created from that data. Initial categories were collapsed together, made into sub-categories, or were omitted from the data set. Six key themes emerged from the categories and those themes are presented in this chapter along with illustrative quotes to help support the ideas presented by the themes and categories. The themes and categories are separated below by research question. (n.b. While it was possible to identify individual CFG members from their interviews and PMRS comments, it was not possible to distinguish individuals during the taped CFG meetings. Therefore in the findings those comments taken from the CFG meetings are generally identified as a CFG member speaking, versus

comments taken from the interviews and PMRS in which participants were individually identified using pseudonyms).

Findings for First Research Question

What are the effects of the use of video within a CFG comprised of elementary school teachers? Three prominent level one themes emerged in the findings (See Coding Tree, Appendix G). The three themes included change in teacher attitude, sharing of practice, and pedagogy.

Change in Teacher Attitude

The level one theme of teacher attitude toward video was affected as a result of the use of video within the CFG. For example, Sue, the focal teacher, in her first semistructured interview explained that "the teachers were very enthusiastic about it (video), and I think even next year we will probably continue that practice". In this quote Sue is referring to teachers being enthusiastic about the use of video in their CFG meeting and the intent to continue the use of video into the next school year. In Sue's second interview she explained that some teachers were so motivated about video that they even discussed creating a section in the library to store previously taped teacher videos for teacher use. Sue explained that teachers can "...tape some of their lessons and we can put them in our professional library in the media center and teachers can check them out anytime". In addition, the CFG members' written reflections, referred to as post meeting reaction sheets (PMRS), evidenced this tendency. In the first PMRS Suzie Q. wrote " I wish this [video] would be implemented as part of our professional growth process...It can be a very effective source of feedback which can improve teacher quality".

Additionally, Sue had explained that the use of video during their CFGs had been brought up by the instructional specialist at the beginning of the year. Teachers were opposed to the idea of the use of video and so no further action was pursued in regards to using video during professional development. Sue felt teachers might have been intimidated by video and therefore did not like the idea of videotaping their practice. However, Sue felt after participating in the video CFG some teachers changed their mind about video. During Sue's first interview she summed up why she felt teachers' attitude toward video had changed:

I think sometimes as teachers because we are under such scrutiny right now ya know a lot of people are not open about what they do in their classrooms for fear of being criticized or marked down. A lot of times the things which should not be punitive are punitive so sometimes it causes us not to have trust among each other. I think because I was open about what I do and I invited them to come and see what I do and actually give me feedback about what I do they saw that I appreciated it and I grew from it and ya know we were using protocols and community and it wasn't anything that was ya know it wasn't an opportunity to criticize me but to actually talk about the strengths and weaknesses that they saw. I think it kind of took the sting out of it for people who may have had misconceptions about what it is like to video yourself and then allow other people to help you analyze what you do in your classroom. (1st FT Interview, p. 2)

Furthermore, Cocoa confirmed Sue's comments about a shift in teachers' attitude toward video as a result of participating in a video CFG. During Cocoa's interview, she stated,

. . . when you actually see it, oh my goodness, it just took it to a whole another level. It really did. When we did it the first time after that meeting we were all like we should do this all the time. That was the first thing that came out. We need to do this all the time and we should incorporate this some kind of way if people don't feel embarrassed or scared or nervous to have somebody video tape them doing a lesson and help each other because I think that does work" (CoCoa Interview, p. 2)

Sue and CoCoa both commented that seeing an example of the use of video during their CFG is what helped change teachers' perceptions about the use of video. Sue felt that she opened her practice to her colleagues and her colleagues were able to see the benefit of

sharing practice versus the possible negatives of sharing practice. CoCoa also stated if teachers weren't too nervous or scared that she wanted to continue the practice of videotaping lessons and sharing teaching practice with colleagues.

Sharing of Practice

The level one theme of sharing of practice included three subthemes: sense of community, collaboration, and learning from each other.

Sense of community. Sense of community in this study encompassed teachers feeling safe and comfortable with one another. The CFG members reported that their sense of community was affected by the use of video. During Sue's first interview she stated, "...I think the biggest strength of the use of video in our meeting is that it created a sense of community among us..." (1st FT Interview, p.2). CoCoa also expressed a similar concept in her interview when she stated, "We were so comfortable talking" (CoCoa interview, p.3). Moreover, during Strawberry's interview she spoke about the relationship of the third grade team. She said, "We have built a relationship to the point where we can all kind of sit down, we do it anyway, we sit down and say well ya know I may try this or you could have done this better...I am very comfortable with them and with them giving me feedback" (Strawberry Interview, p. 5).

Collaboration. The level of collaboration within the group of teachers was also reported as having improved as a result of using video within their CFG. Joyce commented in her first post meeting reaction sheet that "Using the video was very helpful and productive for the process of collaborating to identify strengths and weaknesses pertinent to teaching" (PMRS #1, Joyce). Additionally, Diana commented in her first post meeting reaction sheet that "The collaboration is very good and gives teachers

opportunities to share instructional strategies" (PMRS # 1, Diana). CoCoa further supported the idea of collaboration being enhanced by video when she stated:

I think video is more interactive cause we get a chance to at least see something in action and then be able to talk about it and collaborate and hear what the ideas of different teachers are which helps to build what we do. Um collaboration is the most important thing especially when it deals with education . . . (CoCoa Interview, p. 1)

Overall the CFG members felt that collaboration gave them a chance to hear the ideas of different teachers.

Learning from each other. Nine out of nine teachers commented either in their interview or in their PMRS on how the video and/or their conversations as a result of viewing the video helped them learn from their colleagues. Niko wrote "This was a wonderful opportunity to see my colleague engaged in teaching and to learn from her and others on my team" (PMRS # 1, Niko). Monica also wrote a similar sentiment that "The video was helpful because as a teacher you get to observe another teacher who helps you deliver a lesson better or get pointers on the things that need modifying" (PMRS #2, Monica). The notion of learning from each other and being able to visually see a teacher in action was an overwhelming positive for the teachers involved in this study. During Sue's second interview she commented on the use of video as a learning tool. She stated:

A lot of times you can tell someone I did this and I did that, but if you say well I have a video of what I did and you can show it to them and then they can revisit it as many times as they need to so I think video is a learning tool not just for the focal teacher but for any teacher that watches it. (2nd FT Interview, p.3)

The reporting of teacher growth as a result of participating and utilizing video within the CFG was unanimous among the group of teachers in this study.

Additionally, by allowing teachers' in the CFG to watch her video Sue publically opened her practice for others to learn from. As previously stated, the teachers in this

study were originally fearful of opening up their practice until they saw Sue open her practice. During Sue's first interview she stated, "...I opened up my practice for other people to see and I think in turn it will make other people be open about their practice..." (1st FT Interview, p.2). Additionally, during Sue's second interview she explained, "I also think that it makes for a better working relationship too when people are opening up and we are actually sharing what we are doing in our classroom" (2nd FT Interview, p.7). Sue shared her practice and in turn all nine teachers reported learning from her video. Sharing of practice within this group of teachers was affected by the use of video within their CFG.

Pedagogy

Conversations that took place during both CFG meetings were pedagogy-driven. For example, during the first CFG meeting Sue showed her video to her group and after they watched the video, she asked them three questions. The three questions included 1.) What were the most effective strategies that I employed? 2.) What were the least effective strategies for this group of students? and 3.) What could I have done differently? These questions focused on her teaching practice. During all three questions Sue took notes on her groups' suggestions on how to improve her practice.

The pedagogy-driven conversations were also largely dictated by the type of protocol the focal teacher selected. The "Just My Kids Protocol" (see appendix E) involved the focal teacher viewing the video prior to sharing the video with her group and writing down questions she had for her group. The focal teacher created a sheet to share with her CFG members (see appendix F) which consisted of her questions, the math problems she used during her lesson, and a notes section for CFG members to jot down

ideas and thoughts. Since Sue led the discussion and her questions were pedagogy focused it drove the conversation in that direction. Overall, the CFG members seemed happy with the pedagogy-driven conversation. Niko was quoted as saying. "This I think was more meaningful because it directly related to pedagogy and teaching and how to reach the kids" (Niko Interview, p.2-3).

The pedagogy-driven conversations were also in direct response to Sue's two math videos. The teachers gave advice to Sue on how to improve her practice. The advice across the two meetings included concepts such as: one-on-one teaching, guided dialogue, discussing the math process, using partners/peer tutors, modeling, going over the math problem step-by-step, having students re-work the math problems with the teacher, using dry erase boards, using smaller problems, using base ten blocks, using a sequencing chart, acknowledging student thinking, using grid paper, using technology and incorporating educational videos. An example excerpt from the first CFG meeting, a conversation between the focal teacher (Sue) and a CFG Member (CM) is provided below.

Sue: What do you think was the least effective strategy or something that I could have maybe done more with?

CM: I think with the first student um she never really answered. She just nodded her head to whatever you were saying and she needed to open her mouth and she needed to talk more so you could see if she really understands because when you would say something she would just "um, hum, um hum" and that is not a confirmation do you really understand. I

think you are nodding because I am saying this is the way you do it right?

You would say right? And she would just shake her head.

CM: I think that came with when you were explaining to her why the one became an eleven. And I think she really couldn't process that she was bringing over the ten and I think that is when she just started nodding her head like okay I am just going to agree so we can continue the problem. So I think that could have been made a little clearer to her.

CM: Maybe at that point I would have interjected more of a student dialogue. Maybe one of the students could have gotten more out of her by creating a dialogue with her.

Sue: Okay, so maybe I could have used a peer tutor then or a student model.

CM: Um hum

CM: And maybe even a smaller problem. I know you have four digits here. Maybe if you had reduced it to a three or two digit problem she could have maybe seen the concept a little bit easier.

CM: And that was my observation as well. She was having some difficulties understanding how regrouping truly works from one place value to the next. Maybe backing up and just doing a smaller problem and then moving her back up to a larger digit problem after she had gotten the smaller one.

CM: I also agree with that and you can also because it is a smaller problem you can bring in the base ten blocks and actually see those tens being moved over.

This excerpt is indicative of a typical conversation during both CFG meetings. The CFG members were very focused on giving pedagogy-based feedback to the focal teacher.

Findings for Second Research Question

What did the focal teacher report that she learned after participating in a video CFG? Three main level one themes emerged which included the notion that video helped document student engagement, video captured practices, and video promotes reflection.

Student Engagement

The level one theme of student engagement in this instance encompassed two subthemes: student reflection and affirmation of student knowledge.

Student reflection. In regards to students reflecting on their own learning, Sue picked up on the fact that her colleagues viewed student reflection in a positive light during the second lesson. Sue declared, "They also talked about how they noticed that students were reflective about their learning this time... " (2nd FT Interview, p.1). Sue had purposefully asked the students in the second lesson to reflect on the teaching strategies she had employed during the lesson. Students verbally responded to whether they felt the interactive white board and the virtual base ten blocks helped them comprehend the concept better. Most students reported they did like the strategy with only one or two students declaring they did not like the virtual base ten blocks.

Affirmation of student knowledge. Sue reported that using video allowed her to watch the videotape for different purposes each time. One purpose she specifically mentioned was watching the video for student thoughts and perceptions. Sue stated:

. . . when we are looking at work samples ya know that always lets us see what the students know or don't know but it doesn't give us a full picture like video does because when you're looking at a video you can see what you are doing and you can see how the students are responding to what

you do. But when you are only looking at work samples we are only seeing how the student is responding so it's kind of one sided, but I think when we use video it gives us both sides. It tells the whole story so we can reflect on our practice and we can also think of other ways or better ways to reach our students. We can think about how they learn and different strategies we can use. (1st FT Interview, p. 4)

Sue reported she could watch video to reflect on her own teaching practices but then also watch video to help capture student thinking. Sue mentioned during one of her interviews that sometimes teachers get distracted or have internal talk going on in their heads. Also, sometimes teachers are pre-occupied with one group of students while missing out on actions and words of other students. Video served as a teaching tool to go back and watch for areas that a teacher may have missed during the teaching of the lesson. It is this deeper insight which Sue believes helped aid with her improved classroom practice.

Captures Practice

The level one theme of captures practice contained two subthemes of improved practice and better use of technology.

Improved practice. Sue reported that by videotaping and viewing her practice she was able to recognize the strengths of her teaching. Sue wrote in her first post meeting reaction sheet, "I have more strengths than I realize" (1st FT PMRS). She then later followed that up by writing in her second post meeting reaction sheet, "Video helped me to see what was good about my instruction" (2nd FT PMRS). She had videotaped her classroom previously to this study, for various reasons, and she reported that videotaping helped her recognize areas of concern but it also helped her recognize areas of teaching strength. In Sue's opinion recognizing her strengths was equally as important as recognizing areas of concern.

Additionally, Sue felt that she personally improved her teaching by reflecting on her approach to teaching students with various learning styles. Sue discussed how she gave a learning style inventory to students at the beginning of the year to identify their individual styles of learning. She said she created centers adapted toward the types of learning styles her students' possess. However, Sue felt that when she planned whole group lessons she didn't always account for those individual learning styles the way she did when creating centers. Sue reflected that "...A lot of students have a strong interest in technology and when I combine that together in my lessons I think it is more effective. Video really taught me to combine things more and to really stick closer to teaching students based upon their learning styles" (2nd FT Interview, p.2).

Better use of technology. Sue did report that she used technology more in her second lesson and she felt her practice was more engaging as a result. Sue stated, "the second time around one of my ah-ha moments was when I watched the video and I saw how the students responded to the visual representation" (2nd FT Interview, p.1). During the second lesson Sue had manipulated virtual base ten blocks on her interactive white board to help solve math problems while students followed along at their seats using individual white boards. Sue commented, "...that was good too because it gave me the opportunity to model while the students were working" (2nd FT Interview, p.1). She really perceived her use of technology and her modeling as more effective in her second lesson compared to her first lesson where technology was absent.

Promotes reflection. Sue suggested that she views herself as a reflective teacher yet she often times struggles with the ability to find time during the day to reflect on her teaching practices. She acknowledged that she reflects on big ideas and adapts her

teaching style as she is reflecting in the moment, but having a video helped her reflect deeper. As noted earlier Sue mentioned that video serves as a learning tool since you have the ability to revisit video and watch it again and again for multiple purposes. Sue proclaimed:

It was really something that I was able to reflect on after the video, basically because my schedule is so fast paced so even when I'm in a regular classroom most times it is one thing right after the other so as we are teaching throughout the day you really don't have time to stop and reflect about something immediately. You know it's only those big things that you may reflect upon at the end of the day, but after you have taught almost every subject all day long or ya know as teachers we are busy all the time so we rarely get the chance to sit down and actually think about what we have done unless it's the end of the day or maybe during planning time and that is if you are not in a meeting or maybe a parent teacher conference or something like that. (1st FT Interview, p.1)

Sue also reported that unless you keep anecdotal records on the students it is sometimes hard at the end of the day to remember who got a particular concept and who did not understand the concept as well. Therefore, having a video to watch can help aid with that piece of reflection.

Findings for Part Two of Second Research Question

What did the focal teacher implement after participating in a video CFG? During Sue's first semistructured interview she identified the strategies she planned to utilize during her second lesson. The strategies originated from her CFG members' suggestions during their first CFG meeting. Sue identified five out of eleven suggested strategies (see Table 5) that she wanted to try and implement during her second lesson. I then made a classroom observation guide which indicated all the strategies that the focal teacher said she would or would not implement in her second lesson. In practice, Sue implemented two out of five strategies that she originally stated she would use and she actually implemented four of the six strategies she originally indicated she would not use.

Table 5

Classroom Observation Guide Recordings

| <i>Strategy</i> | <i>Evidence of Strategy</i> |
|--|---|
| Strategies recommended by the CFG members that the focal teacher suggested she would try to implement in her second lesson | |
| Using grid paper | None |
| Doing the first 2 steps with the kids and letting them finish the last two steps on their own. | None |
| mathplayground.com | None |
| Use of technology (specifically incorporating her interactive whiteboard) | Two problems were put on the interactive whiteboard prior to the students' coming to class. "6,002-2,567 =" and "8,021-4,964 =" The interactive whiteboard was then used during the entire lesson to help solve those problems. |
| Using the National Library for Virtual Manipulatives | When correcting math problems, Sue used this site, which contains virtual base ten blocks. |
| Strategies suggested by the CFG that the focal teacher stated she would not implement | |
| Base ten blocks | Sue used virtual base ten blocks through the National Library for Virtual Manipulatives. |
| Have students model working out the problem on the big whiteboard or have them work out problems using the easel | Students had individual whiteboards where they worked out their math problems. Sue then had one student volunteer verbally help her solve the math problem as well as come up to the interactive whiteboard to help solve the problem for the whole class to see. |
| Sequence chart | None |
| Thinking aloud | Sue had students talk through the problem verbally. |
| Have students explain why they are doing something | Sue had students explain their answers. |
| Have teacher model a problem and talk out loud while students watch. Also emphasize there are multiple paths to get to the correct answer. | None |

I completed the Classroom Observation Guide at the conclusion of the second lesson. At the conclusion of the lesson the focal teacher vocalized that she decided to focus on the technology piece of the lesson versus the grid paper, math video, and doing the first two steps with the kids and letting them finish the rest. Sue stated that as a result of videotaping and obtaining feedback that she was learning sometimes less is more. Sue explained,

but I found doing the video tape that sometimes if you just take one or two skills or just that one skill and focus on it and go from there that it's a lot better and the kids ya know they come out with a better understanding then if ya know if we are just trying to do so many things all at once. (FT 1st Interview, p.6)

Sue also explained that she had used the virtual base ten block website earlier in the year to try and help students understand the regrouping process. She felt at that point in the year that the students might not have been developmentally ready for the concept of virtual base ten blocks. However, she expressed that sometimes later in the year students are more ready and able to comprehend concepts and therefore she wanted to re-introduce the National Library for Virtual Manipulatives to the students: "I am going to go back to a strategy that I used earlier in the year the National Library For Virtual Manipulatives because I am wondering if when I introduced it to them at the beginning of the year if it was too soon . . ." (FT 1st Interview, p.4).

Although, Sue decided to focus on the technology aspect of the lesson and she left out the other three recommendations of using grid paper, showing a math video, and doing the first two steps with the children she did incorporate some of the other recommendations of her CFG members. For example, Sue did not explicitly say she would utilize the suggested strategy of having the students model working out the problem on the big white board, but she did incorporate that strategy when she allowed a

student to come up to the interactive white board to help solve the math problem. Also, Sue had students explain the math problem verbally which incorporated the thinking aloud strategy and the concept of explaining their answers. Her CFG members had suggested for Sue to incorporate more thinking aloud time for the students so Sue did incorporate that into her technology lesson the second time around.

Findings for Third Research Question

What did the CFG members notice about the focal teacher's classroom practice after participating in a video CFG? This question shared the same three prominent level one themes as question two. The three level one themes included the notion that video helped document student engagement, video captured practices, and video promoted reflection.

Student Engagement

The level one theme of student engagement included four subthemes: kids were more engaged, student reflection, student talk, and affirmation of student knowledge.

Kids were more engaged. The CFG members noticed that students were more engaged in the second lesson versus the first lesson. For example, Niko stated, "By watching the video we could actually see the difference in the way the kids were reacting from the second time as opposed to the first time after she included all of her input and her feedback from us. (Niko Interview, p. 3). Additionally, during the second CFG meeting one CFG member acknowledged, "I would like to say that I saw and heard a lot of the students making um I guess giving answers where finally you could tell the light bulb was coming on like they were very motivated. You could hear the yes, I got it" (2nd CFG Meeting, p.1). Also, specifically, during CoCoa's interview she is quoted as saying:

it was like children were so motivated. I was like that is the most important part to me. They are motivated I saw light bulbs coming on ya know I saw "Yes". I was like oh I can hear the children I hear them. They finally got it. Because ya know children are visual too. And when they get to manipulate and be able to see something you just never know what is going to reach them (CoCoa Interview, p. 3)

CoCoa's comment about being able to hear the children captures the notion of student engagement in the second lesson.

Student reflection. Another specific aspect of student engagement which the CFG members felt increased from the first to the second lesson was the amount of student reflection. Student reflection in this instance referred to the students reflecting on their own learning. Seven out of nine CFG members reported seeing more student reflection in the second lesson. In regards to student reflection, Sue asked the students in the second lesson to reflect on the teaching strategies she had used. Niko acknowledged:

I liked the fact that she had the kids reflect on what they had done to see if the strategies helped them. It caused the kids to actually have to think about what they had done and actually compare what they had previously done to see if the strategy actually helped them out. (Niko Interview, p. 3)

The CFG members were specifically able to see and comment on the differences between students' reflecting on their own learning from the first to the second video.

Student Talk and Affirmation of Student Knowledge. Another additional aspect of student engagement which the CFG members noticed was an increase in the amount of student talk. After watching the first taped lesson, the CFG members had suggested having more thinking aloud time for students and more student talk explaining their work. At least four members reported after watching the second videotape that they saw evidence of more student talk. One CFG member declared, "...and another thing that was different from the first lesson too was they talked more about what they did or did not do..." (2nd CFG Meeting, p.2). Diana wrote in her second post meeting reaction

sheet, "The teacher allowed the students to state more what they were doing instead of the teacher sharing what the student had done" (PMRS #2, Diana). Maya also wrote "Students were comfortable enough to share their thoughts and strategies" (PMRS #2, Maya). In Niko's interview she expressed that there was more dialogue and she felt the students understood the concepts better in the second lesson versus the first lesson. Also, during Joyce's interview she reported:

The fact that she had the kids thinking about their thinking and talking about it. That says a lot about the focal teacher because she went back and she (Sue) focused on okay these children need to involve themselves more so I can understand their thinking and having them talk out loud and listening to what they were saying it's like oh I got it now, I understand it now. So anytime you allow kids to do that, correct their mistakes, work them through their mistakes I mean that is excellent. She did more facilitating versus teaching which is a plus as well (Joyce Interview, p. 4)

The CFG members also expressed that there was more affirmation of student knowledge as a result of allowing more student talk in the second lesson. The CFG members had felt that in the first video Sue didn't follow through with a student who was just nodding along with Sue's explanation of the math problem. The CFG members felt that Sue should have encouraged more student talk and affirmation of student knowledge. However, in the second video the group commented that the students' verbalization of their knowledge was more evident. One CFG member during the second CFG meeting stated:

I noticed that a lot of the kids went on and used the inverse operation on their own to check their own problem. That allowed them to self check themselves and then not only that they came back and verbalized that to you and said well I saw that I made a mistake in the tens place and they were able to go back and correct that on their own. (2nd CFG Meeting, p. 1)

The affirmation of student knowledge through increased student talk was attributed to Sue's change in teaching approach from the first to the second video. Joyce explains,

"You even saw that her approach changed their confidence. It was almost like you had a whole different group" (Joyce Interview, p.4). Sue changed her approach in the second lesson to incorporate more technology and in turn she allowed for more verbalization from the students.

Because student engagement according to the CFG members was largely defined by student talk, I examined the first and second video recordings specifically to chart the student talk which took place in each video. During the initial viewing of each video, I simply counted the number of times a student talked without taking into consideration the type of discourse. Every time a student took a turn talking it counted as one turn regardless of how long his or her turn lasted. For example, if the teacher asked, "What is 9 minus 2?" and the student answered "7," that simple answer of "7" was counted as one student talk. If the teacher then said, "Please explain how you got that answer," and the student launched into discussion about how he or she came to their answer, their long turn still counted as one student talk. The end result of this type of count revealed an almost equal amount of student talk with the first video yielding 84 counts of student talk and the second video yielding 86 counts of student talk.

I then decided to probe deeper into why the CFG members and the focal teacher perceived an increase in student talk from the first to the second video. Therefore, I rewatched the videos with the purpose of examining the type of discourse. The second viewing of the tapes therefore required me to eliminate response discourse and instead only count student initiated talk. For example, if the teacher asked what is nine minus two and the student answered seven that was considered response discourse and was not counted. The students were responding to a direct question asked by the teacher.

However, if the student self-initiated conversation such as "I don't understand" or "how does the two zeros become a 10 and then a 9?" without the teacher directly asking them a question, than that type of self-initiated student talk was recorded. When student talk was counted in this manner than the results were 5 self-initiated student talk in the first video compared to 28 self-initiated student talk in the second video. This examination of student talk seemed to display the sentiments expressed by the CFG members in which they said they heard the children's voices in the second lesson. CFG members commented that the children were vocalizing themselves more in the second lesson and that they seemed more engaged. CFG members also felt that the teacher was able to affirm student knowledge more in the second video as a result of the student talk. Students in the second lesson are quoted as saying things like "I don't understand" or "Yes, I got it" or "I see how my answer is wrong" all without prompts from the teacher. Also, one student spoke out voluntarily and stated, " I did the inverse operation but instead where that 5 is I had a 4 and when I subtracted I knew that it was wrong so I redid it and I got the right answer". Another student raised his hand and asked, "How do the two zeros become a 10 and then a 9?"

This type of student talk is significant since it was absent in the first video. In light of full disclosure it is important to note that there were only 2-3 students in the first video since Sue was teaching in a small group setting while the second video captured the whole class of 15 students. The second video had more students and therefore would lend itself to more student talk, but the type of student talk is what caught the attention of the CFG members. Also, the two videos were difficult to compare since the focal teacher did change her practice so much from the first to the second video. Sue gave credit to her

CFG members and their feedback as to why the two videos were so different in nature. The first video consisted of a small group teaching approach and one manipulative which was white boards utilized by the focal teacher and the students. The students worked out four different math problems on their white boards while the teacher used her white board to demonstrate how to solve the math problem. However, the second video consisted of a whole group teaching approach with students modeling, the focal teacher modeling, the use of an interactive white board, virtual manipulatives, students' used white boards, and students' reflected on the teaching strategies utilized by the focal teacher. The focal teacher changed her approach so much from the first to the second video based on CFG member feedback and that change in practice is what the CFG members noticed and commented on in their discussion.

Captures Practice

The level one theme of captures practice included two subthemes: more modeling and better use of technology.

More modeling. The CFG members noticed that Sue's use of modeling increased from the first to the second lesson. Niko spoke to the improved modeling she saw in Sue's classroom practice from the first to the second lesson. Niko stated "...while she was modeling on the board the kids actually had their own white boards and they were actually doing the same thing she was doing and they were talking through the problems just a little more than before" (Niko Interview, p.3). Sue even commented during her second interview that she had an opportunity to model more during the second lesson versus during the first lesson.

Better use of technology. Additionally, the CFG members were pleased with the influence video had on the use of technology in Sue's classroom practice. During the first lesson Sue conducted a small group math lesson on regrouping. The students utilized individual white boards to help answer their math problem but they didn't have any visual aids or manipulatives to help them understand the concepts. The CFG members had given Sue feedback that she should try and incorporate technology into her lesson. Therefore, in Sue's second lesson she utilized virtual base ten blocks and her interactive white board to help explain the math problems as students talked her through the process. Diane recognized the improvement in the use of technology when she wrote, "The use of technology or the way technology was used increased the strength of the lesson" (PMRS #2, Diana). Niko also shared this sentiment, "This time the students were actively engaged because Sue used the technology piece in this particular lesson" (Niko Interview, p.3). In total, five CFG members commented during the second CFG meeting that the use of technology in the second lesson was very positive versus the first lesson.

Promotes Reflection

The CFG members discussed video in regards to how it can enhance teacher reflection. Overall, most members felt video served as a reflection tool. For example, Niko wrote that video "Allows you to reflect on teaching and refine your practice" (PMRS #2, Niko). Some members even suggested that video helped promote deeper reflection versus discussions without a video to reference. Diana stated "I mean it's good to talk verbally amongst yourselves and reflect on lessons but the video really really helps" (Diana Interview, p. 2). Monica added to this notion in her post meeting reaction sheet when she wrote, "By using a video you can always watch it to reevaluate where

students are and what they need help with" (PMRS #2, Monica). This idea of being able to re-watch a tape over and over for various purposes was a sentiment which CFG members felt added to a deeper reflection than without video. Joyce reported that teachers cannot remember everything that happens in a lesson without the use of video. Joyce declared:

You get to go back and say wait a minute that is not what I wanted to say or I omitted something. You don't ever get a chance to reflect on what you missed because how are you going to remember the whole entire lesson. So with a video you can go back to what you said or did and I can give myself feedback, oh I need to do that different. Or maybe I need to find another way to present it because of all these different learning styles that I have sitting here in front of me. (Joyce, Interview, p. 2)

Additionally, Joyce felt that when Sue shared her video with her colleagues it opened up new ideas because Sue's colleagues might see something that Sue did not see. Joyce felt this could allow for deeper reflection by Sue since her colleagues might catch something and spark ideas in Sue that originally might have bypassed her attention. Overall the CFG members felt that video served as an excellent tool to help Sue reflect on her own teaching, as well as allow her peers to reflect and give feedback as well.

Negative Cases

Most of the above findings represent positive aspects of using video within a CFG. However, some teachers did express drawbacks to the use of video within their CFG. Two big drawbacks which seemed to be repeated by the CFG members included the logistics behind videotaping and also teacher resistance to videotaping. Both negative aspects are discussed in more detail below.

Logistics

One drawback which was expressed by the members of this study consisted of the logistics behind using video. One concern of the teachers was the time management

aspect of utilizing video tapes. One CFG member expressed, "I mean time management (is a con) I guess. We don't have a lot of time sometimes to do wonderful things like this all the time..." (Maya Interview, p.2). A second CFG member also concurred that time constraints in the classroom is a possible impediment to the use of video. She stated,

We have a lot of material to um basically present to the kids so I don't know if maybe that might have been something that deters the people from wanting to video because it means it takes time. You have to find somebody to come in and do it for you. And you just have so many other things that you are concerned with getting accomplished throughout the school year so I could see that as being ya know one deterrent from using it. (Niko Interview, p. 4)

Niko expressed concern over time constraints of video as well as logistical issues such as needing someone to videotape you. The sentiment of needing someone to come in and videotape was also expressed by the focal teacher. She commented, "...it is difficult to find someone to come in and tape for you. You really have to plan for it. It is not anything that you can do impromptu very easily..." (FT 2nd Interview, pg.3). Sue noted that everyone is working during the day and everyone is busy, so sometimes it is not easy to obtain a person to help videotape. Sue did comment that teachers have the option of setting up tripods and videotaping in that manner, but sometimes there are scenarios where student dialogue is desired and an up-close videotaping would require the assistance of another person for the success of the video.

In addition to time constraints and needing the help of others to videotape, some teachers reported another con of having to obtain equipment and also having to manipulate the equipment. Sue acknowledged that it would be easy for her to videotape since she owned her own equipment and she was knowledgeable about how to operate the equipment and transfer the data onto DVD if necessary. However, she also recognized that "A lot of teachers don't have resources for videotaping" (FT 1st

Interview, pg.3). She said that the school does own equipment but it can be difficult to acquire since there are so many teachers in the school and often times the equipment is out dated. The additional obstacle that Sue noted was the ever changing nature of technology. She declared, "...when it comes to using videotapes or a camcorder technology is always changing..." (FT 1st Interview, pg.3). Diana also recognized a similar con to the use of video when she stated, "...for people who maybe aren't tech savvy they may find some fear in the videotaping of their lesson..." (Diana Interview, pg.3). Fear of technology coupled with obtaining and operating equipment are all obstacles that the CFG members reported to the use of video within the classroom and their CFG.

Teacher Resistance

CFG members reported that a possible con of video is teacher resistance. Teachers can feel embarrassed or uncomfortable to tape themselves and expose their teaching practices to others. Teachers also can fear critique and therefore can be closed to the notion of videotaping themselves. One participant who admitted she can be intimidated by video explained that she liked using video in the CFG but she was glad she didn't have to be the one on tape. She said that she was open to videotaping as long as it was on a voluntary basis. While she felt she would eventually volunteer to be videotaped she did express "...that initial time there would probably be a little anxiety" (Strawberry Interview, pg.4).

During Niko's interview she also acknowledged that some teachers may be fearful of critique. Niko declared,

Cons I don't know I guess maybe if a teacher is uncomfortable with being put on the spot where some teachers may have a problem with people critiquing them and watching them they may even be a little self

conscience about it so I would think that would be a con. (Niko Interview, p. 3)

CoCoa also acknowledged that fear of critique may serve as a barrier to video. She spoke about how teachers can sometimes be fearful to admit that they are doing something wrong. Teachers are scared of exposing themselves to others. CoCoa felt that teachers who think this way are viewing video in the wrong light. She stated,

people were scared basically... I guess you are too nervous to say I am doing something wrong, but it is okay. It's not like you are doing something wrong you shouldn't think of it like that. Its how can I make it better? How can I improve myself? What tips can you give me that is going to support me being a better teacher and reaching the students so that they can be successful because that is what my ultimate goal is, making sure students are successful (CoCoa Interview, p. 2).

Diane also agreed that some teachers may not be open to critique. She expressed the notion that in her old school some teachers felt that videotaping was reserved for student teachers or early learners of the profession. Some of the older teachers resisted video because they felt they had perfected their practice already. Diane stated, "...But some teachers ya know when you have been teaching for a while they think I have enough experience of doing this so I don't really need to look at myself and it just varies on the individual..." (Diana Interview, pg.2). Feelings of embarrassment or fear of critique were reported as the main forms of teacher resistance to video. Out of nine teachers in this study only one admitted that she was nervous to be videotaped. While she stated she liked being a part of the video CFG, she did acknowledge she would be uneasy if she were required to be the focal teacher on tape.

Summary of Findings

CFG members reported that the effects of the use of video within a CFG included a change in teacher attitude toward video, an increased sharing of practice and a change

in pedagogy. Teachers were more motivated to use video as a result of participating in this study. Also, the sharing of practice was affected through the opening of practice, sense of community, and increased collaboration. Teachers learned from watching each other's practice and discussing each other's ideas.

The focal teacher and CFG members noticed that after participating in a video CFG they learned about student engagement, classroom practice, and teacher reflection. The focal teacher discussed student engagement in regards to student reflection and affirmation of student knowledge, while the CFG members additionally addressed student engagement in regards to student behavior and student talk. Also, Sue and the CFG members felt her teaching practices improved as a result of participating in the study. For example, the CFG members and Sue perceived that Sue had increased her modeling and made better use of technology in her second lesson. Additionally, Sue felt video helped her reflect on the notion of incorporating various learning styles into her lessons regardless if her lessons were small group versus whole group lessons. Finally, the ability to reflect deeper through the use of video was a theme which emerged from a majority of the CFG members and from Sue herself. The focal teacher and CFG members reported that having the ability to watch video again and again for various purposes increased the level of reflection that can occur from the focal teacher. Sue and the CFG members in this study felt that relying on memory alone is not enough in order to achieve deep reflection.

While most CFG members reported enjoying the use of video there were some drawbacks that were reported as well. Teachers reported that logistically it can be hard to find time in the day to video tape and it can be equally difficult to find someone to

videotape for you. Additionally, teachers reported that there can be teacher resistance to video in the sense of fear of critique or feelings of embarrassment. While teachers spoke to the negative aspects of videotaping they all agreed that they learned from the video CFG and would like to see that practice continue at their school.

CHAPTER 5

DISCUSSION

This qualitative case study described the use of video within a Critical Friends Group protocol and also explored how the use of video influenced one focal teacher's classroom practice. Knowles's adult learning theory will be utilized to provide a framework for thinking about the six key level one findings and their relationship to the literature.

Change in Teacher Attitude and Shared Practice

A change in teacher attitude and shared practice link directly to Knowles's theory of adult learning in which Knowles's theorized that adults are motivated internally versus externally. They also link to Knowles' notion of adults being self-directed learners. The reason why Knowles's concepts relate to the group in this study, in this manner, is because the CFG members had previously been asked by administration to utilize video in their classrooms as a learning tool for discussions. The teachers were opposed to the idea and therefore nothing happened as a result of their opposition. However, if the administration had taken a different approach and asked for volunteers to video tape or perhaps had done a better job of informing the teachers about the benefits of video, the teachers might have been more open to the idea. Strawberry, one of the CFG members, commented that "they (the administration) are like, 'choose from these things that I am giving you' and so we choose." (Strawberry Interview, pg.3). Strawberry is referring to the fact that the administration at their school often times e-mail teachers with a list of professional topics to choose from. Strawberry went on to explain in her interview that she would like more self-directed choice, versus controlled choice of topics.

Data analysis also revealed an increased sharing of practice. Sharing of practice can directly relate back to Knowles's concept of adults linking their readiness to learn to their social role. CFGs are collaborative in nature and embrace social components of learning (Curry, 2008). The CFG members felt that they learned from each other within a collaborative environment. The members discussed an increased sense of community and a feeling of trust among each other which allowed them to open their practice. This reporting of an increased sense of community directly relates back to Snow-Gerono's (2005) findings on teachers' feeling less isolated and feeling a part of a community as a result of participating in learning communities. Also, the idea that trust needs to be developed within a learning community before expecting teachers to open-up and share has been reported by researchers such as Parr and Ward (2006), Hipp, Stoll, Bolam, Wallace, McMahon, Thomas, and Huffman (2003), and Hipp and Huffman (2003).

The notion of shared versus private practice has also been previously examined and theorized by past researchers. Lortie (1975; 2002) in particular discusses how teaching practices "...tend to be private rather than shared" (p.160). According to Lortie dialogue is important and teachers need to openly discuss their classroom practices in order to improve teacher quality. Issues surrounding self-monitoring and self-assessment of teaching practices certainly may lead to teachers having self-esteem problems with their teaching practices. However, many teachers are reluctant to share their teaching practices due to the fear of being judged or criticized. One teacher, in the current study, did report during her interview that she would be afraid to be videotaped due to fear of being judged and criticized. The focal teacher however opened up her practice for her colleagues to view and comment upon. When probed as to why she was willing to open

up her practice, the focal teacher responded that she wasn't afraid to share her video with colleagues partly due to her experience with video. Sue had to videotape her classroom a minimum of three times when seeking National Board Certification. In her opinion if she could videotape herself and submit that to strangers than surely she could share her practice with her colleagues. Sue stated, "I had trust with these people and that was another reason why I wasn't afraid". Sue trusted her grade level team members to make her feel comfortable and safe when sharing her video. Sue suggested that safety can play a large part in a teacher's willingness to open up their practice. Sue commented,

I think sometimes as teachers because we are under such scrutiny right now a lot of people are not open about what they do in their classrooms for fear of being criticized or marked down. A lot of times the things which should not be punitive are punitive so sometimes it causes us not to have trust among each other. I think because I was open about what I do and I invited them to come and see what I do and actually give me feedback about what I do they saw that I appreciated it and I grew from it and we were using protocols and community and it wasn't an opportunity to criticize me but to actually talk about the strengths and weaknesses that they saw. I think it kind of took the sting out of it for people who may have had misconceptions about what it is like to video yourself (1st FT Interview, p. 2)

As a result of Sue's opening up her practice, many of the teachers reported a change in their attitude toward video. Some teachers who might have originally been reluctant to use video in their CFG became open to the idea after seeing an example. Teachers learned from each other and the members commented on a feeling of community as a result of sharing practice.

Pedagogy-Driven Conversation

Knowles's concept of adults' being more problem-focused versus subject-focused applied to the teachers in this study. Sue picked a math lesson to share with her CFG members both times, but the conversation was never focused on the subject of math as

much as it was focused on Sue's teaching in general. Some of the strategies her CFG members suggested could be applied across multiple subjects. The notion of pedagogy-driven conversations as a result of participation in a video club has been previously examined. Sherin and Han (2004) conducted a one year investigation into a video club consisting of four middle school teachers and two researchers. The video club met once a month throughout the course of the school year and their meetings were videotaped and transcribed for analysis. Sherin and Han's (2004) findings on video clubs indicated that initially video club members tended to focus on the teacher and his or her pedagogy. Sherin and Han (2004) wrote "...we suspect that in any video club teachers would be likely to begin, as in this case, with a focus on pedagogy and on alternative pedagogical strategies that the teacher in the video might have used" (p. 179). Sherin and Han also found that although the group initially focused on pedagogy there was a shift in thinking over time which led teachers to focus more on student thinking versus their own pedagogy. Since the current study only lasted two months the findings indicate a pedagogy focus in conversation by the video CFG members. The initial stages of the video CFG were solely explored so there was no evidence of a shift in thinking like in Sherin and Han's study. However, the data from the current study on student talk in which teachers reported more student talk in the second video versus the first video is an indication that if the teachers were studied over time that perhaps their conversations would have also shifted toward student thought like in Sherin and Han's study. The data reflects that in the first video students' self-initiated talk five times versus twenty-eight times in the second video. The focal teacher and the CFG members were already starting to notice the quantity of talk which perhaps would have shifted toward the quality of talk.

A future study could extend the time spent with the video CFG to see if teacher thinking would shift away from pedagogy and toward student thought like in Sherin and Han's study.

Student Engagement

Knowles's adult learning theory suggests that adults have a large sum of experiences to draw upon when learning. This was proven by the CFG members' ability to comment on student engagement. Student engagement according to the focal teacher improved through increased student reflection and an increase affirmation of student knowledge. CFG members concurred with these sentiments and additionally added that students were more engaged according to the amount of student talk. Student talk is discussed by Mercer and Hodgkinson (2008) in their book *Exploring Talk In Schools*. Mercer and Hodgkinson examine student talk in regards to mathematics and student engagement. They explain that student engagement is developed at various levels with some students exploring and connecting ideas while others exclude themselves from the conversation. Mercer and Hodgkinson (2008) argue that differences in student engagement occur as a result of dialogue between student and teacher with "heavily controlled interactions enforcing a passive role" (p. 74). Heavily enforced interactions in the context of this study are comparable to the response discourse which occurred in both videos. While both video one and video two had a similar amount of response dialogue, video one had less student-initiated talk versus video two. It could therefore be argued that the dialogue was more controlled in video one. It is consequently not surprising that the CFG members reported more student talk and more student engagement in the second video.

Additionally, the CFG members commented that one student in the first video was passive in her response to the teacher. The CFG members felt the student just nodded along to the teacher's explanations without ever affirming her knowledge to the teacher. The focal teacher stated that she did not notice the passive behavior until her CFG members pointed it out to her. The focal teacher then changed her approach in video two and conducted a lesson which one could argue contained a less controlled form of dialogue. According to the CFG members this noticeably opened up student talk in the second video. It is important to note that in the first video the focal teacher utilized a small group approach while in the second video she changed her approach to whole group. Since the focal teacher was only working with two or three students in the first video their conversations were more controlled due to the question and answer type format of the small group approach. However, it is equally as important to note that according to Pollock, Hamann, and Wilson (2011) usually small group serves as a better venue for students to express themselves versus in a large group setting. Pollock, Hamann, and Wilson (2011) conducted a study utilizing questionnaires completed by 53 college students in a political theory course. The students were first taught whole group and then split into small groups. At the conclusion of each type of discussion the students completed a questionnaire. The results from the analyzed questionnaires concluded that "...small groups are superior vehicles of student engagement. Participation, the key behavioral attribute, is plainly more prevalent in small groups: one third (32.9%) of small-group questionnaires reported high levels of participation, compared with less than a quarter (23.9%) for the full-class venue" (Pollock, Hamann, & Wilson, 2011, p. 52). According to Pollock, Hamann, and Wilson's (2011) findings the

students in this study should have been more engaged in the small group setting, however according to the reported results from the CFG members on student talk there was more student talk in the large group versus the small group environment.

Classroom Practice and Reflection

Knowles's concept of adults having a large sum of experiences to draw upon when learning was evidenced by the CFG members' comments on classroom practice and teacher reflection. The focal teacher and CFG members all noticed improved teaching practices through increased use of modeling and technology. Also, the focal teacher and CFG members noticed that video affords more opportunity for deeper reflection. The protocol that the focal teacher selected encompassed a reflection piece and also a self-initiated question piece to the protocol. Therefore, the focal teacher entered the CFG meeting having already done some initial reflecting on her classroom practice and also having written some direct questions she wanted answered by her group members. This particular protocol helped focus the meeting on the focal teacher's classroom practice and it focused the type of conversation initiated by the focal teacher. Therefore, what the CFG members noticed about the video was specific to the protocol.

Noticing

Sherin and Van Es (2006; 2009) have done previous work on the idea of "learning to notice" (2006, p.125) within a video club. Their research concentrates on teacher learning within a video club with a particular emphasis on how teachers' thinking and/or their ability to notice shifts over time. For example, in Sherin and Van Es' (2009) study they found that "...teachers increased in their capacity to notice and attend to student mathematical thinking. Student ideas that, initially, were typically dismissed by the

teachers, later on became the objects of focused analysis" (p.32). This notion of teachers' focusing more on student thought is a similar finding to Sherin and Han's (2004) study in which teachers originally focused on teacher pedagogy and then over time the teachers began to focus more on student thought. This shift in thinking, according to Sherin, Van Es, and Han has to do with teachers' ability to notice certain ideas.

Van Es and Sherin (2006) argue that there are two necessary skills when learning to notice which include: "a) identifying what is important in a teaching situation and b) drawing on one's knowledge of teaching and learning to reason about the situation" (p. 125). The notion of drawing on one's knowledge of teaching goes back to Knowles theory of adult learning in which adult learners believe they have a large sum of experiences to draw upon when learning. Also, Knowles theory suggests that adult learners are self-directed which could help when trying to identify what is important to a given teaching situation.

In the context of this study, the teachers' ability to notice encompassed the breadth of the findings. However, since the study lasted only two months the depth of teacher noticing was never explored. The shift that may have occurred in teacher thinking was therefore never investigated due to time constraints.

Logistics and Teacher Resistance

For the most part CFG members and the focal teacher reported positive aspects to the use of video within their CFG. However, the reported cons included the logistics of videotaping along with teacher resistance. Logistically the members reported that it can be difficult to find someone to help videotape their classroom and videotaping requires planning ahead. Also, finding equipment and successfully utilizing the equipment can all

be obstacles to the use of video. Additionally, feelings of insecurity which accompany opening teaching practice to others led some teachers to report a sense of teacher resistance to video. The CFG members reported that some teachers are fearful of being criticized by their peers and therefore are reluctant to share their practice with others. Achinstein and Meyer (1997) examined critique within a CFG. They suggest that feedback among the group should be critical and honest as opposed to insincere comments due to friendship boundaries. Also, they found that having caring deliberation within a group is critical to helping teachers feel safe enough to expose themselves and their teaching practices to the others. Teachers' feelings of trust and security within their CFG can help them overcome their fear and reluctance to share their practice with others (Franzak, 2002). Franzak (2002) suggested that CFG participation provided a safety net in which teachers could launch their classroom practices and values. CFGs helped teachers gain the confidence in their sense of self which allowed them to "...explore, change, and reveal their identities" (Franzak, 2002, p.261). Franzak also suggested that the community and collaborative nature of CFGs helped teachers of all levels support one another and therefore enhanced teacher learning and growth. Sue expressed her comfort with her colleagues, received authentic critique, and willingly changed her practice. Building a climate of trust takes time and during the two months of the current study all but one of Sue's colleagues stated their reception to video use in subsequent CFGs.

Gap in the Literature

As I previously discussed in chapter 2, there is a gap in CFG research. Most CFG research is theoretical in nature and the few empirical pieces that are written on CFGs do not extend beyond teacher report. This study was important and timely in its examination

of CFGs beyond teacher report. This study gained access into the classroom utilizing video as a data source. Having a focal teacher conduct a lesson, report on that lesson, and then conduct a lesson again gave a glimpse into how CFG participation affected the focal teacher during the two month span of this study. Teacher report such as interviews and written reflections were utilized as a source of data, but also the ability to watch the focal teacher's teaching practice is what separates this study from previous CFG work. An example of how video helped extend findings beyond teacher report was shown in chapter four with the classroom observation guide. The focal teacher utilized four strategies that she initially indicated she was not going to implement during her second lesson. She also was not aware that she had implemented the additional four strategies until after she watched the video of her second lesson. The focal teacher had a couple of key strategies in her head that she identified that she would implement such as the use of technology and the use of base ten blocks. She was so focused on those two strategies that she would have missed the implementation of the additional strategies had it not been for the video. Therefore, if this study had solely relied on teacher report some of the findings would never have been reported.

Study Limitations

Video Restraints

The two videos originally were intended to be compared by the researcher. However, upon examination of the two videos it became apparent that comparison was not easily achieved. The reasoning behind the difficulty came with how much change occurred between the first and the second video. The focal teacher credited the amount of change to her participation in the video CFG. Also, the change was considered

positive by nine out of nine participants. However, in the first video the focal teacher conducted a small group setting in which two to three students were at a table with the focal teacher reviewing math regrouping problems. The focal teacher and the students each had their own white board to solve the math problem and discuss the process of solving the math problems together. The video camera was set up in a way as to capture all the students and the focal teacher at once. This was an easy task since there were only a maximum of four people on screen at one time. The focal teacher then received so much feedback about her lesson that she completely changed her approach and ultimately the videotaping style for the second lesson. The second lesson was a whole group lesson which incorporated the use of an interactive white board and virtual base ten blocks. The focal teacher wrote a math regrouping problem on the interactive white board and she asked the students to complete the math problem on their individual white boards. The focal teacher asked me to follow her around the classroom and capture conversations along with individual student work that had been written on the white boards. The focal teacher then solved the math problem on the interactive white board, in front of the entire class, utilizing virtual base tens blocks as students took turns verbally explaining how to solve the math problems. In this instance, I recorded as much of the classroom and white board as possible. Because the two approaches to teaching were so different and therefore the two approaches to videotaping the lesson were so different it made it difficult to compare the two lessons.

Time

Time restraints were a limitation to the study. Data were collected over a two month span so findings were hard to generalize. Also, since the data was collected over a

short period of time this study lacked conclusions which might have been drawn over a longer time period. For example, as previously mentioned Sherin and Han's (2004) study examined a video club over the course of the school year and looked at change over time in regards to teacher thinking. Since this study was such a short time period long term change in teacher thinking could not be documented. Additionally, with the study only taking place over a two month time period sustainability in teaching changes could not be recorded. The focal teacher noticeably changed her teaching practices from video one to video two, but long term sustainability in regards to those changes in teaching practice were not documented. Despite the time limitations, this study adds to the significance of CFG research because it extends beyond teacher report and observes classroom practice, which adds to the gap in CFG literature (PostScript: at the conclusion of this study with personal correspondence with the focal teacher she indicated the CFG members in the third grade have been continuing the use of video during their CFGs. The use of video has also grown within the school and the Kindergarten team is now utilizing video during their grade level CFGs as well).

Video As Value Added Component of CFG

Video can be revisited multiple times for various purposes. The revisiting of teaching practice captured on tape permits teachers to refer back to the video for reflection, pedagogy, student involvement, or any number of possibilities. Additionally, by capturing practice on tape and sharing that tape with others, like the focal teacher did in this study, it removes self-report bias. Shulman (2004) writes, "If teaching is going to be community property it must be made visible through artifacts that capture its richness and complexity. In the absence of such artifacts teaching is a bit like dry ice; it

disappears at room temperature" (p. 142). The focal teacher reported that it is impossible to remember everything that she said and did in a lesson without the assistance of video. She was pleased that video served as a venue for her to go back and reflect on her teaching strengths as well as her weaknesses. She also enjoyed being able to view the tape for student behavior or to watch students who may not have been in her sight or mind during the actual lesson. She also saw the advantage of taping her practice and sharing her practice with others not only for her benefit but for theirs as well.

Recommendations

I kept objective and subjective notes throughout the 2-month data collection process. Researcher observations after the conclusion of the data collection and prior to data analysis included five recommendations to the success of a video CFG. The first is the need for a supportive administration. The administration at the school where this study took place was very supportive of CFGs and had incorporated CFGs as part of their weekly professional development. Teachers were sent to trainings and the administration was open to teacher input. Although, administrators had suggested using video as a part of the school's professional development plan teachers resisted the idea of video. The second is to make video voluntary in nature. Perhaps if teachers were given an option to voluntarily videotape then the concept would not be as intimidating initially. As teachers felt more trust, saw models, and created a sense of community maybe more teachers might volunteer to videotape their practice. The third is empowering teachers by giving them choice and allowing them to be a part of the planning and implementation of their own professional development. This would certainly enhance the implementation of something like a video CFG. Teachers should be encouraged to select their own

protocols to accompany their video and also CFGs should be conducted during the school day. This notion goes back to Knowles theory of adult learning in which adults are more successful when they are in charge of their own learning.

The fourth recommendation is that teachers should be sent to CFG training in order to learn how to facilitate meetings and give constructive feedback to others. Familiarity with CFG protocols would help teachers when selecting which protocol to use with their video. The fifth is that teachers should be given assistance with the logistics which accompany videotaping. Having a supportive and organized administration is where a lot of burden can be placed on successful implementation of a video CFG. It was encouraging that in this study eight out of nine teachers liked the idea of video.

Future Research

Since video clubs and CFGs have such similar underpinnings it makes sense to link the two professional development ideas and conduct more studies on the marriage between the two concepts of video and CFGs. While this study was original in the combination of CFGs and video clubs, the sustainability of a video CFG would need to be explored. In addition, the duration of time spent with the video CFG should be a minimum of one year in order to explore the shift in thinking over time. Also, a larger sample size or video clubs explored in various contexts would be helpful to study as well.

The current study tried to extend beyond teacher report and take a deeper look into how a video CFG affects classroom practice. More studies need to be conducted which investigate the effects of video CFG on classroom practice. Sherin and Han (2004) agree that there is a gap in the literature between video clubs and the impact participation in a video club has on classroom practice.

Additionally, Sherin and Van Es (2009) propose the question of, "would video clubs designed around other aspects of instruction be successful in similar ways?" (p.33). For example, Sherin and Van Es largely study mathematics with their video clubs. They wonder if a video club designed around "...issues of equity in the classroom" (Sherin and Van Es, 2009, p.33) would be just as successful as their math video club. Along the same lines, I wonder what would happen if video was aligned with curriculum maps and/or beginning of the year teacher goals. If kept in the same voluntary type format of a video CFG would the video CFG lose something in the process of trying to mold teacher learning with teacher performance? In theory a teacher could be a participant of a video CFG and never volunteer to be the focal teacher on tape. In this instance does each teacher learn at the same rate or is something lost in just being a passive versus active participant of the video club? The use of video in this study appears to offer a viable innovation in an already prevalent model of Professional Development, CFGs. Video appears to have much potential in the in-service level as it helps to cultivate knowledge, skills, and attitudes amongst teachers.

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APPENDIXES

APPENDIX A

Cycle 1 and Cycle 2 Semistructured Interview Questions for Focal Teacher

Cycle 1-Semistructured interview questions

1. How did you feel about the use of video to help discuss your classroom practice?
Why?
2. What were some strengths of video use? Weaknesses? Why?
3. What is a recommendation you have for the use of video within CFGs?
4. What did you think of the suggestions your group members provided?
5. Do you plan to utilize any suggestions? If so, which ones? Why? If not, why?
6. Any other thoughts?

Cycle 2- Semistructured interview questions

1. Did you solve your classroom practice? Please explain.
2. Was video helpful? If so, why? If not, why not?
3. Would you use video again? Please explain.
4. Strengths of video use? Weaknesses?
5. Recommendations?

APPENDIX B

Cycle 2 Semistructured Interview Questions for Critical Friends Group Leaders and Members

Cycle 2- Semistructured interview questions

1. Please identify pros and cons of video use versus standard verbal reporting of the classroom practice.
2. Would you use video again? Why? Why not?
3. How did Critical Friends Group participation with video compare to participation without video?
4. Any other thoughts?

APPENDIX C

Cycle 1 and Cycle 2 Written Reflections for Focal Teacher

Cycle 1-Focal teacher written pre-reflection (1-2 paragraphs)

1. Reflection includes focal teacher defining classroom practice and telling why it is a concern.

Cycle 2- Focal teacher written reflection (1-2 paragraphs)

1. How would you describe the classroom practice now?
2. What are your next steps?
3. Any additional thoughts?

APPENDIX D

Cycle 1 and Cycle 2 Post Meeting Reaction Sheet (PMRS) for CFG members

Cycle 1- Critical friends group members, including leaders and focal teacher, written reaction to video

1. What did you think about the use of video today?
2. What did you take away from today's dilemma?
3. What do you hope the focal teacher utilizes in his classroom?
4. Any other thoughts?

Cycle 2- Critical friends group members, including leaders and focal teacher, written reaction to video

1. Do you think the focal teacher solved her classroom practice? Please explain.
2. Was video helpful? Why? Why not?
3. Would you use video again?
4. Strength of the use of video? Weaknesses?
5. Recommendations

APPENDIX E

Student Observation Protocol

Just My Kids

Adapted for observing students in ATLAS Communities from Peer Observation Protocols created by educators in the field affiliated with the NSRF.

Finding the time to observe and debrief can be a real problem in the daily life of a school. This protocol addresses the issue of coordinating schedules because the observation is a self-observation. “Just My Kids” also addresses the fact that often the most interesting lessons, the ones that seem to have much potential for learning, just happen and aren’t necessarily planned.

Pre-Observation Conference

There is no pre-observation conference in this protocol. Instead, the teacher sets up a video camera in the corner of the room that will allow most of the students’ faces to be seen. S/he turns it on prior to the students entering the classroom.

Observation

Place a video camera in the corner of the room. Test it to make sure it is focused on the students you want to observe. This could be the entire classroom, a project group, lab partners, or a single student.

Debriefing

The teacher watches the video of his/her students alone. Note “ah-ha’s” and behaviors of the students that seem significant to the learning of your students. You may choose to generate a list of questions to ask your CFG, or a list of practices that seem to impact student learning more than others do. You may also want to do a more formal debrief with either your CFG or your students.

Reflection

How will what I learned today impact my classroom practice? What will I do differently next time? What do

The following protocol was taken from the National School Reform Website:
http://www.nsrffharmony.org/protocol/doc/just_my_kids.pdf

APPENDIX F

Just My Kids Protocol Sheet created by Sue for her first presentation to the CFG

Just My Kids Protocol (Critical Friends)

In this lesson I am looking at my practice. I am teaching addition and subtraction with regrouping. I am using instructional strategies that cause students to find their errors when they add or subtract with regrouping. We are discussing where and why errors are made. Most students made errors because they did not regroup properly. Most students only do the last step of regrouping where they add ten to the number that needs to be larger. I am also using the inverse operation, so that students can check their work and identify their errors and correct them independently, if needed.

I am reflecting upon the following questions:

- 1. What are the most effective strategies that I employ?**
- 2. What are the least effective strategies for this group of students?**
- 3. What could I do differently?**

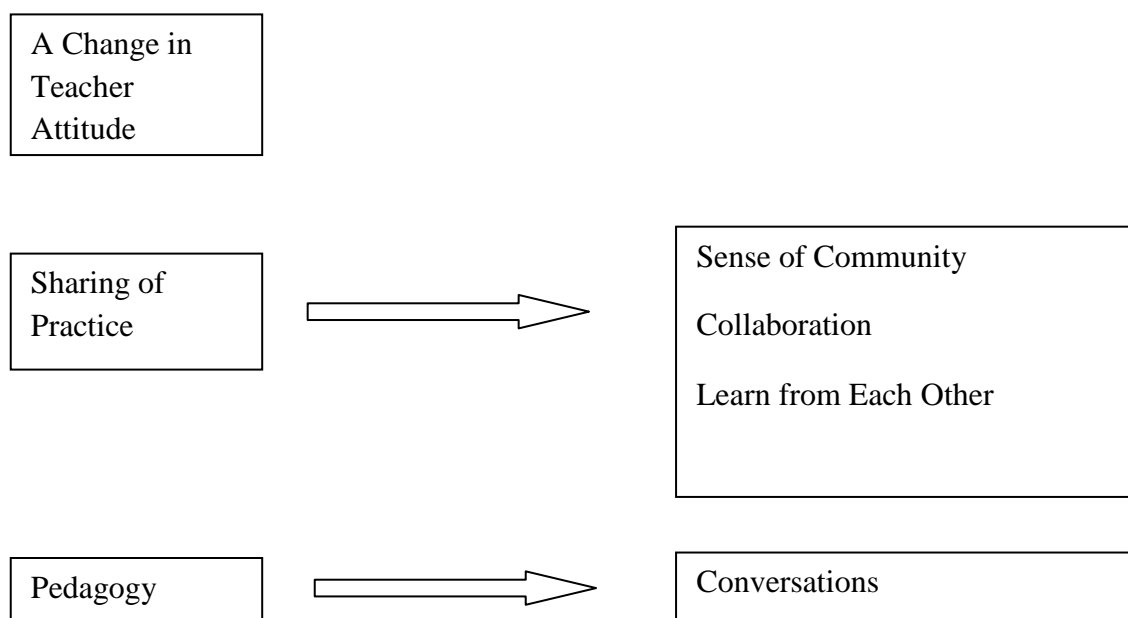
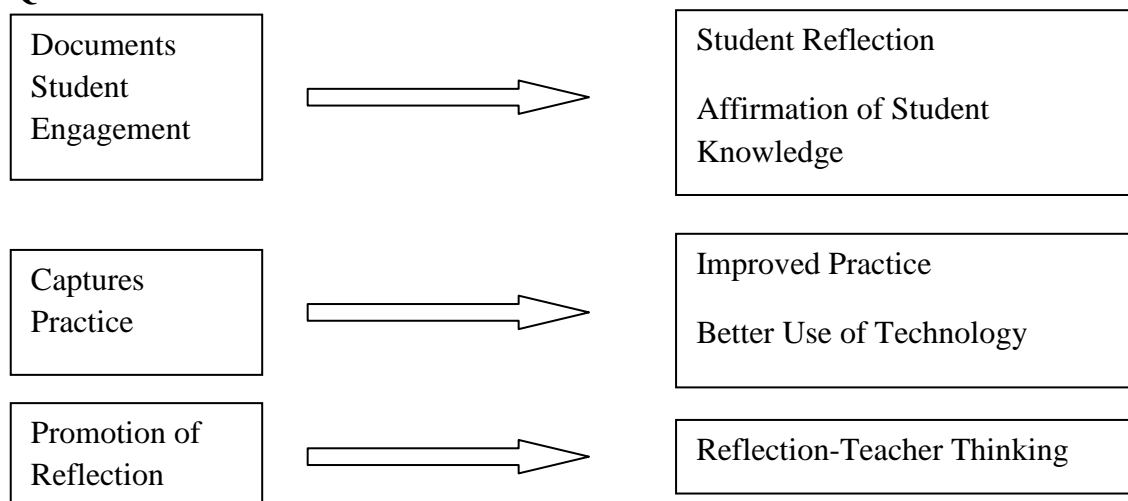
Here are the problems we are solving.

- 1. $3,674 + 1,523$**
- 2. $5,003 - 4,767$**
- 3. $4,736 - 1,978$**
- 4. $6,317 + 2,892$**

Notes:

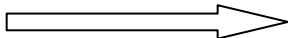
APPENDIX G

Figure 1.

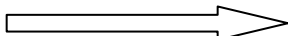
Level One Codes**Level Two Codes****Question 1****Level One Codes****Level Two Codes****Question 2A**

Level One Codes**Question 3**

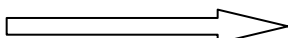
Documents
Student
Engagement



Captures
Practice



Promotion of
Reflection

**Level Two Codes**

Kids were more Engaged
Student Reflection
Student Talk
Affirmation of Student
Knowledge

More Modeling
Better Use of Technology

Reflection-Teacher Thinking

APPENDIX H

Classroom Observation Guide

Date:

Strategies Suggested by the CFG that the Focal Teacher will try and implement in her second lesson.

| Strategy | Was Strategy Utilized | Evidence of Strategy |
|--|------------------------------|-----------------------------|
| 1. Using grid paper | | |
| 2. Doing the first two steps with the kids and letting them finish the last two steps on their own | | |
| 3. Mathplayground.com (video) | | |
| 4. The use of technology (specifically incorporating her interactive white board) | | |
| 5. Using the National Library for Virtual Manipulatives | | |

Strategies Suggested by the CFG that the Focal Teacher stated she would not implement.

| Strategy | Evidence of Strategy |
|--|-----------------------------|
| 1. Base ten blocks | |
| 2. Have students model working out the problem on the big white board or have them work out problems using the easel | |
| 3. Sequence chart | |
| 4. Thinking aloud | |
| 5. Have students explain why they are doing something | |
| 6. Have teacher model a problem and talk out loud while students watch. Also emphasize there are multiple paths to get to the correct answer | |

APPENDIX I

ATLAS

Looking at Data

Learning from Data is a tool to guide groups of teachers discovering what students, educators, and the public understands and how they are thinking. The tool, developed by Eric Buchovecky, is based in part on the work of the Leadership for Urban Mathematics Project and of the Assessment Communities of Teachers Project. The tool also draws on the work of Steve Seidel and Evangeline Harris-Stefanakis of Project Zero at Harvard University. Revised November 2000 by Gene Thompson-Grove for NSRF. Revised August 2004 for Looking at Data by Dianne Leahy.

Selecting Data to Share

Data is the centerpiece of the group discussion. The following guidelines can help in selecting data or artifacts that will promote the most interesting and productive group discussions. Data or artifacts that do not lead to a single conclusion generally lead to rich conversations.

Sharing and Discussion of Data

Discussions of some forms of data sometimes make people feel “on the spot” or exposed, either for themselves, for their students or for their profession. The use of a structured dialogue format provides an effective technique for managing the discussion and maintaining its focus. A structured dialogue format is a way of organizing a group conversation by clearly defining who should be talking when and about what. While at first it may seem rigid and artificial, a clearly defined structure frees the group to focus its attention on what is most important. In general, structured dialogue formats allot specified times for the group to discuss various aspects of the work.

1. Getting Started

- The facilitator reminds the group of the norms.

Note: Each of the next four steps should be about 10 minutes in length. It is sometimes helpful for the facilitator to take notes.

- The educator providing the data set gives a very brief statement of the data and avoids explaining what s/he concludes about the data if the data belongs to the group rather than the presenter.

2. Describing the Data (10 Minutes)

- The facilitator asks: “What do you see?”
- During this period the group gathers as much information as possible from the data.
- Group members describe what they see in data, avoiding judgments about quality or interpretations. It is helpful to identify where the observation is being made—e.g., “On page one in the second column, third row . . . “
- If judgments or interpretations do arise, the facilitator should ask the person to describe the evidence on which they are based.
- It may be useful to list the group’s observations on chart paper. If interpretations come up, they can be listed in another column for later discussion during Step 3.

3. Interpreting the Data (10 Minutes)

- The facilitator asks: “What does the data suggest?” Second question: “What are the assumptions we make about students and their learning?”
- During this period, the group tries to make sense of what the data says and why. The group should try to find as many different interpretations as possible and evaluate them against the kind and quality of evidence.
- From the evidence gathered in the preceding section, try to infer: what is being worked on and why?
- Think broadly and creatively. Assume that the data, no matter how confusing, makes sense to some people; your job is to see what they may see.
- As you listen to each other’s interpretations, ask questions that help you better understand each other’s perspectives.

4. Implications for Classroom Practice (10 Minutes)

- The facilitator asks: “What are the implications of this work for teaching and assessment?” This question may be modified, depending on the data.
- Based on the group’s observations and interpretations, discuss any implications this work might have for teaching and assessment in the classroom. In particular, consider the following questions:
 - What steps could be taken next?
 - What strategies might be most effective?
 - What else would you like to see happen? What kinds of assignments or assessments could provide this information?
 - What does this conversation make you think about in terms of your own practice? About teaching and learning in general?
 - What are the implications for equity?

5. Reflecting on the ATLAS-Looking at Data (10 Minutes)

Presenter Reflection:

- What did you learn from listening to your colleagues that was interesting or surprising?
- What new perspectives did your colleagues provide?
- How can you make use of your colleagues’ perspectives?

Group Reflection:

- What questions about teaching and assessment did looking at the data raise for you?
- Did questions of equity arise?
- How can you pursue these questions further?
- Are there things you would like to try in your classroom as a result of looking at this data?

6. Debrief the Process

- How well did the process work?
- What about the process helped you to see and learn interesting or surprising things?
- What could be improved?

The following protocol was taken from the National School Reform Website:
http://www.nsrffharmony.org/protocol/doc/just_my_kids.pdf

APPENDIX J

Code Book

Data Sources:

1. Pre and Post Focal Teacher (FT) written reflections (for two lessons)
2. Two videotaped lessons (edited to 15 minute segments)
3. One Classroom Observation Guide (Completed by the Researcher)
4. Two Transcribed CFG Meetings
5. Two Post Meeting Reaction Sheets (PMRS), (completed by the FT and CFG members. 9=1st meeting, 7=2nd meeting)
6. Two FT interviews
7. Six CFG interviews
8. Researcher memos

Data Analysis:

The researcher first gathered all the data sources outlined above. The researcher then started open coding by reading through each data source and documenting ideas and comments in the margins. After each data source was read through at least twice and open coded the researcher then started axial coding by reading through the notes in the margins to see if ideas and comments could be combined or collapsed into common categories.

The researcher wrote out the two research questions on a separate piece of paper and started to list initial categories under each corresponding research question. The first research question was What are the effects of the use of video within a CFG comprised of elementary school teachers? Initially 17 ideas were written under the first research question. The researcher read through and collapsed and combined those initial groupings into seven tentative categories. Those seven categories were recorded in this coding book along with their data source, page number, and supporting quotes. The researcher then took those seven categories and condensed them even further into three big themes. The three big themes for the first research question included a change in teacher attitude, pedagogy, and sharing.

The researcher carried out the same process for the second research question. The second research question was how does the use of video within a CFG influence a focal teacher's classroom practice? Initially 13 ideas were written under the second research question. The researcher read through and collapsed and combined those initial groupings into 11 tentative categories. Those 11 categories were recorded in this coding book along with

their data source, page number, and supporting quotes. The researcher then took those 11 categories and condensed them further into four big themes. The four big themes included student engagement, feedback, improved practice, and reflection.

The researcher then asked two research committee members to read through the code book and peer debrief the information. The two research members first read through the code book on their own and made comments. Then the researcher and two committee members all met to discuss the code book and possible changes.

In regards to the first research question the two committee members agreed that video affords a change in teacher attitude and the sharing of practice, but commented that based on the data and chosen quotes that pedagogy should be renamed to indicate that teachers learned to notice as a result of participating in a video CFG. However, the researcher decided to keep the term pedagogy since it more accurately depicts the data and instead will discuss the idea of teachers learning to notice in the discussion section in chapter 5. Also, the two research members suggested expanding the name of sharing to say sharing of practice. The changes are shown in the code book below.

In regards to the second research question the peer reviewers suggested reformulating that question to more accurately depict the type of change which occurred to the focal teacher's classroom practice. The peer reviewers brainstormed ideas with the researcher and the group concluded that question two could be split into two additional questions. The second research question was then changed to depict the focal teacher's perceptions and had two parts. Part one, or question 2A, included what did the focal teacher report that she learned after participating in a video CFG? And part two, or question 2B, read what did the focal teacher implement after participating in a video CFG? The third question pertained to the CFG members' reactions by asking what did the CFG members notice about the focal teacher's classroom practice after participating in a video CFG? Since the initial second research question was changed the researcher had to read back through the data sources to see if any additional categories needed to be added. One category of improved practice was added under the focal teacher's perceptions for question 2A. Also, the existing categories were split according to whether the focal teacher reported the finding or whether the CFG members reported the finding. Some of the categories were reported by both the focal teacher and the CFG members, so there were some overlapping ideas.

The peer reviewers also suggested renaming some of the big themes to include documents student engagement, captures practice, and promotion of reflection. The peer reviewers also suggested deleting "feedback" from the big themes and instead suggested adding that idea to the discussion section. The changes are indicated in the code book below.

In order to validate the changes that were made to the data the researcher member checked with the focal teacher. Member checking involved discussing big themes over the phone with the focal teacher in order to gain her perspective on the data analysis. Also, some findings were e-mailed to the focal teacher for her to review and provide feedback. The researcher wanted to ensure that information was accurately portrayed and interpreted.

A. First Research Question: What are the effects of the use of video within a CFG comprised of elementary school teachers?

Data Sources Used to help answer the question include: CFG Meetings (two), FT Interviews (two), CFG Member Interviews (six), PMRS (9=1st meeting, and 7=2nd meeting).

Big Themes:

1. A Change in Teacher Attitude→ 4A (change in attitude toward video)

2. Pedagogy→ 1A (conversations)

3. Sharing of Practice → 2A (sense of community), 5A (collaboration), & 3A (learn from each other)

| Category | Data Source and Page # | Quotes |
|-----------------------------------|---|---|
| 1A. Pedagogy-Driven Conversations | 1st CFG Meeting pgs. 1-4 2nd CFG Meeting pgs. 1-3 Niko Interview p. 2-3 | Example Strategies provided to FT from CFG Members: (the list of strategies below were pulled directly from quotes from the two CFG meetings). One-on-One Guided Dialogue Discussing Process Partners/Peer Tutors Modeling Step-by-Step Students re-work with teacher Dry Erase Boards Use smaller problem Base Ten Blocks Sequencing Chart |

| Category | Data Source and Page # | Quotes |
|--|--|--|
| | | <p>Acknowledge St. Thinking Grid Paper</p> <p>Technology/National Library of</p> <p>Virtual Manipulatives and Mathplayground. com</p> <p>"This I think was more meaningful because it directly related to pedagogy and teaching and how to reach the kids" (Niko Interview, p.2-3).</p> |
| <p>2A.</p> <p>Sense of Community</p> | <p>1st FT Interview p.2</p> <p>2nd FT Interview p.4</p> <p>CoCoa Interview p. 3</p> <p>Strawberry Interview p. 5</p> | <p>"...I think the biggest strength of the use of video in our meeting is that it created a sense of community among us..." (1st FT Interview, p.2).</p> <p>"We were so comfortable talking" (CoCoa Interview, p. 3).</p> <p>"We have built a relationship to the point where we can all kind of sit down, we do it anyway, we sit down and say well ya know I may try this or you could have done this better...I am very comfortable with them and with them giving me feedback" (Strawberry Interview, p. 5).</p> <p>"I had trust with these people that was another reason why I wasn't afraid" (2nd FT Interview, p.4).</p> |
| <p>3A.</p> <p>Learning from each</p> | <p>1st FT Interview p.2, p.4</p> <p>2nd FT Interview, p. 3, p.4, p.7</p> | <p>"I think another strength of video is our ability to learn from one another..." (1st FT</p> |

| Category | Data Source and Page # | Quotes |
|----------|---|--|
| other | PMRS #1 Niko PMRS #2 Maya PMRS #2 Monica Joyce Interview p. 6 CoCoa Interview p. 1 Diana Interview p. 2 Maya Interview p. 2 Strawberry Interview p. 3, p.4 | <p>Interview, p.2).</p> <p>"... I think that the suggestions that they gave were good..." (1st FT Interview, p.4).</p> <p>"A lot of times you can tell someone I did this and I did that, but if you say well I have a video of what I did and you can show it to them and then they can revisit it as many times as they need to so I think video is a learning tool not just for the focal teacher but for any teacher that watches it" (2nd FT Interview, p.3).</p> <p>"The teachers are able to connect to it and it's real and other problems that they could see me encountering on my video because I am working with all of their students they are able to connect and say ya know I had the same problem with him in class on this day or that day and they could see me using strategies that they could take back to their classroom or add to their own practices so" (2nd FT Interview, p.4).</p> <p>"This was a wonderful opportunity to see my colleague engaged in teaching and to learn from her and others on my team" (PMRS # 1, Niko).</p> <p>"I can compare my own teaching practices to what is being done in the video" (PMRS #2, Maya).</p> |

| Category | Data Source and Page # | Quotes |
|----------|------------------------|---|
| | | <p>"The video was helpful because as a teacher you get to observe another teacher who helps you deliver a lesson better or get pointers of the things that need modifying" (PMRS #2, Monica).</p> <p>"Either way we all have somewhere to grow. But if we decide to watch maybe one focal teacher for that month and her thing was having kids struggle with place value we could all learn from that" (Joyce Interview, p.6).</p> <p>"...we learn from each other so just seeing how somebody else works through a problem it might help benefit somebody else especially if you've never seen that happen before or you have seen it happen before but you can make that connection like oh my goodness that happened to me I am doing the same thing and yeah maybe I should have changed it and done this instead of that. I think it just helps us to talk more and to practice basically what we preach" (CoCoa Interview, p.1).</p> <p>"...being able to visualize something and seeing it actually seeing it is better ya know because you can make a connection better. It helps you to kind of build I guess more of ya know what our pedagogy is or how much of the curriculum you do understand especially if you are one of those that kind of</p> |

| Category | Data Source and Page # | Quotes |
|----------|------------------------|--|
| | | <p>switches to different grade levels and move around a lot. It just helps to build what you should be doing or the steps we take when teaching" (CoCoa Interview, p.1).</p> <p>"We could always learn from each other but again looking at a video of how, what you have actually been doing can give a broader picture or get better feedback as to what you do for the high achieving student as well as where you can improve with the lower students that you want to pull up" (Diana Interview, p. 2).</p> <p>"Um I like looking at to see what strategies she uses in her classroom to compare them to my own teaching style to see wow that worked with her kids. Maybe let me try that" (Maya Interview, p.2).</p> <p>"...we all learn from each other" (Maya Interview, p. 2).</p> <p>"Because we learn from each other and if something Sue might be doing in her class I mean I have done it already with one protocol we did and we went over data and at the end they asked what are you doing in your class what are you doing and we learned and I take it immediately back to my class and I go boys and girls lets try this. We learn from each other and a lot of our kids that is how they grow" (Strawberry Interview, p.3).</p> |

| Category | Data Source and Page # | Quotes |
|--|---|---|
| | | <p>"...as a reflective teacher you have to say well did I try that and when I listen to some of my colleagues and they were like I tried this and try this Sue then I am like well I didn't even try that let me go back into my classroom and try that and see how it works. So I think the video benefitted Sue but it also benefits other teachers too so yeah" (Strawberry Interview, p.4).</p> <p>"...I opened up my practice for other people to see and I think in turn it will make other people be open about their practice..." (1st FT Interview, p.2).</p> <p>"I also think that is makes for a better working relationship too when people are opening up and we are actually sharing what we are doing in our classroom" (2nd FT Interview, p.7).</p> |
| <p>4A. Change in teacher attitude toward video</p> | <p>1st FT Interview p.2 2nd FT Interview p. 4, p.7, p.8 PMRS # 1 (Suzie Q) CoCoa Interview p. 3</p> | <p>"The teachers were very enthusiastic about it and I think even next year we will probably continue that practice" (1st FT Interview, p.2).</p> <p>"...we were learning but it was enjoyable and it didn't feel so restrictive..." (2nd FT Interview, p.4).</p> <p>"Well more than anything I am hoping that next year ya know when it comes to professional learning I think that sometimes not all times but sometimes those who are</p> |

| Category | Data Source and Page # | Quotes |
|----------|------------------------|--|
| | | <p>in charge of planning professional learning sometimes and I think it's a process because even as a teacher I had to finally come to a place where I trusted students with their own learning and I was able to release the reins and give more student choice in the classroom. And I think if our professional learning started to look like that for next year... professional learning based on technology but it will be based on teacher choice...differentiate learning" (2nd FT Interview, p.7).</p> <p>"...why don't you tape some of your lessons and we can put them in our professional library in the media center and teachers can check them out anytime" (2nd FT Interview, p.8).</p> <p>" I wish this would be implemented as part of our professional growth process (step 2) process. It can be a very effective source of feedback which can improve teacher quality" (PMRS #1, Suzie Q).</p> <p>"I think sometimes as teachers because we are under such scrutiny right now ya know a lot of people are not open about what they do in their classrooms for fear of being criticized or marked down. A lot of times the things which should not be punitive are punitive so ya know</p> |

| Category | Data Source and Page # | Quotes |
|----------------------|--|---|
| | | <p>sometimes it causes us not to have trust among each other. I think because I was open about what I do and I invited them to come and see what I do and actually give me feedback about what I do they saw ya know that I appreciated it and I grew from it and ya know we were using protocols and community and it wasn't anything that was ya know it wasn't an opportunity to criticize me but to actually talk about the strengths and weaknesses that they saw. I think it kind of took the sting out of it for people who may have had misconceptions about what it is like to video yourself and then allow other people to help you analyze what you do in your classroom" (1st FT Interview, p.2).</p> <p>"Ya know I think you need to see an example of it and she was a great example for her to do it. Her personality is so nice and calm and everybody was able to make the comments and nobody felt like something was wrong ya know or she is not going to like it because I said this" (CoCoa Interview, p. 3).</p> |
| 5A. Collaboration | PMRS #1 Diana PMRS #1 Joyce Joyce Interview p. 2 CoCoa Interview p. 1, p.2, p.4 | <p>"The collaboration is very good and gives teachers opportunities to share instructional strategies" (PMRS # 1, Diana).</p> <p>"Using the video was very helpful and productive for the</p> |

| Category | Data Source and Page # | Quotes |
|----------|------------------------|---|
| | Maya Interview p. 3 | <p>process of collaborating to identify strengths and weaknesses pertinent to teaching" (PMRS #1, Joyce).</p> <p>"This sort of collaboration should be presented to universities who are training future teachers as part of their graduation requirements" (Joyce).</p> <p>"I think that is where having a collaborative environment would work as well. Hey, are you on your break. Can I get you for 15 minutes. Now I can get somebody to zoom in on my lesson" (Joyce Interview, p.2).</p> <p>"I think video is more interactive cause we get a chance to at least see something in action and then be able to talk about it and collaborate and hear what the ideas of different teachers are which helps to build what we do. Um collaboration is the most important thing especially when it deals with education..." (CoCoa Interview, p. 1).</p> <p>"We get to discuss it um which is a good thing even when we have our meetings. We are talking about, because collaboration is important, we still get ideas off each other but when you actually see it, oh my goodness, it just took it to a whole 'nother level. It really did. When we did it the first time after that meeting we</p> |

| Category | Data Source and Page # | Quotes |
|----------|------------------------|---|
| | | <p>were all like we should do this all the time. That was the first thing that came out. We need to do this all the time and we should incorporate this some kind of way if people don't feel embarrassed or sacred or nervous to have somebody video tape them doing a lesson and help each other because I think that does work" (CoCoa Interview, p. 2).</p> <p>"It benefits us when we can collaborate on a visual" (CoCoa Interview, p. 4).</p> <p>"Um well I guess through teacher collaboration we can talk about making that time even maybe after school because it will help our teaching practices and help our students and that is what we are here for so we would have to take maybe some of our own time to do it" (Maya Interview, p.3).</p> |

B. Second Research Question: 2A. What did the focal teacher report that she learned after participating in a video-based CFG?

2B. What did the focal teacher implement after participating in a video-based CFG?

Data Sources used to help answer the questions include: FT's written reflections (pre and post taping), FT PMRS, FT interviews (two), Classroom Observation Guide (Completed by Researcher)

Big Themes:

1. Documents Student Engagement → 4B. (student reflection), & 5B. (affirmation of student knowledge)

2. Captures Practice → 2B. (better use of technology), 1B (improved practice)

3. Promotion of Reflection → 3B. (reflection-teacher thinking)

| Category | Data Source and Page # | Quotes |
|----------------------------------|--|---|
| <p>1B. Improved Practice</p> | <p>FT 1st Post Written Reflection FT PMRS #2 2nd FT Interview p. 4 1st FT Interview p.1-2, 7</p> | <p>"I have more strengths than I realize" (1st Post Written Reflection).</p> <p>"One of my greatest strengths is my use of manipulatives and resources to engage students" (1st Post Written Reflection).</p> <p>"It (Video) helped me to see what was good about my instruction" (FT PMRS #2).</p> <p>"Well I would say the use of video made my teaching better. It improved my practice and I say that not just because of this video but um over the last three years I have been working on National Board and you have to video tape yourself ya know in tow of those entries. And because I have had to actually think about ya know what my practice should look like um videotaping has really improved my practice and um with National Board they also suggest that you tape yourself at least three times and choose a lesson to submit and so ya know in watching my own practice or viewing one of my lessons I am thinking wow why did I do that or I need to do more of this so I would say that videotaping lessons you can only improve your practice from it because it helps you to see more importantly what you are doing that is great. It helps you to see the strengths of your instruction" (2nd FT Interview, p.4).</p> <p>"I think that what I did with the video was good and it helped me to recognize that I really need to focus more on what I do that is working instead of what I do that may not be working. Because in reflecting upon</p> |

| Category | Data Source and Page # | Quotes |
|--|---|---|
| | | <p>what I did, I found that I had more strengths in my practice than weaknesses. So I am learning to really focus more on my own strengths and even with my students" (1st FT Interview, p.7).</p> |
| <p>2B. Better use of technology</p> | <p>2nd FT Interview p.1 FT PMRS #2</p> | <p>"...they also talked about how I had manipulated the interactive white board as the students were working" (2nd FT Interview, p.1).</p> <p>"I think the practice was more engaging because of technology" (FT PMRS #2).</p> <p>"The second time around one of my ah ha moments was when I watched the video and I saw how the students responded to the visual representation" (2nd FT Interview, p.1).</p> |
| <p>3B. Reflection (teacher thinking)</p> | <p>1st FT Interview p.1 2nd FT Interview p. 3</p> | <p>"It was really something that I was able to reflect on after the video, basically because my schedule is so fast pace so even when your in a regular classroom most times it is one thing right after the other so as we are teaching throughout the day you really don't have time to stop and reflect about something immediately. You know it's only those big things that you may reflect upon at the end of the day, but after you have taught almost every subject all day long or ya know as teachers we are busy all the time so we rarely get the chance to sit down and actually think about what we have done unless it's the end of the day or maybe during planning time and that is if you are not in a meeting or maybe a parent teacher conference or something like that"</p> |

| Category | Data Source and Page # | Quotes |
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| | | <p>(1st FT Interview, p.1).</p> <p>"Maybe your attention was directed toward some other student or maybe even distracted but for me when I watched the video it really helped me reflect and it really helped me see clearly what I was doing well and what I could add or change about my instruction" (1st FT Interview, p.1).</p> <p>"...when you are working in a classroom of students and you are going from one student to the next sometimes at the end of the day when you are reflecting upon the work and trying to remember who got it who didn't have it and unless you are doing anecdotal records while you are doing it and we don't always remember to do that so the video helped me to go back and recap or just remember who had it, who didn't, who needed more help, or ya know for me to see things that I didn't see doing the lesson. Because even if it was a student that I wasn't working with the video could have captured something that I didn't see that was actually happening in the classroom. For example, I don't recall during the lesson students saying oh yeah, oh I got that, but when I went back and watched the video I said oh okay, but when you are in the moment you don't always hear everything or see everything so I think that is the, one of the benefits of video" (2nd FT Interview, p.3).</p> |
| <p>4B.</p> <p>Student Reflection (student thinking)- includes students reflecting on their</p> | <p>2nd FT Interview p.1</p> <p>1st FT Interview p.4</p> | <p>"So when I watched the video I saw how the students made connections..." (2nd FT Interview, p.1).</p> <p>"They also talked about how they</p> |

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| own learning as well as teacher reflecting on student thinking. | | <p>noticed that students were reflective about their learning this time... " (2nd FT Interview, p.1).</p> <p>"...when we are looking at work samples ya know that always lets us see what the students know or don't know but it doesn't give us a full picture like video does because when you're looking at a video you can see what you are doing and you can see how the students are responding to what you do. But when you are only looking at work samples we are only seeing how the student is responding so it's kind of one sided, but I think when we use video it gives us both sides. It tells the whole story so we can reflect on our practice and we can also think of other ways or better ways to reach our students. We can think about how they learn and different strategies we can use" (1st FT Interview, p.4).</p> |
| 5B. Affirmation of student knowledge | 1st FT Interview p.1 2nd FT Interview p.1 FT PMRS #2 | <p>"The greatest strength that I noticed was students talking through the process. That was the greatest strength that I noticed because as I listened to them talk through the process it let me know if they really understood it or not" (1st FT Interview, p.1).</p> <p>"...they talked about how they noticed the children were verbal as far as being able to tell me where they made errors and how they corrected their own errors or what they learned from using the visual representation" (2nd FT Interview, p.1)</p> <p>"It helped me to see how my students were engaged and if they experienced success" (FT PMRS #2).</p> <p>"So when I watched the video I saw</p> |

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| | | <p>how the students made connections when they saw me move the like when were regrouping and I moved one thousand to the hundreds place and then it became ten hundreds and I saw the ah ha moment when we would borrow or regroup take one hundred and move it to the tens place and it would become ten tens and even when we moved one ten the ones place and it became ten ones. I could see it and I could also hear them saying oh yes, oh I got it" (2nd FT Interview, p.1).</p> |

C. Third Research Question: 3. What did the CFG members notice about the focal teacher's classroom practice after participating in a video-based CFG?

Data Sources used to help answer the question include: CFG Meetings (two), PMRS (Not including FT's PMRS, eight=1st meeting, six=2nd meeting), CFG interviews (six)

Big Themes:

1. Documents Student Engagement → 1C. (kids were more engaged), 3C. (more student talk), 6C. (student reflection), & 7C. (affirmation of student knowledge)

2. Captures Practice → 2C. (more modeling), 4C. (better use of technology)

3. Promotion of Reflection → 5C. (reflection-teacher thinking)

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| 1C. Kids were more engaged | 2nd CFG Meeting pg.1 (III) CoCoa Interview p. 3 Joyce Interview p.4 CoCoa Interview p.3 | "The students seemed to be more engaged..." (2nd CFG Meeting, p.1). "I would like to say that I saw and heard a lot of the students making um I guess giving answers where finally you could tell the light bulb was coming on like they were very motivated. You could hear the yes, I got it" (2nd CFG Meeting, p.1). "...it was like children were so motivated. I was like that is the most important part to me. They are motivated I saw light bulbs coming on ya know I saw "Yes". I was like oh I can hear the children I hear them. They finally got it. Because ya know children are visual too. And when they get to manipulate and be able to see something you just never know what is going to reach them" (CoCoa Interview. p.3). "You even saw that her approach changed their confidence. It was almost like you had a whole different group" (Joyce Interview, p.4). "She was like thank you, I will try that and the second time when we saw it you could see she had taken the suggestions and used them. And you could see a difference and it was like |

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| | | children were so motivated" (CoCoa Interview, p.3). |
| 2C. More Modeling | 2nd CFG Meeting p.1 (II) Niko Interview p. 3 | "Students working with their individual white boards as well as you modeling with the EBEAM..." (2nd CFG Meeting, p.1). "...while she was modeling on the board the kids actually had their own white boards and they were actually doing the same thing she was doing and they were talking through the problems just a little more than before" (Niko Interview, p.3). |
| 3C. More student talk | 2nd CFG Meeting p.1 (III) PMRS #2 Diana PMRS #2 Maya Joyce Interview p.4 Niko Interview p. 3 | "Students were comfortable enough to share their thoughts and strategies and they also talked amongst themselves" (2nd CFG Meeting, p.1). "Right, and another thing that was different from the first lesson too was they talked more about what they did or did not do and it was more than what the teacher was doing this time which was good." (2nd CFG Meeting, p.2). "The teacher allowed the students to state more what they were doing instead of the teacher sharing what the student had done" (PMRS #2, Diana). "Students were comfortable enough to share their thoughts and strategies" (PMRS #2, Maya). "The fact that she had the kids thinking about their thinking and talking about it. That says a lot about the focal teacher because she went back and she focused on okay these children need to involve themselves more so I can understand their thinking and having them talk out loud and listening to what they were saying it's like oh I got it now, I understand it now. So anytime you allow kids to do that, correct their mistakes, work them through their mistakes I mean that is excellent. She did more facilitating |

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| | | <p>versus teaching which is a plus as well" (Joyce Interview, p.4).</p> <p>"And there was much more dialogue going on. Um with some of the kids they actually seemed to understand the concept better this time than before" (Niko Interview, p.3).</p> |
| <p>4C. Better use of technology</p> | <p>2nd CFG Meeting p.1, 2, 3 (III)</p> <p>PMRS #2 CoCoa</p> <p>PMRS #2 Diana</p> <p>PMRS #2 Monica</p> <p>Niko Interview p. 3</p> | <p>"You used the visual aid to model subtraction with regrouping using the EBEAM" (2nd CFG Meeting, p.1).</p> <p>"I liked the use of the virtual manipulatives website..." (2nd CFG Meeting, p.2).</p> <p>"The use of technology was really really good and you could walk away from the board and see them individually as well as see them from a whole group stand point so the technology was I think great" (2nd CFG Meeting, p.3)</p> <p>"I think she is doing an excellent job with the visual of using place value with the promethean board. The students had more of an opportunity to think and you could see (light bulbs) coming on" (PMRS #2, CoCoa).</p> <p>"The use of technology or the way technology was used increased the strength of the lesson" (PMRS #2, Diana).</p> <p>"This time the students were actively engaged because Sue used the technology piece in this particular lesson" (Niko Interview, p.3).</p> |
| <p>5C. Reflection (teacher thinking)</p> | <p>PMRS #2 Niko</p> <p>Joyce Interview p.1, p.2, p.3, p.4</p> <p>Diana Interview p.</p> | <p>"Allows you to reflect on teaching and refine your practice" (PMRS #2, Niko).</p> <p>"Then you also get to reflect on your own practices. So the teacher could see okay that is what I did when I was doing this" (Joyce Interview, p.1).</p> <p>"You get to go back and say wait a minute that is not what I wanted to say or I omitted something. You don't ever get a chance to</p> |

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| | 2 Niko Interview p. 3 | <p>reflect on what you missed because how are you going to remember the whole entire lesson. So with a video you can go back to what you said or did and I can give myself feedback, oh I need to do that different. Or maybe I need to find another way to present it because of all these different learning styles that I have sitting here in front of me" (Joyce, Interview, p.2).</p> <p>"You can find out from that reflection what can I integrate this with? Now that is another thing. We can integrate ten times more than we do now" (Joyce Interview, p.3).</p> <p>"And then if I am working with my peers somebody else may see something I didn't even see... So if my colleague goes back and says well you know you could have I'm like I didn't think of that. That is why I mean doing the video was so crucial because I was like oh I didn't even catch that I have to write that down. Somebody else might say well you did this well. So if I could do that well again but add the feedback oh my gosh our kids would be phenomenal" (Joyce Interview, p.4).</p> <p>"I mean it's good to talk verbally amongst yourselves and reflect on lessons but the video really really helps" (Diana Interview, p. 2).</p> <p>"Pros I think like I said it gives you a reflection point. It gives you something to actually see. Um something concrete to relate to um I also think a pro is it actually gives the teacher an opportunity to see to step back and see what he or she is doing" (Niko Interview, p.3).</p> |
| 6C. Student Reflection (student thinking)- includes students reflecting on their own learning as well as teacher reflecting on | 2nd CFG Meeting p.3 PMRS #2 Monica PMRS #2 Niko | <p>"Now, I did like the fact that you had them reflect on whether or not the visual aid helped them because it required them to think about what they had done and to think to see if the strategy actually helped so I liked that. I don't think we do that enough" (2nd CFG Meeting, p.3).</p> |

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| student thinking. | <p>Joyce Interview p. 2</p> <p>CoCoa Interview p. 2</p> <p>Maya Interview p. 2</p> <p>Niko Interview p. 3</p> | <p>"By using a video you can always watch it to reevaluate where students are and what they need help with" (PMRS #2, Monica).</p> <p>"I liked that she asked students to reflect on their own learning" (PMRS #2, Niko).</p> <p>"What are the other kids doing while I am working in my small group or what are the other kids doing in my large group? I may be focused on this particular group, well what are those other groups doing while I am doing whole group?" (Joyce Interview, p.2).</p> <p>"...you can even talk about what the students comments are and how you can change their perceptions" (CoCoa Interview, p.2).</p> <p>" You can actually see the students thinking, see them learning, see what mistakes that maybe the teacher made" (Maya Interview, p. 2).</p> <p>"I liked the fact that she had the kids reflect on what they had done to see if the strategies helped them. It caused the kids to actually have to think about what they had done and actually compare what they had previously done to see if the strategy actually helped them out" (Niko Interview, p. 3).</p> |
| 7C. Affirmation of student knowledge | 2nd CFG Meeting p.1 | "I noticed that a lot of the kids went on and used the inverse operation on their own to check their own problem. That allowed them to self check themselves and then not only that they came back and verbalized that to you and said well I saw that I made a mistake in the tens place and they were able to go back and correct that on their own" (2nd CFG Meeting, p.1). |

D. Sources: CFG Member Interviews

Big Themes: Logistics and Teacher Resistance

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| 1D. Logistics | Diana Interview, pg.3 Maya Interview, p.2 Niko Interview, p.4 FT 1st Interview, pg.3 FT 2nd Interview, pg.3 | <p>"...for people who maybe aren't tech savy they may find some fear in the videotaping of their lesson but with technology improving and becoming so much easier that maybe a relief for some people who may have been reluctant before..." (Diana Interview, pg.3).</p> <p>"I mean time management I guess. We don't have a lot of time sometimes to do wonderful things like this all the time so I would really like it if each teacher could do a lesson study and we do that as opposed to one teacher but time constraints that would be a con when it comes to that, but pros it is wonderful" (Maya Interview, p.2).</p> <p>"I would suspect that one concern might have been and again I can't remember if it were our grade level and it could have been, but time constraints. With 3rd grade it's a tough grade seeing as though it is a testing grade. We have a lot of material to um basically present to the kids so I don't know if maybe that might have been something that deters the people from wanting to video because it means it takes time. You have to find somebody to come in and do it for you. And you just have so many other things that you are concerned with getting accomplished throughout the school year so I could see that as being ya know one deterrent from using it" (Niko Interview, pg.4).</p> <p>"But we talked about doing video earlier in the year but ya know most people were not really open to it. A couple of people said well yeah I wouldn't mind doing that, but with the busyness of teaching ya know most people don't think about oh today would be a great day for me to set up the video camera in the back and video my class or let me see who wouldn't mind coming in for maybe 15 or 20 minutes and videoing this portion of my lesson and that is another I guess not a weakness but another issue that we face as teachers a lot of times there is nobody available to come in and do those kinds of things for you because when you have somebody to come in a video the lesson like if you need someone to get really close to students so that what the students are saying can be heard that is possible. But ya know everybody is teaching or everybody is working so it's</p> |

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| | | <p>kind of difficult to find someone to come in and video your lesson" (FT 1st Interview, pg.3).</p> <p>"A lot of teachers don't have resources for videotaping. For example I have a video tape recorder ya know there might be a few other teachers that have camcorders but most people don't. Or if they do they don't think to bring it to school for that purpose" (FT 1st Interview, pg.3)</p> <p>"Well we do have some equipment but it's limited. There maybe one or two camcorders in the school and when it comes to using videotapes or a camcorder technology is always changing so you have to find various ways to take it from one of those small VHA tapes and convert it to larger traditional size VHS tapes or finding a DVR recorder, DVDR recorder so" (FT 1st Interview, pg.3).</p> <p>"...they are certainly inconveniences because ya know when you are videoing you like one thing the teachers appreciated today from the video that we did they liked the fact that you were able to stand behind me and the student and capture the conversation as well as capture their work. For example, if I wanted to video my class and I used a tripod I wouldn't be able to capture all of that because a tripod is stationary. Ya know a lot of times you can't always hear depending on if there are students that may be noisy sitting near the camera so and then that is the inconvenience of it. You need someone to come in and actually be available to tape your lesson for you and with the business of school we have things to do from the beginning to the end so a lot of times it is difficult to find someone to come in and tape for you. You really have to plan for it. It is not anything that um you can do impromptu very easily so you would have to say to someone on Thursday ya know are you available one day next week to come and tape my class? That is the only inconvenience of it but we can work around it certainly so" (FT 2nd Interview, pg.3)..</p> |
| 2D. Teacher Resistance | CoCoa Interview pg. 2 Diana Interview, | "Because people were scared basically because we talked about it last year. Last year it was brought up and we were willing to do it. I was willing to let somebody videotape me but when it came to the whole team doing it nobody wants to put themselves out there. It is like ya know I guess you are too nervous to say I am doing something wrong, but it |

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| | pg.2 Niko Interview, pg. 3 Strawberry Interview, pg. 3 | <p>is okay. It's not like you are doing something wrong you shouldn't think of it like that. It's how can I make it better? How can I improve myself? What tips can you give me that is going to support me being a better teacher and reaching the students so that they can be successful because that is what my ultimate goal is, making sure students are successful"(CoCoa Interview, pg. 2).</p> <p>"I know in the past school where I was some of the teachers when the principal mentioned it, some of the teachers were like well I am not student teaching anymore why do I need to videotape myself. But it is not really about you just learning to get a job it's about, teaching is an ongoing learning process. So the video again you are teaching and you are saying things and sometimes we speak and we don't realize we may have misspoken or we don't realize we said something in one way that could have been said better to help the students grasp information in a different way. So you get to record yourself and listen to yourself it is a benefit as an ongoing professional development opportunity. But some teachers ya know when you have been teaching for a while they think I have enough experience of doing this so I don't really need to look at myself and it just varies on the individual but as collectively here we like the idea of having the opportunity to videotape" (Diana Interview, pg.2).</p> <p>"Cons I don't know I guess maybe if a teacher is uncomfortable with being put on the spot where some teachers may have a problem with people critiquing them and watching them um they may even be a little self conscience about it so I would think that would be a con" (Niko Interview, pg. 3).</p> <p>"As far as me being the one videoed. I would still use it but as far as seeing yourself you are your own worst critic anyway. So ya know me being up there and everybody watching me teach a lesson that would be kind of uncomfortable but like if it's done more often than you get used to it. I think it would only help" (Strawberry Interview, pg. 3).</p> <p>"I think that is the personality of the teacher. I am just, that is just me. I am just a little bit more conservative. But ya know it is just me. I think once it's done and I can be like</p> |

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| | | <p>well it's not so bad, then I would feel more comfortable but that initial time there would probably be a little anxiety" (Strawberry Interview, pg.4).</p> <p>"I think it's because of the way I feel about being videotaped. Ya know everybody don't want to be displayed on video so I think it would probably work a little bit better if you had some teachers who were willing to volunteer first" (Strawberry Interview, pg.4).</p> |