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by

Ruqqayya H. Maudoodi

December, 2011

USING THE PROCESS OF VIDEO EDITING TO SUPPORT
PRESERVICE TEACHERS' VIDEO-BASED REFLECTIVE PRACTICE

A Dissertation Presented to the
Faculty of the College of Education
University of Houston

In Partial Fulfillment
of the Requirements for the Degree

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Abstract

Teacher preparation programs are finding easier accessibility to digital video and editing tools with recent technological advancements. Exploring tools that further develop and encourage reflective practice is an important part of preparing teachers (Cunningham, 2004; Wright, 2008). Video-enhanced reflection and additional video-based activities, such as editing video segments of teaching, may deepen reflective practice (Fadde, Aud and Gilbert, 2009). With limited information available on the process of editing to reflect on personalized teaching events, the need to further develop research in this area exists. This study investigated preservice teachers that use digital editing tools to inform their practice. The research questions for this study are: 1.) How does video-editing facilitate preservice teacher reflection? a.) What editing decisions do preservice teachers make when constructing video vignettes of their own teaching? b.) What factors do preservice teachers consider when making editing decisions? c.) How does talking aloud while editing affect reflection?

Data sources included semi-structured face-to-face interviews, a think aloud protocol, and document review of the course syllabi and video data in the form of edited and unedited videos obtained from the six preservice teachers chosen to participate in this study. Data were analyzed using the critical ethnographic framework suggested by Carspecken (1996) to identify emerging themes and categories, and report the findings in a structured form. Using Carspecken's method, emerging themes were recursively analyzed to create validity and trustworthiness. Research about digital video editing to

facilitate preservice teacher reflection may add to the current body of literature about video-based reflective practice for teacher education.

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CHAPTER 1: INTRODUCTION

National teaching standards emphasize the need for teachers to engage in reflective thinking (NBPTS, 2001), so, accordingly, teacher preparation programs have set goals to prepare reflective teachers (Welsch & Devlin, 2006). With recent advancements in digital technology, digital video and editing tools are becoming easier for education programs to access in order to support and encourage reflection (Cunningham, 2002). Videotape offers the medium for candidates to directly observe and interpret their own teaching practice to enhance their capacity to reflect (Welsh & Devlin, 2006). When preservice teachers engage in video-based reflection, it is an opportunity and a method to demonstrate growth (Cunningham, 2002; Wright, 2008). Additionally, Yerrick, Ross and Molebash (2005) found that editing video of teaching provides candidates with immediate feedback on their teaching performance that is less susceptible to selective memory (Calandra, Gurvitch, & Lund, 2008).

Although research supports video-enhanced reflection, (Cunningham, 2002; Korthagen & Kessels, 1999) there remain questions in the field about how preservice teachers learn to use reflective practice and what processes they go through to engage in it (Jones-Branch, 2009; Parsons & Stephenson, 2005). In fact, few studies exist on preservice teachers using digital video and editing tools to reflect on personalized teaching events. This study aims to understand preservice teachers' video-based reflective practice as well as the meaning of those experiences from their perspectives.

Problem Statement and Research Questions

As new technologies emerge, the ways in which teacher preparation programs use these tools will be integral to the preparation of preservice teachers for the field. While there is research concerning teacher preparation and reflection using various, more traditional tools, the need to research emerging technology tools that aide the teacher reflection process is needed. This present study will narrow the lens to understand how digital video and editing tools are used to promote reflection. The purpose of this study was to understand the experiences of preservice teachers that used digital video and editing tools to reflect on their teaching practice at the University of Houston. The aim of this study was to describe the meanings that preservice teachers' construct about their experiences with digital video and editing tools from their own perspectives. The following research questions guided this study:

1. How does video-editing facilitate preservice teacher reflection?
 - a. What editing decisions do preservice teachers make when constructing video vignettes of their own teaching?
 - b. What factors do preservice teachers consider when making editing decisions?
 - c. How does talking aloud while editing affect reflection?

Purpose of the Study

This present study took place in a general education methods course within a teacher education program. The focus of this research was on the decision-making processes of preservice teachers as they completed a video project within this

course. The project involved making a concise, five-minute final product of the important aspects of their teaching from a single, unedited video-recording of their own teaching. Rather than looking only at the concise final product as evidence of reflection, this study aimed to examine the editing decisions the preservice teachers made to arrive at the final product.

Reflection is a key component in the preparation of teachers (Dewey, 1933) and the need to cultivate the ability to reflect is important (Hatton & Smith, 1995). As a tool to facilitate reflection, digital video editing may provide meaningful and reflective experiences (Calandra et al., 2008) as the process involves repeated viewing, pausing, editing and reorganizing video footage (Cunningham, 2002; van Es & Sherin, 2002) to arrive at the final product. The opportunity for preservice teachers to look back at their teaching from their own eyes and reconsider their performance repeatedly while constructing their final product may lead to important reflective outcomes (Rhine and Bryant, 2007).

To summarize, the purpose of this study was to examine the decision making process of preservice teachers that used video editing to facilitate their reflection. As prior research concerning video-based reflection discusses editing within video-analysis, (Calandra et al., 2008, Cunningham, 2002) the aim of this study was to examine the editing process in more depth by exploring the editing decision-making and the factors considered by preservice teachers as they construct the final product. The emphasis of this study was to explore the process rather than the product, therefore this study examined the decision making by which preservice teachers came to their own understandings.

Need for the Study

It should be noted that studies focused on the use of video in teacher preparation exist. However, many of these studies explore video-editing as a smaller part of the larger video analysis process, or focus on the end product of editing. There is a need to examine the process of digital video editing itself as a means to understand how editing facilitates reflection. The findings from this study could inform teacher preparation programs and teacher educators using digital video editing as part of the way in which they prepare teachers. The more teacher educators are aware of the process involved in preservice teacher's growth through editing, the more preparation programs can refine their courses and requirements. The results of the study can provide new perspectives and contribute to the body of knowledge regarding video-based editing and reflection with preservice teacher preparation.

Definitions of Key Terms

The terms and the context within which they are understood in this study are defined below.

Teacher Preparation Program: A term indicating courses of study within institutions of higher education focusing on preservice activities that aide in the development of skills and methodology and a period of teaching practicum or internship.

Preservice Teacher: An undergraduate student who is working towards the completion of a teacher preparation program leading to certification. Within the context of this study, *preservice teacher* also refers to an undergraduate student who is taking coursework in the semester before student teaching.

Professional Learning Communities (PLCs): An inclusive group of people, motivated by a shared learning vision, who support and work with each other to inquire on their practice and together learn new and better approaches to enhance student learning (Stoll, Bolam, McMahon, Thomas, Wallace, Greenwood et al., 2005).

Reflective Practice: reflective practice as defined by Osterman and Kottkamp (1993) will be used for the purpose of this dissertation. According to Osterman and Kottkamp, the term reflective practice is viewed as a means by which practitioners can develop a greater level of self-awareness about the nature and impact of their performance, an awareness that creates opportunities for professional growth and development.

Video-based Reflection: reflection that is aided or assisted by the use of video tools to events of the classroom to improve teaching practices by identifying strengths and areas for improvement (Jensen et al., 1994; Wright, 2008).

Overview of the Study

This research used a case study design with data collection methods borrowed from the critical ethnographic framework proposed by Carspecken (1996). The study explored preservice teachers' use of digital video and editing tools for the purpose of reflection. The following chapters include a review of the relevant literature, description of the methods, the pilot study and its implications and the present study and a description of the data collection and analysis. The paper concludes with a description of the trustworthiness and validity of the investigation methods.

CHAPTER 2: LITERATURE REVIEW

This chapter presents the literature and related studies which have informed this present study. The literature review was conducted to review prior research to better understand reflection within teacher education. The review is organized into several sections. The first section focuses on reflective practice and teacher preparation followed by a section on the tools for reflective practice. The next section focuses on video facilitated reflection which is followed by a section discussing the digital phenomenon. The last section focuses on video-based editing followed by a conclusion.

Reflective Practice and Teacher Preparation

Reflection within the context of teacher preparation can have diverse meanings (Hatton and Smith; Pedro, 2001; Loughran, 2002). In the perspective of Dewey (1933), reflection is the “active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and further conclusions to which it tends” (p.9). Butke (2003) stated that for teachers, “reflection involves the cognizant act of looking at the technical aspects of a teacher’s practice and analyzing the assumptions about and the effectiveness of a prescribed pedagogy and curriculum” (p.5). While, Pennington (1992) broadly defined reflection within the context of the teacher as the ability to analyze their own practice and its underlying basis, and then “consider alternative means for achieving their ends” (p. 48).

The diversity in meaning has caused disagreement among researchers (Lynch, 1996; Brent, 2010) however, most agree that reflection is a special form of thought and its purpose ultimately is to improve performance (Wright, 2008; Schön, 1987; Dewey,

1933). Parsons and Stephenson (2005) assessed, “the nature of reflective practice shows that a common element is the need for individuals to be aware of, and able to monitor, their own thinking, understanding and knowledge about teaching and to be aware of the different kinds of knowledge upon which they can draw to help develop their practice”(p.95). Certainly, teachers that reflect on performance develop essential understanding that helps them enhance future performances (Wright, 2008; Schön, 1987; Dewey, 1933) which in turn can reduce random, on the spot decisions, and help facilitate teachers making decisions based on the information they have through knowledge gathered and examined (Parsons and Stephens, 2005).

Although agreement on the definition of reflection may be difficult, Jones-Branch (2009) suggests that a productive way to approach the understanding of reflection may be to estimate that the various definitions offered have an effect on how reflection is implemented and how it is examined through research. Therefore, the next few sections will examine different facets of reflection and its implementation.

The Process of Reflection

John Dewey (1933) described the process of reflection as systematic, emphasizing pre-condition leading to reflectivity (Smith, 1999). First there must be an awareness of a problematic situation or event that creates perplexity. As there may not be an immediate or obvious solution, the dilemma must be reflected upon to generate solutions or a path of action. Finally, thoughtful, intelligent action can be taken creating learning experiences for the practitioner (Wright, 2008). However, many teachers in practice often reflect in the midst of teaching; spontaneously blending together thoughts and actions.

Expanding on the foundations set forth by Dewey, Donald Schön discussed the importance of experiential knowledge with two different reflective processes called reflection-in-action and reflection-on-action (Schön, 1987; Smith, 1999; Wright, 2008). Reflection-on-action is done after an experience or event and has no direct connection to the present action (Schön, 1987; Smith 1999). Typically, this is the type of reflection that includes things like journaling, reflective discussions and or descriptions in a teaching portfolio and is generally the type of reflection most people understand. However, reflection-in-action, while less understood, is perhaps more relevant to its practitioners. This process attempts to resolve perplexing situations or events in the midst of daily activities. It may be difficult to describe and observe (Smith, 1999) but in trying to understand what professionals “do,” Schön articulated that professionals frame and reframe the complex problems that they face, and modify their actions accordingly while in the midst of action, enabling them to develop new forms of understanding and action (Schön, 1983).

Teaching Preservice Teachers to Reflect

As noted by Danielson (2008) “not all teachers are equally adept at posing, analyzing, and solving problems; nor do all teachers recognize good teaching so that they can replicate its practice” (p.130). Therefore, “preservice teachers who learn to develop and refine knowledge through reflection are more likely to benefit as practicing teachers from reflective thinking: maintaining an awareness of personal beliefs and actions, recognizing the many influences on student learning, drawing links between theoretical issues and everyday practice, and learning to question taken-for-granted knowledge”(Shofner, 2009; p.145).

In a qualitative study employing a phenomenological approach, Romano (2005) attempted to understand preservice teachers' reflections on observed "bumpy-moments" in teaching. Bumpy-moments were defined as moments in teaching that required a teacher to make an immediate decision about how to respond to a particular problem in practice. Romano found that reflection helped preservice teachers' connect field based experience with theoretical concepts by embedding the "bumpy moments" in the actual context of teaching practice. Thus, Romano (2005) assessed that "preservice teachers' interpretations and reflections are central to their development as teachers" (p.257). Similarly, Shofner (2009) also found that preservice teachers have the opportunity to make meaning of their actions and beliefs about teaching and learning by engaging in reflection. In a qualitative study, preservice teachers using weblog postings to reflect on their classroom practice indicated that they valued reflection as a necessary practice for their own teaching (Shofner 2009).

Preservice teachers need to reflect for themselves on the process of teaching (Moran & Dallat,1995) and understanding how teachers become reflective in their practice could be beneficial to those trying to teach reflective practice to future teachers (Parsons & Stephenson, 2005).

Barriers to Reflective Practice

Osterman and Kottkamp (1993) found that reflective practice can be a challenging, demanding, and often trying process for preservice teachers. Many teachers have claimed that the benefits of reflection are out-weighed by the cost; in fact, Moran and Dallat (1995) noted that participants in their study found reflection to be a difficult and complex task that was time-consuming and therefore onerous. As cited in

Wright (2008) “Webb (1999) said that the cause of the imbalance results from insufficient teacher training on reflection, inefficient reflection tools and techniques, and insufficient rationale.” Similarly, Moran and Dallat (1995) found that “dedicated opportunities are not always planned during university time or field placements to allow beginning teachers to develop such important professional skills” (p.1). Thus, facilitating activities that act as motivating factors for practitioners, with the provision of time and opportunity to reflect may be significant components in nurturing and sustaining reflective practice (Wright, 2008; Moran and Dallat, 1995; Wright, 2008).

Tools for Reflective Practice: A Technology-Based Approach

Teacher education programs have incorporated multiple strategies to encourage preservice teachers to think about their own practice (Pedro, J., 2005). Kelleher (2002) found that it is important to ensure that teachers are self-aware and cognizant of their reflective tools for making sense of their practice, adding that successful reflective practitioners have well developed tools for making meaning. Reflective journals, teaching portfolios, learning communities, and mentoring have all been found to be effective tools to promote reflection (Romano, 2005). However, the increasing importance of technology is challenging teacher education programs to create technology-proficient teachers that can utilize technology, learn to work with emerging technology and adapt as needed when confronted with technological issues (Shoffner, 2009). As emerging technologies are embedded into teacher preparation, the importance of investigating their implementation, benefits and drawbacks is necessary. A brief discussion will follow on technology tools that have been used to promote reflective practice with preservice teachers.

Web blogs: Weblogs and Digital Journals

Weblogs or blogs are like digital journals that are made public. They are web pages that allow their authors to easily and quickly post commentaries and links to other websites and allow users to access the online site and provide comments for the author and other visitors (Crouch & Wassel, 2008). Stiler and Philleo (2003) examined the use of weblogs as a web-based journaling tool to encourage reflective practice among preservice teachers. They found that when using the journaling weblog program, Blogger™, reflective practice was encouraged as the user interface and structure of Blogger™ provided an innovative and user-friendly experience for participants in this study. Weblogs have great potential as a unique mechanism that can be used to enhance the development of student reflectivity (Stiler and Philleo, 2003). In a related study, Crouch and Wassel (2008) implemented a weblog action research project in an effort to use technology to teach preservice teachers about multicultural education topics and issues. In addition to promoting dialogue and discussion beyond the limitations of a physical classroom, Crouch and Wassel, (2008) found that blogging gave preservice teachers the opportunity to learn about and use a new form of technology. They stated the following at the conclusion of their study:

Blogs and other technologies can be important, innovative means to expose future educators to new ideas, to encourage them to engage in dialogue and debate, and to question their own cultural identities, experiences, histories, and biases.

However, preservice teachers need rich, meaningful opportunities to engage in extensive discussion, reflection and practical experiences in order to actively

incorporate the ideals of critical multicultural education into their work as educators. (Crouch and Wassel, 2008 p. 227)

Preservice teachers can incorporate Weblog tools into their classrooms in the future, thereby utilizing instructional technology and adapting it to their needs as instructors.

Digital Portfolios

Digital teaching portfolios or electronic portfolios are similar to traditional teaching portfolios in content but present “professional materials” in digital format. Professional materials may be a combination of digital or electronic media such as audio recordings, hypermedia programs, and video just to name a few. In an article that explores the use of digital portfolios to promote reflective practice, digital portfolios were found to be powerful tools for facilitating reflective practice when supported by mentoring and peer review (Montgomery 2003). Digital portfolios have the ability to encompass a preservice teacher’s philosophy of teaching and support that philosophy with a combination of teaching artifacts and written reflections. As noted by Montgomery (2003), an electronic portfolio uses electronic technologies, allowing the portfolio developer to collect and organize portfolio artifacts in many media types including text, video, audio, and graphics. In a qualitative investigation about how constructing digital portfolios promote student reflection, the results indicated that the creation of digital portfolios was a constructive process that promoted preservice teacher reflection through an examination of the participants’ beliefs, philosophies, objectives and purposes for teaching as well as collaboration. Electronic portfolios provide

opportunities for the practitioner to chart evidence of their success over time, to self-reflect about best practices, and to reflect on the changes they see in their own performance.

Digital Storytelling

According to Daniels (2010) an increasing number of educators are using digital storytelling as an innovative way to support reflective inquiry of preservice teachers' practice. As technology has become an integral part of life, the need to embed technology into the way preservice teachers prepare and further how they eventually teach is significant. As cited by Daniels (2010, p.88) "Digital story telling is an educational technology tool that utilizes almost all of the skills that 21st century students are expected to have (Jakes, 2006)".

Digital storytelling shares many components with traditional forms of storytelling in that it incorporates a narrator, a story and an audience. The Digital Storytelling Association (2002) defined it as, "the modern expression of the ancient art of storytelling...using digital media to create media-rich stories to tell, to share, and to preserve. Digital stories derive their power through weaving together images, music, narrative and voice, thereby giving deep dimension and vivid color to characters, situations and insights." The process of composing a story in a digital format, like composing a traditional story, is intertwined with the process of learning or meaning-making where opportunities to tell a story digitally allow participants to reflect and examine their thoughts in a cyclical process and eventually record their development (Daniels, 2010; Sessoms, 2008).

In a study to train preservice teachers to use digital storytelling across the curriculum, Sessoms (2008) found that content driven digital stories can be difficult for preservice teachers to create. Therefore, Sessoms suggests that it is important for preservice teachers to grapple with this process in a teacher education program. Similarly Daniels (2010) utilized digital storytelling as a method for preservice teachers to engage in content methodology and reflection. The study found that coupled with service learning experiences, the use of Digital Storytelling increased preservice teachers' understanding of content skills, reflective inquiry and helped the preservice teachers in this study to view the integration of technology as a regular practice in student learning. Kearney (2009) notes that the body of literature on this topic is growing and thus conducted a study to illuminate the learning benefits of preservice teachers constructing and sharing digital stories. Using qualitative methods, he explored the connections between digital storytelling and e-portfolios to assess preservice teachers that incorporated their digital story as an integral part of their e-portfolio. Kearny (2009) found that in addition to the digital stories becoming an object of reflection in their own right, the stories helped the preservice teachers to present their learning in innovative ways, enhancing synthesis and analysis of their learning experience as they related to their portfolio artifacts. Digital storytelling technology can support new opportunities for curriculum and instruction by allowing learners to initiate reflective processes in innovative ways by facilitating the ability for preservice teachers to record their thinking and to assess their progress (Daniels, 2010; Sessoms, 2008).

Video Facilitated Reflection

New technologies can broaden available tools and offer new challenges and possibilities, (Sleeter & Tettegah, 2002), but the incorporation of any technology into reflective practice requires teacher educators to consider its potential benefits and drawbacks, as well as the receptivity of the preservice teachers to the technology (Shofner, 2009). Although multiple methods have been documented to promote preservice teacher reflection (Amulya, 2004; Calandra et al., 2008), for the purpose of this paper, the lens will be narrowed to focus on the use of digital video and editing tools.

Researchers like Sherin (2000) point out that it is difficult to reflect and analyze actions and learning within the classroom while immersed in the demands of teaching. Therefore, video tools can offer the medium for the practitioner to reflect on teaching away from the demands of the actual classroom setting (Sherin, 2000). Researchers and educators have embraced video technology as an observational tool that allows practitioner to record, view and reconsider their performance (Savola, 2008).

Video preserves a visual and audio record of a performance that is less susceptible to bias and perception as those reconstructed and analyzed from memory or from the interpretation notes of an outside observer (Halter, 2006). Using video as a tool for reflection on performance allows preservice teachers to replay the events and deconstruct their practice (Harford, & MacRuairc, 2008; Sevola, 2008). Replaying performances multiple times gives the practitioner access to view their performance from different perspectives which eventually will help them make important decisions about refining

their teaching practice and student learning in the classroom (Haltor, 2006; Sevola, 2008).

As Sherin (2000) points out, through video, teachers gain new opportunities to investigate their practice and better understand what is happening in their classrooms. Video can aide preservice teachers identify what is important in their teaching practice situations, allowing them to make connections between their decisions and actions within in the context of teaching and learning. These opportunities allow them to use their understanding to make observations and refine their practice that otherwise may not be possible through other means of reflection (Haltor, 2006; Sherin, 2002).

Video Technology as a Tool for Reflection

An early example of the use of video technology as a tool for reflection was done by Jensen, Shepston, Connor and Killmer (1994). Teacher candidates in this study videotaped two teaching segments as venues for reflection and self-assessment. Participants examined their skills with regard to interpersonal contact, instructional management, organization and questioning by reviewing the video-taped teaching segments. Jensen et al., (1994) found that “focused observation and reflections of the candidates’ own teaching yielded more reliable and helpful information that their attempts to self-assess their overall teaching competency” (p.4). Welsh and Devlin (2007) also found similar results when their participants’ ability to reflect was enhanced through video tools.

Welsh and Devlin (2007) studied the effects of video-based reflection as compared with non-video-based reflection of preservice teachers completing methods courses. They found that higher scores on reflection were demonstrated with participants

using video-based reflection. However, their study found that the tools took extra time and effort to set up as compared to non-video-based reflection. Overall, video-based tools offered participants in their study the ability to play both actor and critic while giving them the opportunity to repeatedly look at teaching and learning (Welsh & Devlin, 2007). In an attempt to further develop a more effective process of encouraging reflection, Wright (2008) also compared non video-based reflective practice with video-enhanced self-reflection.

To gain a better understanding, Wright (2008) used a qualitative approach that revealed self-reflection through a video-based process had a positive impact on teacher reflective abilities. Video facilitates teacher reflection because it has the potential to provide multiple perspectives which aide teachers more effectively as they work to identify areas for improvement (Cunningham, 2004; Wright, 2008).

Self-reflection using video tape feedback was a useful method for Veal, Taylor and Rogers (2009). Their study used a mixed methods approach in which undergraduate chemistry students used a videotaped performance of themselves conducting process skills in the laboratory. Self-reflecting through video-tape allowed the participants to analyze their performance and realize what they were doing properly and improperly. This allowed participants to critically analyze in-depth the “particular nuances of a process skill” and had the opportunity to reflect more precisely on specific aspects and procedures which "allowed for feedback that would have been lost otherwise" (Veal et al., 2009, p. 397). The results suggest that process skills were found to be understood better when participants used video tape feedback.

In a study Clarke (2009) piloted, teacher candidates were given the opportunity to post their weekly online reflections in the form of written text or a brief video-diary. Five participants chose to undertake a video-diary and were given small inexpensive webcams by the program to record video clips using software that was provided with the camera. Candidates observing the video-diary found some of the videos to be lively and entertaining, while some were too verbose and others too scripted. Overall, recording saved time and the video clips were more “honest” at conveying emotions and complexity in a way that was not possible with the text driven reflection (Clarke). The use of digital video for reflection in teacher education offers benefits and challenges but also encourages and supports candidates in using reflection to review their work (Clarke; Cunningham, 2002).

However, research in this area suggests that preservice teachers often struggle to bridge the gap between theories they learn from coursework and the practice of teaching. (Rhine & Bryant, 2007) In an effort to bridge the gap and create a more communicative experience while also fulfilling the need for tools to facilitate reflection, Rhine and Bryant (2007) used web-based dialogue and digital videotape with preservice teachers during field experience. For their participants, developing reflective practice was a necessary agent that was cultivated to help preservice teachers see beyond the moment.

Video-Based Reflective Practice within Learning Communities

Parsons and Stephenson (2005) stress the importance of collaborative interactions which consider classroom practice. A Professional Learning Community is a team of educators systematically working together to improve teaching practice and student learning. Reflecting with others can be more powerful to the learning environment than

reflecting alone (Jones-Branch, 2009). As video allows teachers to focus on reflection rather than action, Sherin (2005) found that viewing video of teaching practice within a learning community allowed preservice teachers to deepen video-based reflective practice in a setting of their own peers. The setting was free from the pressure and evaluation of collegial supervisors allowing preservice teachers in this study to be more open about their discussions. However, as indicated by Danielson, (2009) preservice teachers watching videos of teaching practice of others have the potential problem of forming superficial impressions of what teachers do without privy to why they do it. Therefore, Danielson suggests that preservice teachers' conceptualization of teaching should include observation of not only other teachers practice but also their own practice. LeFevre (2004) also found that "video is a medium which can be developed into a resource and used in specific ways to enhance learning" (p.235). LeFerve suggests that video based reflection must be intentionally placed within the curriculum with specific learning goals identified. Additionally, to be an effective tool for teacher learning, there must be a clear purpose where clips should be purposefully selected to address specific program goals and embedded within activities that are planned to scaffold teachers' progress towards outlined goals (LeFevre).

The purpose of reflective practice is to enhance awareness of thoughts and actions as a means of professional growth and professional learning communities may be an effective vehicle to drive quality reflective discussions and experiences. Additionally, reviewing teaching videos within a learning community can provide preservice teachers with differing experiences and multiple perspectives (Danielson, 2009; Sherin, 2005)

which may help preservice teachers seek a deeper understanding of why teachers make the choices they make (Danielson, 2009).

The Digital Phenomenon

The approach of the new millennium has encouraged educators to focus on designing learning environments for new technologies (Rydeen, 2009). Where once learning environments were designed to handle tools and technology from the Information Age, learning environments today must be designed to handle tools and technology from the Digital Age. Digital technology has the ability to enable access to vast amounts of information through virtual, online learning environments that overcome geographic and time barriers (Harden & Ziebarth, 2000). It also enables people to “transmit, access and represent and manipulate information in many new ways” (Resnick, 2002. P. 32).

In order to use digital media for learning Gansmo (2009) and Krumsvik (2008) agree, that digital literacy and digital competence are all concepts that are necessary to handle technology in the digital age. In fact, Norway’s national curriculum has added digital competence as a fifth core competence together with writing, reading, arithmetic and oral competence (Krumsvik, 2008). Digital competence for a teacher is proficiency in using Information and Computer Technologies in a professional context with good pedagogic-didactic judgment and his or her awareness of its implications for learning strategies and the digital building of pupils (Krumsvik, 2008; p.283). As cited in Resnick (2002, p. 93), “being digitally fluent involves not only knowing how to use technological tools, but also knowing how to construct things of significance with those tools” (Papert and Resnick 1995).

However, digital competence is a new concept for schools and school learning which presents challenges for educators, many of whom may lack the necessary digital skills to manage their new learning environments (Krumsvik, 2008; Gansmo, 2009; Resnick, 2002). Therefore, meeting the needs of preservice teachers to develop digital competency may be an important aspect of teacher preparation.

Digital Video Technology

Digital technology differs from its predecessor, analog, in the way that it decodes incoming information and communicates with output platforms. Whereas analog systems receive transmissions and decode through transducers, digital systems decode transmissions into a sequence of 0's and 1's, otherwise known as bits, which are then converted back for output. Digital audio and video signals are powerful because they can easily integrate with computer and telecommunication platforms. Therefore, in the last decade, many new consumer products have been designed with this type of integration in mind. Although digital files have the capacity to be large, compression of digital signals and the tools used to compress them have become fairly inexpensive. More importantly, the processing time for compression has become significantly quicker. Compression allows a large amount of incoming information to be transformed at increased speeds and converted into a much smaller amount of information without degrading the quality of the original transmission. The ability for digital signals to be manipulated in this way allows for storage of a vast amount of information in a much smaller space while retaining optimum quality. With the rapid pace of technological change, lowered pricing and availability to a larger consumer base; has made the digital format a leading choice for technology, forcing analog to become obsolete.

In terms of digital video tools, digital video cameras can be connected directly to computers via USB cables where video and audio feed can quickly be downloaded to a computer platform and edited. Digital video recorders have high resolutions so picture quality is sharp and clear. Digital video feed also maintains its picture quality and does not degrade overtime regardless of how often it is edited or played. Newer digital video equipment streaming into consumer markets at this time is lightweight, more compact and with USB jacks already built into the device, such as the Flipcam™. In addition, the cost of these digital video tools has decreased significantly, increasing their popularity.

Within the context of teacher preparation, digital video technology allows preservice teachers to integrate emerging technology into their daily teaching activities. By using digital camcorders and digital video editing software, preservice teachers have the ability to carry out planning, producing, capturing, editing and mastering video for use in their practice (Bauer and Gall, 2006). They can easily document their teaching, student learning and edit their footage to create smaller vignettes of their teaching practice for further and more detailed analysis.

Digital Video Tools and Preservice Teacher Reflection

Digital video tools allow preservice teachers to document not only their teaching performance, but also student learning. Additionally, editing video allows preservice teachers to create smaller vignettes of their teaching for more detailed discussion and peer review. Realizing the benefits, Rhine and Bryant (2007) conducted a study to capitalize on digital video and the internet as tools for developing reflective practice. Their work identified that these tools provide a medium for communication and dialogue.

Digital video can add a new dimension to using videotape for reflection in teacher education as it is possible to edit an hour of teaching performance into shorter segments for discussions (Rhine and Bryant, 2007). Furthermore, they found that posting the teaching segments online encouraged discussion and dialogue between the participants which further enhanced reflective outcomes for preservice teachers in their study.

In a related study Dymond and Bentz (2006) included the use of digital video review through the internet using streaming video techniques with preservice teachers. They created a digital video library of teaching videos where teachers worked with students with mild disabilities. As preservice teachers may have unequal experiences in their training to work with students with disabilities, streaming video of the latter equalized the gap by giving all participants in their study the ability to view and discuss teaching episodes concerning teaching and working with disabled students. Streaming teaching videos of this type facilitated immediate, context based dialogues and collaboration with online discussion boards that promoted insightful, intuitive, and confident practitioners.

With the goal of enhancing teaching performance, Siu Cheung, Shroff, and Hing Keung, (2009) developed a dual functioning system to capitalize the use of web based and video technology to foster quality self-reflection by student teachers. Like Dymond and Bentz and Rhine and Bryant, Siu Cheung et al., also agree that creation of electronic platforms for student teachers to store, view and comment on teaching videos is an approach that promotes the depth and quality of self-reflection. Electronic platforms allowed participants in their study to externalize their reflective thoughts about the videos. This approach actively engaged preservice teachers to construct knowledge about

the classroom and develop reflective practices about teaching work while giving them ownership of their learning.

Digital video can add a new dimension to using videotape for reflection in teacher education that creates, “opportunities for teacher educators to bridge the gap between theory and the reality of K-12 classrooms so future teachers can become reflective practitioners” (Rhine and Bryant, 2007; p. 357). However, Dymond and Bentz warn that the less knowledge and experience possessed by a preservice teacher, the less complex their understanding of the videos they view. Therefore, video review must be structured within the curriculum to attain knowledge and skills where the goal is reflection (Siu Cheung et. al, 2009; Dymond and Bentz, 2007).

Video-Based Editing

Editing technology has undergone a few major technological phases in the last century (Davis, 2003). Initially, film editing began with editors directly manipulating the film reel where they literally cut the film reel at one point and taped it to another length of film to adjoin in smooth shifts. Film in the past could be compared to a handcraft like carpentry where editors physically cut and handled the reel of the film (MacDougall, 2001). Then, electronic videotape editing became available. Although this may have saved cost and time, it was a difficult process as only the current frame being used could be edited. The advent of non-linear editing systems changed many things concerning the editing process. In a fashion similar to original film editing, digital, non-linear editors can directly manipulate the digital film reel and cut, paste and trim sequences of frames. However, as the video feed is digital, the original reel of the film always remains intact while the editor can select and drag copies of the frames into a digital storyboard. The

picture quality of each subsequent edited film retains optimum quality and sound (Davis, 2003). However, MacDougall (2001), points out that digital editing on computers has put the editing process at a distance physically. He notes,

You are not actually handling any physical materials, apart from a keyboard and mouse. For many people the difference is comparable to shifting from writing in longhand to using a typewriter or word processor, with some rather parallel effects. One's ideas often appear to emerge more effortlessly. Nonlinear computer editing has become the accepted way of editing video material, coming as a great relief to video editors after years of dubbing scenes from one tape to another.
(p.20)

Additionally, the terminology used to describe editing may vary depending on geographical location. For example, the United States refers to editing as "cutting" while in the United Kingdom, it is known as "joining". McDonald (2002) notes, "the first term places an emphasis on separation, the second on unification, or bringing together." Editing can be thought of as the, "instantaneous displacement of one field of vision with another in just a few milliseconds, a displacement that sometimes also entails a jump forward or backward in time as well as space" (McDonald, 2002; p. 12). And, Crittenden (1995) finds:

The difference between editing a film and assembling a jigsaw is that with a film nothing is completely predetermined. The filmmaker may claim that the film already exists in his head, and that it is also on paper in the script, but the film that emerges from the cutting room has never existed before, neither in someone's

head nor on paper. It is only through the editing process that the material is translated into the form that can communicate its narrative and meaning to the audience. To understand the language of editing requires us to define in what ways it involves 'directing the film for the second time'. In that way we can unearth what Brownlow calls 'the hidden power' of the editor. (p. 96)

Thus, the editing process and the subsequent translation of the final film that has been formulated can be seen as a way for the editor to convey and communicate meaning to the intended audience.

The Editing Process

The process of video production involves three distinct phases: 1) Preproduction: concept formation, scriptwriting, storyboarding and production planning, 2) Production: video and audio recording, and 3) Postproduction: video and audio editing, special effects, soundtrack composition and rerecording video and audio. Benedetti (2004) also notes,

The most common features include some form of basic video capture. That's the first step in any video production. In step two, the captured video is identified as individual video sequences. This often involves identifying and cutting shorter length clips from within the individual clips, whenever appropriate. The last step in the production process is the assembling of shots and clips into a timeline or storyboard, which sequentially holds all the video's footage and sound content. (p75)

The last phase or step; postproduction, concerns the specific process of editing. McConnell (2004) describes digital editing as “the process of using some kind of computer to edit a video production.” However, the process may best be described in terms of what the editor does: “the person who, selects, arranges and assembles the filmed material, controls the synchronization of picture and sound, and participates in other post production tasks such as sound mixing and visual effects processing” (Davis, 2004).

McConnel (2004) adds further,

Using the computer’s digital editing software, much can be done. Scenes may be deleted or trimmed to the exact time length needed. The order of the scenes may be changed. New sound, new picture, special effects, or titles can be added. Inside the software program, each scene of the final production is placed on a storyboard or time line where the producer can preview the video production. (p. 50)

Accordingly, digital editing has expanded the resources available to researchers and educators that provide more freedom and flexibility to try out different ways of editing.

Video-Based Editing and Reflection

Digital technology tools can be integral in efforts to document performance, simplify integration and develop technology skills of preservice teachers (Cunningham, 2002). Digital video editing particularly is well suited for authentic, meaningful, reflective experiences for preservice teachers (Calandra, Brantley-Dias, Lee, & Fox 2009). The flexibility of digital video tools offers preservice teachers the ability to repeat viewing, pause, annotate, edit and reorganize teaching events for reflection (van Es &

Sherin, 2002). Preservice teachers that edit and reflect on videos of teaching may be able to make connections between what they need to learn and their prior understanding of teaching competencies.

In preliminary trials using digital video and editing tools, Cunningham (2002) found that participants spent a great deal of time selecting clips to communicate their growth and less time on a reflection of their performance. However, participants in this study perceived the editing process encouraged them to pay closer attention to their performance, allowing them to be critical about the clips. Regardless, Cunningham still found that there existed a need to improve the quality of the reflection. Technology must facilitate the development of quality video-based performance assessment, not drive it (Cunningham, 2002).

In a related study, Calandra et al., (2008) also found that teacher candidates chose segments that were focused more on their teaching behaviors rather than student learning. Using a mixed methods approach, they examined how teacher candidates perceived successful teaching through personalized video vignettes. The participants used iMovie to digitally edit three teaching performance vignettes. Written reflections of the participants revealed that most students felt confident about their performance but after reviewing and editing their performance on video, they noticed issues with classroom management or areas to focus on for improvement. Overall, Calandra et al., found that observed levels of reflections for some participants changed from pre-video editing to post-video editing. Although participants mostly focused on teacher behaviors, many began to notice the student and classroom context (Calandra et al., 2008).

In response to the need to improve the quality of video-based reflection, Fadde, Aud and Gilbert (2009) conducted a pilot study in an attempt to improve preservice teachers' reflective process by emphasizing active video recording and deeper review of video when editing video segments. An important aspect of their research revealed that candidates engaged in a "pre-editing" stage where they transferred two or three times as many clips as they needed to a video-editing program. They used the video-editing program to group and compare clips to determine which best represented the "critical incident" of interest. Like Cunningham (2002), Fadde et al., also found that familiarizing preservice teachers with video-based editing demonstrated and supported the role of technology integration into teacher preparation.

Barriers of Implementation

The process involved with preservice teachers recording their own teaching and observing that performance for reflective purposes can be a lengthy process. As noted by Savola (2008) the process has two main phases: data collection and data analysis. Data collection for video-based research projects involves three, possibly quite lengthy, stages: gaining all the necessary permissions and consents, recording (including scheduling the recordings, travel, and equipment management), and manipulation of the tapes and the digital files. Like Savola (2008), Winnie Wing-mui, Hing-keung Hung, and Yee-wing Yip (2008) also found many of the same barriers in their study. The researchers identified barriers at different levels of creating a digital video database of teaching videos. The barriers existed at the school level, teacher level and student level. In terms of school level, the researchers found that administration had reservations about video-recording lessons in a classroom as there was a concern about student privacy. Next, at the teacher

level, there were concerns about additional work, analysis and further additional work with video as this may take up time inside and outside the classroom. Finally, participants in the study pointed out that at the student level, students being taped in the classroom were not used to being recorded and the unusual event caused some students to behave abnormally.

MacDougall (2001) points out other barriers that concern the process of editing itself. He notes that desktop, computer editing software come with a bewildering array of transitions and special effects. He finds that these special effects at times may tempt the unwary editor into purely superficial excesses where they are perhaps more preoccupied with the sheer mechanics of the constructive process rather than the meaning the editor is trying to convey (MacDougall). Therefore, training and flexibility with respect given to time and resources are all required to establish digital video and editing as part of the way preservice teachers reflect on their practice and are prepared for their field.

Conclusion

Establishing digital video into a teacher preparation program takes time and resources. It also requires training and flexibility of everyone involved in the process. Factors that affect the successful implementation of such practices must be investigated to assist the future implementation that will facilitate preservice teacher learning and reflection through digital video and editing tools.

This dissertation seeks to understand the experiences of preservice teachers that used digital video and editing tools to reflect on their teaching. Specifically, the aim of this study was to explore preservice teachers' process of digital editing while constructing a concise, five-minute vignette from a single, unedited video of their teaching. A

qualitative methodology was chosen for this study as the goals of this study were to understand the personal editing process of preservice teachers that used digital editing tools to reflect on their practice. The next chapter will discuss the research methodology chosen for this study.

CHAPTER 3: METHODOLOGY

This study used qualitative methods to explore the use of digital video editing to facilitate reflective practice. Specifically, this study examined how a group of preservice teachers made editing decisions to construct video vignettes of their teaching performance. This chapter will begin with a description of the pilot study and its implications for the present study. Then the present study will be discussed and the following sections will provide the methodology and outline the research procedures.

The Pilot Study

For the purpose of understanding the reflective practice outcomes of preservice teachers using digital video and editing tools, I conducted a pilot study, which involved three participants enrolled in an elementary teacher preparation program in the semester before student teaching at the University of Houston. As part of this program, preservice teachers are required to perform several lessons in the classroom, digitally record one of their performances, and then edit the recording for reflective purposes.

The pilot study included a data collection period of two months that included multiple participant observations, unedited and edited video of teaching performances, weblog reflections and semi-structured video-taped interviews. The research questions that guided the pilot study were:

1. What editing processes do preservice teachers use to construct video vignettes of their own teaching performance?

2. How do digital video editing tasks impact the reflective practice outcomes of preservice teachers?

At the time of the pilot study, I served as a faculty facilitator to supervise preservice teachers through their fieldwork in the semester before student teaching. My role as a faculty facilitator gave me the opportunity to meet with each of the three participants weekly to conduct participant observations in addition to my supervising duties. I felt that my dual role gave me deeper insight into my participants' weekly interactions in the classroom setting which otherwise, may not have been possible. However, for this present study, I did not serve as a facilitator to avoid any possible confusion such a role may cause in the collection and analysis of data.

Implications of the Pilot Study

Conducting the pilot study provided valuable knowledge that informed the design of the present study in several ways. Firstly, participants in the pilot study were not asked to log their start and end times while in the process of editing; as such, editing time was not taken into consideration. Secondly, two of the participants were interviewed within one day of editing their video while the third participant was interviewed within two weeks of editing her video. Therefore the time that lapsed between participants editing videos of their performance and my interview with them about their process of editing had an effect on the quality and depth of details the participants were able to recall about their experiences. Thirdly, the ability to capture the internal thoughts of the participants while they are in the immediacy of editing their video performance was determined to be important as the participants had difficulty remembering why they specifically cut or joined certain clips while editing. Capturing their internal thoughts or talk aloud while

they cut and paste video clips may have important implications for how and why participants made decisions about cutting and joining certain clips.

The implications of the pilot study on the design of the present study addressed several areas. To address the issue of editing time as a factor that may impact reflective practice outcomes, participants in the present study were asked to record the start and end times while editing their videos. To address the issues of conducting interviews within a short timeframe, the participants were interviewed within one to two days from when they finished editing their video. To address the issue of capturing their internal thoughts or self-talk while they edit, each participant was provided a hand held recording device that allowed them to record their thoughts while they edited their video.

The Present Study

The implications of the pilot study were used to refine the data collection procedures and research questions of the present study. The purpose of this present study was to explore the use of video editing to facilitate reflective practice. Specifically, this study explored the editing decision-making of preservice teachers as they constructed a final product of their own teaching. The research questions for the present study are as follows:

1. How does video-editing facilitate preservice teacher reflection?
 - a. What editing decisions do preservice teachers make when constructing video vignettes of their own teaching?
 - b. What factors do preservice teachers consider when making editing decisions?
 - c. How does talking aloud while editing affect reflection?

Method

This study utilized a qualitative research methodology to describe, explain and understand video editing and its implications for preservice teacher's reflective practice. Creswell (2007) points out that in qualitative research the point is not to generalize but rather to examine the particular and the specific. Unlike quantitative methods, qualitative methods do not seek to manipulate the phenomenon or event of interest. This type of research approaches phenomenon from an interpretive viewpoint, understanding the phenomenon in its natural setting or context. The researchers seek to understand how people interpret their experiences and the meanings they attribute to their experiences where the key concern is to "achieve an understanding of how people make sense out of their lives, delineate the process (rather than the outcome or product) of meaning-making, and describe how people interpret what they experience" (Merriam, 2009, p. 14).

A qualitative research approach is useful in applied fields like education as the purpose is to understand the phenomenon of interest from the participants' perspective (Merriam, 2009). Using qualitative methods, the researcher is able to gather data through observations, interviews and analyze relevant documents of the phenomenon of study (Merriam, 2009). The findings of qualitative studies usually take the form of themes and categories that emerge with the interpretation of incoming data. Using the themes and categories as a basis of understanding, qualitative researchers are able to move from their particular case of study and make certain generalizations with respect to the limitations of the study.

Case Study

In order to systematically collect and analyze the incoming data, I borrowed data collection and analysis strategies from the framework of Critical Ethnography proposed by Carspecken (1996). Carspecken (1996) advocates the stages are to be interpreted loosely and depending on the aim of the research, specific segments or portions of the stages can be used by the researcher as appropriate. He states, “portions of this five-stage scheme may be used separately if one wishes to conduct an interview-only study or to study the relation between a social site and its locale with only marginal consideration of system relations,” (p.40). The stages of data collection will be discussed in more detail later in this chapter.

The Researcher’s Role

The dual role of the researcher as a supervisor and researcher in the pilot study was re-examined for the present study. I was concerned that a supervisory role for the researcher could have produced Hawthorn effects and other issues that might have influenced the participants’ actions and responses. For this reason, my role for the present study was strictly that of a researcher. I will no longer work as a site-based facilitator to ensure that the data collected is free from the power issues and inequality that inherently may exist in relationships between superior and subordinate (Carspecken, 1996). Thus, for the present study, I will conduct research solely as a researcher which will provide my participants a greater sense of freedom to elaborate on their process of editing for reflective purposes.

Research Setting

The study was integrated into a general education methods course, taught in the College of Education at the University of Houston. The course was designed to prepare preservice teachers for their student teaching semester. The course required field experiences and assignments to prepare preservice teachers for the realities of the teaching profession. The semester long class was designed as a hybrid course where students met face-to-face and online to complete assignments and practice teaching in their field classroom. One of the key assignments in this course was an assignment that required preservice teachers to video record one of their practice teaching events in their field classroom and create a video final product of their performance. The research was conducted with this particular assignment to explore the use of video tools and teacher preparation.

The Video Project

As previously mentioned, the General education methods course implemented a variety of assignments and practice teaching in the field classroom to help preservice teachers prepare for the student teaching semester as well as the teaching profession. The assignments in this course and the practice teaching requirements were important for preservice teachers to develop and refine their practice.

One of the key assignments of this course, which was also the focus of this study, was a video project that required preservice teachers to video record one of their practice teaching performances in their field classroom. The preservice teachers were to video-record themselves teaching in the classroom and then to review their teaching video in depth for reflective purposes. The concept behind the assignment was to expand on

outside observation and give preservice teachers a chance to observe their own teaching and promote their own learning and development. In order to facilitate further development, the video project also required preservice teachers to choose clips from their original footage and use simple video editing software to arrange the chosen clips into a concise five minute final product of their performance. The project required preservice teachers to show a beginning, middle and end to their lesson but the choices of which clips to select were up to the student teachers. After creating the concise video vignette, preservice teachers were to get together with a small group of their peers or their professional learning community to watch their vignettes for feedback.

Next, the requirement that the professional learning community would provide feedback for its members as they viewed their final products was an attempt to engage preservice teachers in further reflection. The ability for preservice teachers to discuss and reflect collectively was important as they were able to expand and deepen their understanding of their own teaching practice and that of their group members.

From my past experience as a facilitator of the teacher preparation program at this University, many of the preservice teachers found the video project assignment to be the most helpful part of their preparation. Although there was a lot of variation in the clips chosen by the preservice teacher, the vignettes met the guidelines of the project requirements.

The Video Project Requirements

The video project was introduced and later discussed at the start and mid-point of the semester. The assignment was listed in the online course website and had links for

students to access the detailed instructions of all the required steps, use of a digital video camera and the video-editing software. The following table contains an abbreviated version of the project requirements as listed in the course syllabus.

Table 1. Video Project Requirements

Project Description	Students will be filmed by a peer as they teach a lesson in their field placement. They will edit the taped lesson to arrive at a concise 5-minute video documenting their performance and the students' participation. The purpose of creating a video recording of their teaching is for growth as a teacher. They will watch it on their own and also share it with their PLC group for further feedback and reflection.	
Requirements	(1) The final product is only five minutes total. (2) Students must record fifteen minutes of video (five minutes from the lesson introduction/beginning, five minutes from the middle and five minutes from the lesson review/closure/ending) to complete filming. This greatly reduces the amount of work required when it is time to edit. (3) They will edit their video with Windows MovieMaker Live (iMovie on Mac). (4) The completed video must be burned to a CD as a .WMV file(on PC) or .MOV(on MAC).	
PLC Group Requirements	Professional learning community groups are asked to find a place to meet where they can view the video vignettes using a laptop or computer. While viewing each other's vignettes, a different member of the group is asked to take the groups feedback notes and rotate responsibilities until all members have shown their vignette and received feedback from their group.	
Grading Criteria	<i>Criteria</i>	<i>Points</i>
	Documents teaching performance and student participation (as appropriate)	20
	Approximately 5 minutes in length	5
	Includes simple transitions)	10
	Edits are clean and make sense	5
	Includes student work samples	10
	Total	50

The Participants

The six preservice teachers registered in the general education methods course were all female and between the ages of 21 and 28. They were all seeking certifications as early childhood through sixth grade teachers, otherwise known as an EC-6 Generalist degree. None of the participants had any prior teaching experience aside from informal experiences as older sisters or older cousins to their younger siblings or cousins. Additionally, none of the participants were married or had children of their own.

The participants were all members of the same Professional Learning Community which was an important criterion for this study based on the requirements of the video project assignment. Additionally, arranging observations, interviews and other types of data collection was easier to schedule and coordinate as the participants were in the same Professional Learning Community and had to periodically meet throughout the semester to discuss and complete the course assignments. The following table provides a description of each participant with the following pseudonyms used to protect their identity: Abigail, Alina, Christie, Jen, Nelly, and Yancy.

Table 2. Participant Description

Participant	Description
<i>Abigail</i>	Abigail was a young, tall and slim woman of African descent. She often used her African heritage as an impetus to discuss how she approached teaching and learning. She was one of the more vocal members of the PLC group and often commented that she was much older than her peers. While the age difference was but 3 to 4 years, the other participants did look to Abigail to lead or moderate the discussion during the observations I conducted. She had a commanding personality and often was very knowledgeable about the topics she brought up and made many connections between methods courses and what she noticed while in the

	<p>field. It was easy to see that these attributes allowed her to be seen as a leader of her group and perhaps the reason why the other participants would look to Abigail to provide further insight or direction.</p>
<i>Alina</i>	<p>Alina was of South Asian descent, about a few years younger than Abigail and often stayed quiet during group discussions. I assume this was because other members of her group were far more vocal and dominated the majority of the discussion. However, I noticed that while she was quiet, she was deeply introspective and when she shared her experiences with the group, she had some very deep and reflective things to share about her field observations. The experiences she shared often focused on her ability to connect with her students, and this was reflected in her subsequent interviews. She chose to stay quiet while many of the other group members bantered back and forth; however, she was not shy about offering her opinions when the right time came. She was not as animated, vocal or expressive as some of the other members, but she did display a confident, introspective and patient nature that she maintained throughout the study.</p>
<i>Christie</i>	<p>Christie was an extremely jovial and vocal member of her group. She was of African American descent and often used her curvy figure as the basis of many jokes. She often would dance in her chair; sing little parts of songs that may have been playing in her head and told jokes to make the other members laugh and have a good time. She often provided anecdotes of funny situations that had happened in the classroom, or things outside of the classroom. I found that Christie and Abigail were often like springboards for each other and bantered back and forth in rapid succession which at times seemed to take conversations into tangents or make other group members laugh and deviate off task. At times, the rapid back and forth discussions did not allow enough space for other members to comment or chime in.</p> <p>Christie's comments and verbalizations during subsequent interviews also were funny, and I often found myself laughing as she would discuss problematic issues about the classroom and present them in a comical context. Her light heartedness about issues made me feel that although she encountered difficult issues, she could always find some way to add a sense of humor in order to begin discussion of the issues in a positive way. Her contributions to her group were to assess difficult issues and find a way to make the discussion lighthearted and then find a positive way to discuss seeming negative things about the teaching profession.</p>
<i>Nelly</i>	<p>Nelly was of Hispanic descent and also one of the younger members of the group. She was also very vocal and often dominated the majority of the conversations but her topics of discussion were often controversial or</p>

	<p>negative. Her concerns ranged on how to manage relationships with cooperating teachers, parents and administration while still trying to show you can teach well. Her topics often began with some strange story or experience she had heard about in the news or seen in the classroom. These controversial conversations dominated the majority of the time as her topics required lengthy discussion amongst her group. Nelly often bounced ideas back and forth between Abigail and Christie, but often, she would end the conversation by asking, “Well what can you do? Nothing I suppose.” However, it was easy to see that she really wanted to help change things, but remained pessimistic about the possibility of any substantial change in the near future.</p>
<i>Yancy</i>	<p>Yancy was the least vocal member of the group and seemed to be extremely shy. She was also of Hispanic descent but often it seemed as if she was not very close to any of the other group members. She smiled at times, but rarely offered her thoughts or opinions. In fact, other members of the group would have to directly ask Yancy how she felt about issues they were discussing. During subsequent interviews, Yancy revealed that she is soft-spoken, shy and often feels awkward around people of her own age group or older. She felt that her strength comes from her ability to connect to her students and speak with them one-on-one. She identified many areas in her artifacts and other areas of her practice where she felt she really connected to the students. However, she expressed concern about outside observation as people her own age or older made her feel uncomfortable and she was worried about how she would be judged as a teacher. She revealed that although she seemed quiet or shy, she was actually very comfortable, confident and vocal when she was around children. Although it was difficult for her to express herself, she revealed that watching herself teach on video made her want to be more dynamic, confident and assertive in the classroom rather than shy and nervous.</p>
<i>Jen</i>	<p>Jen was the only Caucasian member of the group and unlike the other members; she was fairly balanced in how vocal she was with the rest of the group members. She would chime in often but also observe the conversation by allowing others to speak. Like Christie, she often added comments that were funny but used her southern accent and Texan background as the basis of her jokes. At one point, she referred to herself as ‘country’ which made the rest of her group laugh immensely. She realized that her accent and background was something she needed to be aware of when teaching in a diverse school setting. Out of the other participants, she was also more conscious about copyright issues and protecting her student’s identities. She was placed at a Montessori school</p>

	where the standards for video-taping in the classroom were different than non-Montessori settings which could have been the reason why she was more aware of this than her peers. Her comments during observations and during subsequent interviews reiterated the importance of video-taping in a careful manner to protect children's identities.
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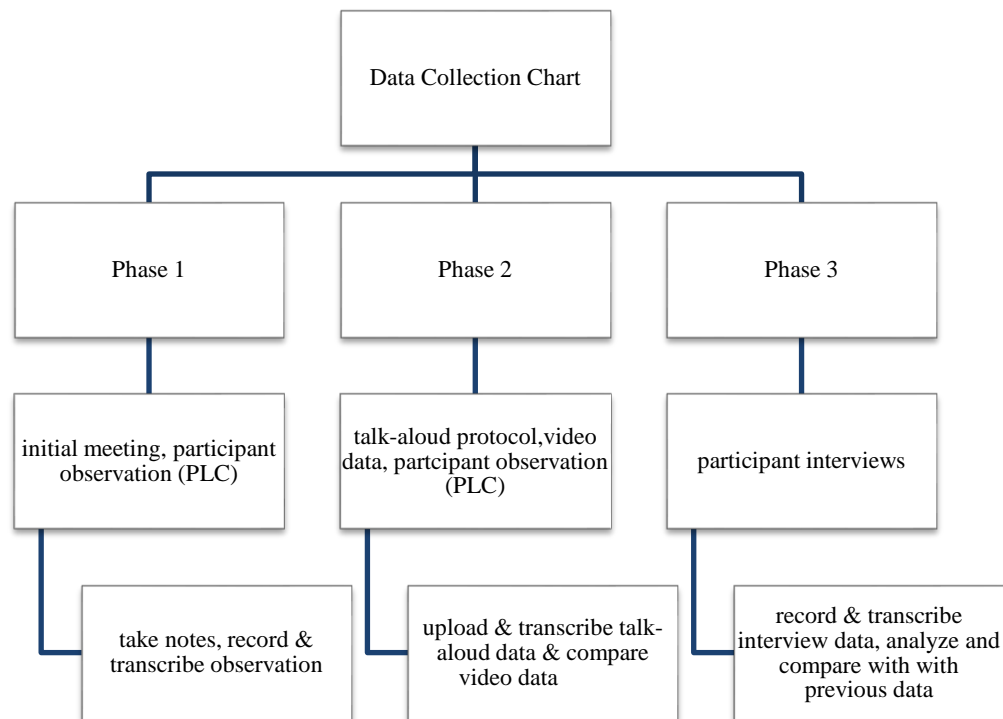
Procedures

Data collection began once the study participants had been established. First, an initial meeting was set up with the participants to distribute consent forms and also to distribute digital micro-tape recorders needed for the purpose of the study. Next, a participant observation of the Professional Learning Community (PLC) was conducted to gather background data on each of the participants and how they related to one another within their PLC group.

The next phase of data collection was during the actual video viewing and video editing process as the participants worked to construct their video vignettes. In this period, each participant was asked to use a digital micro-tape recorder and talk-aloud protocol as they did the video editing activity. After completing the project, participants were instructed to turn in a copy of their unedited video and edited video along with the talk-aloud protocol. Then a final participant observation was conducted as participants met with their PLC group to view the edited videos and provide feedback for each other. The observations and talk-aloud protocols were transcribed and analyzed in terms of emerging themes that developed over the course of the data collection period. The video data collected was analyzed and used as a check against what participants said about their editing process. Finally, in the last phase of data collection, interviews were conducted individually with each participant to elaborate and expand on the emerging themes and to

clarify the participant's perspectives. The following figure organizes the phases of research and data collection.

Figure 1. Research Phases and Data Collection



Data Collection Instruments

The primary instrument in qualitative research is the researcher themselves. As the researcher, I determined the research questions, and collected data that would help answer the selected questions. I also developed the data collection instruments used to gather data and then determined how to interpret the incoming data. In order to triangulate the data, multiple data sources were used. A description of each follows.

Talk Aloud Protocol

In the talk-aloud method, participants are instructed to say whatever they are looking at, thinking, doing and feeling as they go about their tasks (Kuusela and Paul,

2000). This method requires no distractions, questions, or prompts from the researcher so that the participants thought process is not interrupted or disturbed while they go about their tasks (Sturtz, 2008). This method served as a more direct form of data collection as participants spoke about their process while engaged in the editing tasks rather than speaking about their process after completing the editing tasks.

The talk-aloud protocol I used for the purpose of this study was a one-page Word document given to each participant in the initial phase of the study. The protocol included directions to find a setting where the participants felt comfortable (van Someren, Barnard, and Sandberg, 1994), and use a micro-tape recorder to speak out loud while editing their teaching video. To ensure that the session was comfortable and free from disruptions, I was not present while participants edited their video. The participants returned the micro-tape soon after editing their video. The digital data recorded on the micro-tapes were uploaded into my computer for transcription and analysis. See Appendix A for the Talk Aloud Protocol.

Interview Protocol

The interview protocol consisted of thirteen questions that were divided into several sections but fell under an overarching theme concerning video-aided reflection. Although these interviews were semi-structured, the objective of the protocol instrument was to have a guide with a list of questions and topics that I would need to cover during the participant interviews. However, as the interview process is semi-structured, participants can freely express their own experiences while the protocol serves as a guide to keep the conversation from deviating off the topic of discussion. The interview

protocol was constructed after the analysis of preliminary data to ensure that interview questions were relevant and meaningful to the participants' experiences.

Video Data

Video data were collected from each participant in the study. After participants completed the video editing project, they were instructed to burn a copy of their un-edited original teaching footage and then burn a copy of their edited, 5minute teaching video vignette. The video data was used compare the original footage with participants edited version. Additionally, the video data provided a way for me to compare and check against what the participants had to say about their own account of editing. The approximate length of the un-edited videos ranged anywhere from fifteen minutes to about an hour worth of teaching footage while the edited video vignettes were approximately five minutes in length. The chart organizes the phases of research and data collection.

Trustworthiness

Marshall and Rossman (2006), find that all qualitative research must “respond to canons of quality – criteria against which the trustworthiness of the project can be evaluated” (p. 200). Checking how accurately participants' realities have been represented in the final account is an important goal of qualitative research (Lincoln & Guba, 1985). Therefore, Lincoln and Guba (1985) suggest that qualitative researchers evaluate the quality and soundness of their research through systematic processes to check and ensure how accurately the participants' reality has been represented in the final results of the study. Using Carspecken's framework, the following validity techniques were used throughout data collection, and analysis of the study and its results:

Recording devices: Recording devices in the form of digital micro-tape recorders were used to collect data during participant observations, talk-aloud protocols and participant interviews. This allowed me to accurately represent what was being said during the interviews and observations. It also allowed me to concentrate on the conversations, and then later to transcribe verbatim speech and examine and inspect the transcriptions the speech acts for emerging themes.

Non-leading interviews: There are various techniques that Carspecken suggests when interviewing participants. These include *bland encouragements* which are usually one-word utterances and or facial expressions that show attention, interest and acceptance. *Non-leading leads* are also encouraged by paraphrasing the participant's vocabulary or speech act to encourage the participant to elicit more detail about certain topics without leading. The semi-structured, face-to-face interviews employed these tactics to ensure that the participants were encouraged to openly discuss their perspective without leading by the researcher.

Interviewing: Interviewing is a useful method in allowing participants to speak on their own behalf and is a necessary part of qualitative research methods. The opportunity for participants to express themselves from their own perspective gives the researcher a way to disclose further information about their own experience and to clarify pre-suppositions on the part of the researcher from the data collected and analyzed at an earlier stage in the study. Furthermore, the validity of the study is strengthened through dialogical data as multiple contexts within which the participants' viewpoint are articulated.

Data Analysis

The data analysis procedures were borrowed from the framework suggested by Carspecken (1996). This framework helps the researcher systematically analyze qualitative data using a cyclical, multi-stage process. Carspecken suggests that the stages are to be interpreted loosely and depending on the aim of the research, the multi-stage process can be used separately as needed by the researcher (Carspecken, 1996). As this framework is flexible and iterative, it was well suited to this qualitative study which involved multiple sources of data with multiple instruments.

As part of this framework, the process of transcription is used to acquaint the researcher with the data (Riessman, 1993) and involves transcribing verbatim speech for data analysis. Dialogical data collected for this study was transcribed for data analysis. Through a process of reconstruction, the researcher can articulate possible meanings that the participants might themselves have inferred either overtly or tacitly through their speech acts and gestures (Carspecken, 1996). Certain sections of the transcribed records were selected to closely inspect certain speech acts to note the possible meaning of those acts. In this way, *meaning fields* can be constructed to help the researcher identify a range of possible meanings to fully express the range of intended meaning in what was said by the participants.

Using an iterative process, data collected in the beginning was compared and analyzed with incoming data in a cyclical process to add codes to organize data with patterns of similar speech acts or behaviors. The aim of coding is to identify and categorize the data and to define the dimension and constructs (Carspecken, 1996). Through coding the data, themes and categories emerged and were identified.

To complete the data analysis, categories were integrated and refined. The finalized categories were organized subordinately under an overarching theme that represented the emerging themes and sub-themes. Carpecken, (1996) advocates that comparing multiple forms of data can be extremely revealing, therefore all incoming data were compared and analyzed to ensure that the final analysis reflected the participant's perspective.

CHAPTER 4: RESULTS

The purpose of this research study was to explore the use of digital video editing to facilitate preservice teacher reflection. The following research questions informed this study:

1. How does video-editing facilitate preservice teacher reflection?
 - a. What editing decisions do preservice teachers make when constructing video vignettes of their own teaching?
 - b. What factors do preservice teachers consider when making editing decisions?
 - c. How does talking aloud while editing affect reflection?

During the talk aloud sessions and interviews, study participants described their experiences while constructing a final video vignette of their teaching performance. They also discussed their editing decisions and the factors they considered while making those decisions. The research findings in this chapter are based on the analysis of the data collected through: semi-structured face-to-face interviews, talk aloud recordings and video data submitted for review by the six preservice teachers that participated in this study.

Findings

As mentioned earlier, six participants were chosen to participate in this study. This study explored their experiences as they completed a video project for a general education methods course in the elementary education preparation program. The video project asked preservice teachers to record and then digitally edit one of their teaching

performances into a concise, five-minute final product highlighting their teaching practice. Once data from the talk-aloud protocol, video project and interviews were analyzed, a variety of themes began to emerge. The data were coded and the most notable themes will be addressed in the findings.

This section outlines the study's key findings and provides supporting evidence that was collected throughout the timeline of the study. As this study was mainly gathered data through videos, interviews, and the talk-aloud protocol, many of the findings are dialogically based and derived from direct quotations of what the participants said about their own process of video viewing and editing. After comparing the data accumulated, many non-linear but interconnected themes emerged as a result of the analysis of the data in this study. They will be presented in four sections in light of the overarching and subordinating research questions that guided this study. The four sections are: (a.) Opportunities for Reflection through Video Review, (b.) Editing Decisions to Construct the Final Product, (c.) Factors Considered while Making the Decisions, and (d.) Talking Aloud While Editing.

Opportunities for Reflection through Video Review

Participants began the video project by reviewing their video in order to consider segments of their teaching practice for editing purposes. This first section discusses the themes emerging from their experiences as they began reviewing their footage to consider the various areas of their practice for editing purposes. The emerging themes were: *Self-Criticisms Leading to Reflective Outcomes*, *Managing the Inner Critic*, and *Going Beyond Selective Memory and Outside Observation*. Although they are organized

as separate, many of the themes were interconnected as the participant's experiences overlapped.

Self-Criticisms Leading to Reflective Outcomes. Data indicated that preservice teachers made self-criticisms about their appearance, mannerisms, voice and other aspects of their physical attributes as they first began to edit the footage. While it was difficult for them to move past their own images when first confronted with it on video, they made various self-criticisms where many lead to reflective outcomes for their practice. Abigail reflected, "It's surreal, because when you get to see yourself on camera, it makes you more critical about everything, down to your hair, your voice, your posture and your body language."

Accordingly, watching themselves on video was "weird," however; it gave them a chance to consider their physical appearance not only on a personal level but also within the context of teaching. The following comments illustrate verbalizations on a personal level as they first began the video project:

Wow, is this how I look? (Abigail)

Oh, my gosh, I'm fat! (Christie)

I'm awkward on camera. I really need to lose weight. (Nelly)

It's embarrassing! I guess this is a reality check of what you look like. I need to lose some weight. (Yancy)

Although some of the initial verbalizations concerned physical attributes on a more personal level, other comments revealed that participants also considered their physical appearance within a teaching context.

I think when you have a straight and assertive posture; you're more respected as a teacher. But if you come into the classroom and you are insecure and your voice is low, the students can sense that you are not confident. So I think as a teacher when you reflect on the video, you look at yourself; you look at the way you look, your professionalism. (Abigail)

When I talk and hear myself, I don't sound so "country," but hearing myself on the video, I do. Some of my words are drawn out; I need to be careful, because students may not be able to understand what I am trying to say.(Jen)

These comments illustrate that participants began to make connections to their teaching practice by noticing their physical attributes. Considering their physical-self while video viewing was important for their reflective outcomes as they were able to make connections to their practice. Abigail was able to connect her posture and voice tone to teacher self-confidence and its impact on students in the classroom, while Jen was able to see how her "country" accent affected student's ability to understand what was being said.

Another participant considered her mode of dress on the day of the filming as she reviewed her video. She revealed,

I am also thinking that I should have dressed-up a little bit more, videos I saw of my friends...they had dressed up more. So I think I should have dressed up...I looked a little disheveled. (Nelly)

Nelly realized that she looked disheveled while teaching as she did not consider wearing more formal attire. She commented at a later point that she wore “loose clothing” as her cooperating teacher’s classroom is outside the main building where the classroom often gets hot. However, after reviewing her video, she realized that although the loose clothing helped with the heat, it looked a “little disheveled” for teaching. Comparing her attire to her peers, she realized that she may have looked more professional for teaching if she had “dressed-up” on the day she taught in the classroom.

Noticing physical aspects on a personal level were superfluous to reflective outcomes; however, participant’s critical thoughts about their physical attributes within the teaching context had reflective outcomes for their practice.

Managing the Inner Critic. Participant’s experiences revealed that during the process of video review, self-criticisms had to be managed in order to consider areas of their performance for reflection. Overly fixating on physical attributes may hinder the ability to be self-reflective when using video, so it was important for participants to managing their inner critic in order to consider their performance.

As I kept on watching the video; taking the vision of me away and looking at my lesson in its entirety, I stopped being judgmental about myself and I just thought: Did I communicate the message of the lesson? Did they understand? So, apart from how I looked, or how I dressed...did they understand the concept? That was the ‘a-ha’ moment! (Abigail)

Managing initial self-criticisms were important as they allowed this participant to focus on more important aspects of her performance. This allowed Abigail to recognize

how her teaching influenced student learning as she asked herself questions about her own practice.

Managing the inner critic was also key for the following participant to set aside initial strong concerns she had about her appearance as she reflects,

It was weird and I thought: "Oh my gosh, I'm fat," but after that I started thinking that I need to speed up my lessons because they drag on! Looking at the video, I could tell when I was losing my students attention. (Christie)

Managing her initial concern and noticing the connection between lengthy lessons and student attention was important as she realized that she lost her students attention while her lesson was dragging on. She realized that she needed to change the pace of her teaching to be more effective at capturing student attention; and reviewing the video she was identify areas where she lost her student's attention.

Similarly, other participants had to also manage their inner critic to be reflective about their practice as these comments demonstrate:

When I first saw my video, it was intimidating and I was surprised by my hand movements and gestures; maybe me messing with my shirt or my hands more than I should have. But, I think the students responded really well to the lesson, it was a little longer than I would have liked, but other than that it went really well. (Jen)

It was really funny and I laughed at myself! It was just weird hearing me but I saw that I was able to connect with the kids, which is good. I just thought and focused more on what I can improve and what I saw that I shouldn't have done.

(Alina)

Managing the inner critic was an important step for the preservice teachers. In order to be more reflective about their practice, making the shift from being self-critical about the superficial elements, setting aside judgment and focus on the important aspects of their performance was a necessary transitional step. Once participants were able to set aside their inner critic, they became less judgmental and began to really deconstruct their practice by focusing on the more important aspects of their performance to better understand their teaching practice and what is happening in the classroom.

Going Beyond Selective Memory & Outside Observation. Data revealed that participants used video tools to review their performance to go beyond their own selective memory and reflect on areas of their practice that went unnoticed in the immediacy of the teaching act.

The video was able to record the simultaneous events of the classroom and preserve the record for participants to review their practice outside of the classroom as these comments reveal:

I was able to go back and look exactly at what I did, not just based on what I remember I did. And there were some things I noticed that I didn't notice before while I was teaching. I noticed one of the students had their head down a little bit. When I was teaching, of course, I was more focused on what I was going to do next, what question I am going to ask and that part, so I just didn't notice. I was more focused on what I was doing and I didn't notice. I wouldn't have even thought about it! (Alina)

I think it's more effective because when you just reflect mentally you forget a lot of the things that actually happened in the lesson, and so it did help me to see you know, the good parts, bad parts. (Christie)

Reviewing video was important for these participants as it gave them an opportunity to consider areas of the classroom or their practice that they did not notice or did not remember. Video recorded more than they were able to remember or pick up while in the immediate needs of the classroom reviewing their video facilitated the ability to consider more aspects of their performance for reflective outcomes.

Other participants found that the video served to bridge the gap between the interpretation notes of outside observers and what participants noted about their own performance.

With this you've got visual; you can see what they are actually talking about.

There were many times where people were like: 'you used your hands the whole time,' and I was like: "No I didn't!" Well, with the video you are able to see if you really are doing it the whole time. (Jen)

It really helped me because I have had teachers tell me that I teach too long, but I don't see that in the process. Looking at my video, if I am getting bored watching this, imagine how the students feel! (Christie)

The comments above illustrate that reviewing video of their own teaching yielded reliable and helpful information that the participants were able to combine with the reflective notes by outside observations. Christie realized that she was bored watching her lengthy teaching performance; she found that in reviewing her footage she herself

was bored and this information helped her to see what outside observers pointed out in the past. She realized that her lengthy teaching practices may have implications on the student level.

Other comments reflected the use of video review to fill in the gaps or confirm pre-suppositions the participants had about their own practice. The following comments reflect this aspect:

I think this helps you see what you actually are doing, and what you can work on instead of people just telling you because they could have missed something.

(Yancy)

Because you actually have the video, it's not like somebody is telling you, you messed up here. The evaluation we get back from our facilitator, it's nice and helpful but the way I felt about a lesson was totally different from what I was getting back because when I thought it was a crash and burn; she gave me a good review. I don't think I did well and you kind of want to hear the whole of it. I would rather know. (Nelly)

I like the video, because it cannot lie to you, you can always see where you are stumbling around. The evaluation, it's nice to have but I think it's also like they don't want to hurt your feelings, so it turns into: 'good job, just work on this.' I am getting more from watching myself than reading that. You kind of know how you did without that evaluation anyway. (Nelly)

In this respect, video was important as it facilitated participants ability to reflect on areas of their own practice that were either missed by others or reflective notes were

inefficient in giving the participants all of the information they needed about their practice. In Nelly's case, this was powerful as she found the evaluative notes not specific enough, thus reviewing her video, she was able to self-evaluate about lessons where she felt she did not do well and confirm her pre-suppositions.

Editing Decisions to Construct the Final Product

Video editing is often seen as the cutting, splitting and joining of film; however the decisions about what, when and where to make those choices may be more complex as the data in this study revealed. Essentially, the editing tasks were to organize, select and refine the final product; a concise, five minute vignette of their performance. Emerging themes revealed that participants editing decisions while constructing the vignette consisted of *Discarding Superfluous Content*, *Weeding Out Bad Performance* and *Selecting Good Clips that Communicate their Growth*.

Discarding Superfluous Content. Participants had to be selective about the segments they chose to include in their final product as the final product represented their teaching story. They considered aspects of their footage that were irrelevant, unnecessary or far too lengthy to be considered. They were able to quickly identify these areas and split the segments to delete them from the final product.

These comments reflect the quickness of editing decisions made by Alina as she played her footage in a linear fashion and identified footage for irrelevant content:

I am taking out some parts and just keeping a little bit because it's not relevant to my lesson. So I'm just going to keep...keep a little part of it. I'm going to keep the

beginning part because um...this is what got the students engaged in the lesson and they were participating and answering my questions. (Alina)

I'm stopping at the student that was answering my question. But, uhh... you can't really hear him, and the student after him actually is a little bit louder so I'm gonna keep his part and take out the one from before. (Alina)

I think my engagement was a little too long...um, the kids were asking great questions so it ran a little bit long, but for the purpose of this video editing, um...I don't think we would need that part. So I'm going to delete a little bit more of the engagement part. (Alina)

Lengthy or repetitive segments were also identified and determined to be superfluous to the essence of the final product as these comments reflect:

The story I read to them is called Barn Sneeze and so I'm just letting it play as I pretty much read the book. And, I'm cutting out some of the pieces of the book reading; because I think the book was kind of lengthy. (Abigail)

I had to cut a lot of video, but most of what I had to cut was just a lot of interaction with the kids. I had to cut a lot of me just talking. My whole introduction to the lesson, I cut it. The introduction alone was like 5 minutes, because I was telling them about what we are going to talk about, learn about and they were giving me their feedback and we were brainstorming on different ideas. So the whole intro...I had to cut out. (Abigail)

For Abigail, editing out irrelevant and lengthy content was fairly easy. However, one segment she considered for editing had a significant impact on current practice and changes she wants to make in the future. She reflected:

I realized I shouldn't be talking for five minutes. If I had to edit and remove five minutes from the video just for my lesson introduction, that means that I need to remove at least three minutes from it in real life. (Abigail)

She realized through the act of editing that she had to remove several minutes of footage from her lesson introduction. This had implications for her lesson introduction in real life. This was significant as Abigail may have missed the opportunity to reflect on the actual length of her lesson introduction if only reviewing her video. The necessity to delete content to construct the final product was important in creating an opportunity to consider teaching practice in greater depth than with video viewing alone.

Generally participants found that it was easier to cut out superfluous segments; however, some aspects of irrelevant content needed more consideration, as Nelly found:

I'm having a hard time with this because I don't know if I should leave it in or take it out? I think I can just cut back and show the ending where I am asking them questions about the story and just saying what happened, what order the events came up. And, I think that's better than me just reading the story because the actual reading of the story doesn't help my lesson much. It's just not a big part of my lesson and I'm kind of debating to keep it or not. But if I don't there will be a void in the whole transition. (Nelly)

She mentioned that some irrelevant content had implications for transitioning between one segment and the next. Removal of some irrelevant content created awkward shifts in time and needed more consideration before removal.

Other comments by participants also reveal the complexity in considering segments of footage for editing with regard to transitioning and flow:

The hardest part was the flow; the transitions were hard. Like the lesson transitioned, but it didn't on the video... it was weird to put it together. (Nelly)

I could have made my transitions a little bit smoother, but all in all, I think what I wanted to capture was captured. (Christie)

I wanted to make sure my transitions were smooth, it can be hard. Mine was easier because it's slow paced so you don't have so much transition. (Jen)

Considering irrelevant areas of their footage for editing was fairly easy for most participants. Irrelevant content that disrupted the flow and transitioning of the video however, took longer to consider as participants made editing decisions. Understanding why certain segments or content was irrelevant for the final product was an important part of constructing the final product but also an opportunity for participants to consider areas of their performance that may have not been considered if only reviewing their video.

Weeding Out Bad Performance. While reviewing footage, participants were able to edit out superfluous content easily; however, it was more difficult for them to consider

footage where they were confronted by clips in which they identified mistakes or bad performance.

In one such clip, Yancy reflected about a student crying. She remembered that she didn't want disruptions during the lesson and was dismissive to a student's valid request.

She reflected:

Right now a student is telling me that a student is crying. And, you can hear him crying because I didn't let him go to the restroom. I didn't let him get up! I didn't want him to cause any distractions while they were observing me, but he started crying that he needed to go to the restroom. I see myself telling him: "No," and, I feel really bad now. (Yancy)

Reviewing this segment was important as it gave Yancy immediate feedback about a teaching practice that negatively impacted one of her students. She realized that she made a mistake and felt badly about not being sensitive to the needs of her student.

She made an editing decision about this segment saying:

So, I told him to go but I just split that part right now so I could cut that part off. I'm going to cut off that part because I don't want to make it look like I was mean. I made him cry. (Yancy)

Discarding the segment forced her to think about why she needed to split this from her final product. She realized that actions she took to keep student disruptions down actually made her look "mean," and when she reflected about her actions outside of the immediacy of the act, she realized that her actions had serious implications for her

student. Although this segment was not chosen for the reason she gave, she was able to consider her actions and realize that the decision she made as the teacher was a mistake and affected her student in a negative way.

Other participants also found themselves reviewing their footage and weeding out bad performance. Clips where they felt they looked awkward were considered for editing purposes. For Nelly, this was especially true as many times she mentioned that she felt unnatural during filming. She commented:

This is one of my awkward moments, I have my hands really high up on my hips and I kinda look like an old lady! So I don't like that...my hand movements are weird so I don't like that I look tense and my arms are up in weird ways at certain points in the recording so I'm going to try to cut most of that out... it really looks like I am not comfortable; not very natural. (Nelly)

The opportunity for participants to edit was important in constructing the final product. By weeding out bad performance, they were able to create a representation of their practice free from mistakes and embarrassments. However, it should be noted that while segments of bad performance may have been discarded, participants had to consider the segments first by selecting, reviewing and refining in order to weed them out. Although the final products in this study may not have accurately represented the complexity of their performance, weeding out bad performance was an opportunity for participants in this study to consider and reflect on areas of inadequacy in their teaching.

Selecting Good Clips to Communicate Growth. Data revealed that participants spent the longest time selecting segments they considered good clips. These clips were

considered in-depth before participants made decisions about editing. As these clips would inevitably tell the story of their teaching, it was an important part of the participants editing process.

Alina reflected:

Because you had to decide: this is what I want in my video, this is what I want them to see, what I want them to know about what I did. It takes a lot of time; lots of editing and you look back and you're like: oh that still doesn't work! So you have to go back. And if you are taking out a part and then you decide later on you want it, you have to do it all over again. (Alina)

Many clips were considered for the final product; however, those that were determined to be good and communicated their own growth and learning were considered for the final product. The participants' made the following comments about this aspect:

Mine were cut down to clips, so it was just trying to get the talking out and get the good clips. I went in and found things that I grew in throughout the semester, like the time management and the redirecting. I just picked out pieces of that. (Nelly)

As I was going through the whole video, I wanted to keep the beginning, middle and end. But, it was kind of hard because I didn't want them to see everything but... all the good things. But, I could only choose certain parts. (Alina)

Well in my video, I included the dancing part! And that's because it's a big part of who I am as a person and a teacher. I try to include humor in everything so, I think that is great because even when I am losing my students and they are kind of

spacing out, when they see me dancing it kind of pushes them back into the lesson. I always try to do that because if they leave, they can come back that way!

(Christie)

Even Nelly, who at other times during the editing process found mostly negative aspects of her performance to consider, took time to consider clips that communicated her growth.

She reflected:

The thing I like about this shot is that you look on groups on different levels working, so one of the groups is trying to figure out the puzzle, while another one has already figured it out and then there is another one, it's a little group of talkers but they actually stay on task but they are talking about what they think so I like that! That shows that they have communication. (Nelly)

I also asked them to raise their hand if they are done. And, I'm trying to direct one group to speed it up. That is one of the issues that I've had, Time Management, so I'm going to talk about that in my reflection. So I want to make sure that I show that I actually did grow in my Time Management. (Nelly)

It was important to see this side of Nelly's experience as it communicated that the additional activity of editing made her consider areas of her performance where she did well. She was able to see that she improved her time management and that her lesson planning impacted student work.

Data also suggested that some participants considered clips for the final product that communicated student growth within the classroom context. This can be seen in the following comments:

I think that by asking the students questions, they can reference the book and they can basically recall what they read and that helps them with comprehension. As far as when they see what they read, they can actually put the print to words and actually say what they read and talk about it. So I thought it was important for me to leave this in the video. (Abigail)

I definitely wanted to see how I engaged the students; how did I teach them the main part of the lesson, the ending of the lesson to show that the students did learn. They did understand the concept and lesson. So those were my main things to show on the video. (Alina)

The consideration of clips that communicated student growth was mostly at a superficial level. Participants considered clips of student growth for editing purposes, in order to communicate their own growth while considering what to select for the final product.

Abigail summarized what the final product represented for her, “I am proud of my video, this video is *my* accomplishment.” And, while the possibility of multiple stories from multiple perspectives may exist within the original, digitally-preserved footage; ultimately participants in this study made editing decisions to select clips they perceived to communicate their own accomplishments.

Factors Considered while Making the Decisions

Data revealed that participants considered various factors while making editing decisions. Factors that were important to their decision-making were: *Quality and Quantity of Footage, Video Length Parameters* and *Perceptions of Good and Bad Teachers*.

Quality and Quantity of Footage. Before editing could begin, participants were first at the mercy of the film-maker. In the case of this study, film-makers were either the participant's cooperating teacher or one of their peers. The cooperating teachers and peers were not expert film-makers that regularly used digital video equipment to make films about teaching, thus the quantity and quality of the footage varied. Participants had to consider the quality of the footage as these comments reflect:

The person recording was my cooperating teacher. The problem with that is she recorded an hour worth of the lesson but her finger is in many of the shots and some of those were the good shots that I would have liked to use, so I had to delete those. (Nelly)

This is not good...it jumps. Basically, my whole introduction is missing and the only part that does have an introduction is cut into the facilitator coaching my teacher about what she needs to record. So they are basically talking over me now. I'm hoping there is another shot I can use. But I may be forced to use this one. (Nelly)

For Nelly, important or good parts of her teaching were either missing or recorded improperly. In the clip mentioned above, she had to discard a segment where her

cooperating teacher and university based facilitator were talking over her lesson introduction. The bad quality of the footage created barrier and segments that could have been considered as good shots were unusable and discarded.

While the quality of the footage was not an issue for Yancy, the person recording her teaching did not understand how to use the digital video device. She began by saying, “I could see them trying to figure out something with the camera and that’s what happens; you have technical difficulties.” She mentioned that the recording did not actually start until the middle of her footage and reflected further:

I have no way of looking at myself from the beginning. That really upsets me because I wanted to see the whole thing. It really bothers me that I cannot see myself from the beginning when I think the beginning of my lesson was really important. The students were well behaved; like really good and they were listening. (Yancy)

From her memory, she was able to remember that the beginning of her lesson included a time when students were well behaved and listening. A piece of her teaching that she felt was very important for her to consider was missing. Losing the ability to choose this clip was very difficult for Yancy as she had to comply with what was recorded as she commented, “...but it’s what happened. I wish it didn’t happen because I feel like my whole lesson was ruined, but oh well I cannot do anything about it now.”

Considerations of quality and quantity were both factors in the editing decisions these participants made. The quality and quantity of footage were factors participants had to consider while making editing decisions.

Video Length Parameters. Data revealed that the length requirements of the video project were also a factor in the editing decisions preservice teachers made. The parameters of the project restricted preservice teachers to a concise, five minute vignette that highlighted the beginning, middle and end of their lesson.

For Abigail, this was a factor as she reflected:

I just decided to cut that out because I felt that it was just too much for the video based on the fact that we are only allowed to have 5 minutes of video. But, with this video, based on the requirements of this assignment, I won't be able to add too much of the elaboration part in my video. However, again, it was necessary for me to cut it, because, the video assignment calls for only 5 minutes. (Abigail)

So I had to go and review the lesson a few times to look at things that just weren't relevant to the 5 minutes. We did have a specific standard as to what should be included in the video as well. A rubric, so we couldn't like just put anything in the video. (Abigail)

Five minutes! That's a challenge on its own, because you are looking through a 50 minute video and you are trying to get 5 minutes. If I don't give you the right five that you wanted or that you needed, then basically my whole video was a waste. (Abigail)

She found that she had to constantly remind herself of the five minute constraint and used this as a factor in how much of a particular clip she would select to show in her final product. Additionally she was aware of the fact that eventually this was an assignment that would be graded and she reflected in her last comment about the

challenge of selecting clips that were not what a grader would want or need to see for grading purposes.

For Alina, there were several areas of her teaching that she would have liked to consider for the final product but length was a factor as she reflects:

I wish it was 10 minutes instead of 5 minutes, because I wanted to show another activity we did towards the end. But like I said, it was 5 minutes; I couldn't fit everything in there so I just took things that I knew went well, worked well, and still showed the point I was making. (Alina)

Essentially, she had to break things down and select the basic essence of her performance to meet the length requirements, however, she still made decisions to be choosy about what she selected to retain the point she wanted to make. Although other areas could have been considered as she suggested, in the end, she factored in the time limitation while still also meeting her own standards.

Perceptions of Good and Bad Teaching. In the analysis of the factors that mitigated editing decisions, participants' perceptions about teachers and teaching were relevant. Their perceptions of what a good and bad teacher looks and behaves like were factors that affected their decision-making. They reflected:

Well there was one part where I did have to take it out, because you could interpret it wrong. A little girl had her hand up the whole time, so I gave her a hi-5! But, that could be interpreted totally differently on the video, so I said, let me take that out. (Christie)

Because when I initially watched my video there is a lot of me and less of my students... and I don't want ya'll to think that in the video I tried to include more of my students talking. That's why when I was on the ELMO, I tried to ask the students: "is this how I draw it?" They were like: "nooo...yes!" Just to make sure they don't think it's just me. Even though in first grade you do have to model for your students what you want them to do, but sometimes that can be misinterpreted as teacher driven classroom vs. a student drive classroom and I don't want that to be what people think. But, you do have to model. You have to, or they won't get it!" (Christie)

While reviewing the segments where she gave a "hi-5" to dismiss a hand raised was considered for editing as the segment, in her perception, could be misinterpreted by others as being a bad teacher as she dismissed the student that had their hand raised for a long time. Further, she reflected about footage where she was mostly directing the activities of the class. She made decisions to consider the segments for editing based on her perception that good teachers have student driven classrooms.

As noted earlier, participants discarded clips where they made mistakes, looked nervous and awkward or were misrepresented. Although these clips may have been more neutral, perceptions about what good and bad teachers look and behave like were factors in the editing decisions participants in this study made. In the realities of a classroom, the actions and behaviors they considered for removal may have been realistic to experiences teachers consider on a daily basis when teaching. However, they went into the editing process with pre-suppositions of good and bad teaching thereby conceding the chance to

select clips that were missed opportunities for teaching success in the construction of their final product.

Talking Aloud While Editing

As a more direct form of data collection, the talk aloud method was used for the purpose of collecting real time data about digitally editing videos of teaching for reflection. Participants used a micro-tape recorder to talk out loud while making editing decisions. Interestingly, the additional activity itself created opportunities for participants to be self-reflective about their own talk-aloud recordings. Data revealed that while participants were not required to listen back to their own recordings, using the talk-aloud in this way facilitated further reflection and also offered an opportunity to Meta-reflect.

Facilitating Reflection. Participants revealed that having to talk aloud while editing gave them additional opportunities to consider their practice. As participants had to simultaneously conduct editing tasks and verbalize their process, for many of them, it slowed the process of editing down, thereby creating additional time to think about their editing decisions. Nelly reflected by saying, “When I went and talked about it, it took me longer, because I had to reflect rather than just having to do it.” Although the editing process took longer, talking aloud gave Nelly extra time to reflect before making decisions. For Jen, talking out loud, allowed her to see things from a different perspective as she made the following comment. “I am glad I got two different perspectives; I think it did make me more aware of what I was doing. It was different, but the places where I gave a reason behind why I am cutting this part; that was good because I was reflecting on that part.” Yancy also found it beneficial as it made her stop to think about why she was making editing decisions. She reflected, “It made me think

about it more while I was watching myself. I was talking aloud about the reasons why so if I was cutting it off, talking it out actually made me think about why.”

Alina found talking aloud to be very similar to thinking silently. For her, it was almost the same thing. Verbalizing her thought process was not difficult and provided a way for her to think more deeply about her editing decisions. She reflected,

As you are thinking, obviously you are deepening your understanding. So, I did have a better understanding and it did help because it helped me to think more as I was saying it out loud. Like: “What if I did this?” “What if I did it this way?” So, it did help me to just think more. (Alina)

Although the instrument itself was not designed to facilitate reflection, many participants found the additional activity of speaking aloud to be beneficial for reflective outcomes while making editing decisions.

Meta-Reflective Aspect. Data revealed that the talk aloud recordings served as a meta-reflective tool for two of the participants. This was an interesting aspect to emerge from the research as the talk-aloud protocol did not require participants to listen back to their verbalizations. Two of the participants indicated that they listened back to what they had to say while editing and found that this helped them to reflect on their own reflections.

You’re not only thinking it but you are also saying it out loud so you kind of hear it twice. It sticks in your head and after, you can go back and listen to it. It makes a difference. (Yancy)

I actually went back and listened to it, so I knew when my stuff got mixed up. I would listen to it to see if I had said anything and I hadn't and then I realized that I could have reflected better at those quiet parts. (Nelly)

In this way, both Nelly and Yancy were able to listen back to their recordings and use the talk aloud method to facilitate meta-reflection by identifying areas where for further reflection or to confirm their own reflections.. Yancy found that the ability to think, talk and then play back her thoughts created additional opportunities for reflective outcomes while Nelly was able to listen back to her talk aloud and identify areas where she reflected thoroughly and areas where more reflection was needed.

Summary of the Findings

In this chapter, I presented the finding and results of the study. These findings are primarily based on the analysis of the talk aloud transcripts, interview transcripts and are supported by reviewed video data and the observation of the PLC group meetings throughout the course of this study. Findings were discussed with regard to four parts that correspond with the major themes that emerged as a result of the data. Data in the first section focused the use of video tools to create opportunities to facilitate reflection. In this area participants discussed, (a.) self-critical thoughts leading to reflective outcomes, (b.) managing their inner critic, and (c.) going beyond selective memory and outside observation.

The second section focused on the construction of the final product and the editing decisions by which the final product was created. Participants considered (a.) superfluous content, (b.) weeding out bad performance, and (c.) selecting clips that communicate growth.

The third section focused on the factors upon which they made those editing. Participants agreed that the factors they considered as they made their decisions were based on the (a.) quality and quantity of footage, (b.) video length parameters, and (c.) their own perceptions of good and bad teaching.

The last section focused on their thoughts about talking aloud while video editing. This was a unique characteristic of the study as the talk-aloud method was employed as a more direct form of data collection to analyze participants editing decisions in real time. The experiences of the participants revealed that the additional activity of talking aloud (a.) facilitated reflection, and created opportunities for (b.) meta-reflection.

Participants reflective outcomes using video editing do vary based on the areas of their practice they considered in order to construct the final product. The opportunity to engage in video editing allowed participants in this study to consider their performance and make important decisions about their practice. Chapter 5 will include a discussion of the findings, and recommendations for future practice and research.

CHAPTER 5: DISCUSSION, IMPLICATIONS AND RECOMMENDATIONS

The purpose of this study was to explore digital video editing to facilitate preservice teacher reflective practice. Qualitative methods were used to collect and analyze the data. Specifically, research was conducted through semi-structured face-to-face interviews with six preservice teachers, and reviewing talk aloud recordings and video data submitted by the participants in this study. This chapter outlines a discussion of the findings and their implications, and concludes with recommendations for further research.

The following research questions guided this study:

- (1.) How does video-editing facilitate preservice teacher reflection?
 - (a.) What editing decisions do preservice teachers make when constructing video vignettes of their own teaching?
 - (b.) What factors do preservice teachers consider when making editing decisions?
 - (c.) How does talking aloud while making editing decisions affect reflection?

Facilitating Reflection through Video Review and Editing

Participants in this study described their process of using video tools for reflection in several ways. Initially, they were self-critical but through the process were required to manage their inner critic in order to reflect on their performance. Additionally, they used video to help them remember their own performance and confirm the reflective notes taken by others.

With regard to the criticisms, participants in this study initially made self-criticisms on two levels. The first level was personal, having few reflective outcomes for their practice, while the second level concerned self-criticisms on a teaching level. The second level self-criticisms were important for their reflective outcomes because participants were able to connect their appearance, voice and mannerisms to their own practice as a teacher and, further, to student learning. Participants also described the need to manage their inner critic. They did this by setting aside their judgment's, focusing less on the superficial aspects of their performance, and re-focusing their attention to the more important aspects of their performance while reviewing and editing their videos. Managing their critical thoughts was an important findings as this was determined to be a necessary transitional step to go beyond a superficial review and really begin the deeper more reflective review of their performance. Prior research indicates that preservice teachers find it difficult to watch themselves on video for the first time (Calandra, et al., 2008) therefore, it is important for preservice teachers to be able to manage their inner critic in order to focus on more important aspects of their performance for reflective outcomes.

With regard to preservice teachers using video tools to notice, remember and confirm their own thoughts and those of outside observers, this study concurs with prior research in that video can be used as a tool to aide memory and confirm reflective thoughts of the practitioner and those of outside observers (Sherin, 2000; Harford, & MacRuaric, 2008; Sevola, 2008). Thus, the findings confirm that where there were gaps in participants' memories, or events or behaviors of which they were unaware within the teaching context; video was used as a tool to preserve and play back these events outside

of the immediacy of the classroom. Additionally, participants in this study were able to reflect further by combining video review with the reflective notes of outside observers and to go beyond what they remembered (Halter, 2006). Video served as the medium to provide reliable, accurate and beneficial information that participants needed where their own memory and outside observation may have been selective, inadequate or incomplete.

Reflection within Multiple Levels of Editing

The nature of the digital video-editing involves an iterative set of tasks that cycle between watching, selecting segments, editing video, and creating multiple opportunities for consideration (van Es & Sherin, 2002). In film editing for entertainment purposes, editors will often cut out segments of footage that are irrelevant to the storyline. Ultimately, editing decisions are made with regard to the final product. Footage that is determined to be unimportant to the storyline is removed and successful editing represents a final product that illustrates the essence of the story (Crittenden, 1996).

The analysis of the data in this study revealed that there were several levels of editing as preservice teachers used digital editing to construct their final products. In the first level, participants began by editing out the unusable footage from the original, unedited footage of their teaching. Unusable footage, as found in this study was any footage that was shaky, blurry, or messy. Additionally, it could also include long sequences of film where there was repetition, or little or no action. Reflection within this first level of editing was shallow as the footage that participants considered for editing was mostly irrelevant for their own practice. Therefore, this first level of editing can be seen as the more technical aspect of the editing process where the preservice teacher first

makes editing decisions about how to narrow down the unusable content of the larger, unedited footage.

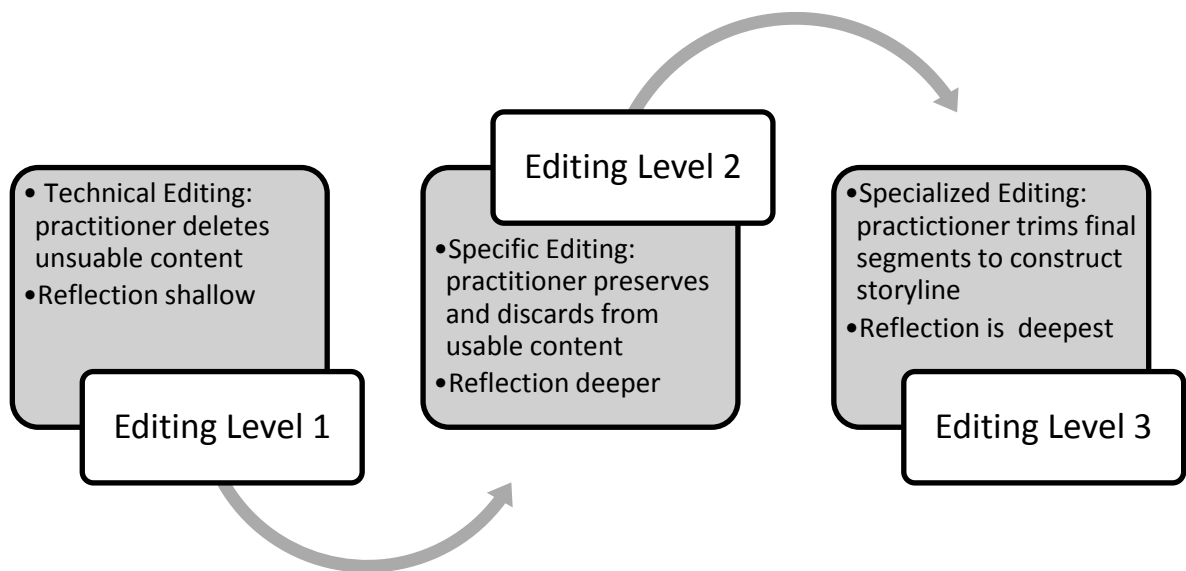
As participants moved into the second level of editing, they had to consider the usable content of their footage. The reflection at this level was less shallow as participants spent more time thinking about which parts of their usable content to discard or preserve in order to construct the final product. At this level, participants essentially weeded out performances they perceived to be of poor quality. These areas consisted of teaching that was embarrassing or unnatural, or practices that were not consistent with good pedagogy. Next, participants considered performance areas to preserve for the final product. Their decisions about what to preserve consisted of segments that showed their own growth and learning as a teacher as well as their ability to interact and connect with their students.

Finally, in the third level of editing participants began to make editing decisions on segments they had chosen to include in their final product. They spent the most time reflecting on these segments as these clips would eventually communicate their teaching storyline. Like film editors, the choices they make in this level are important as their editing choices represent a final product that illustrates the essence of their story. Participants had to repeatedly consider and then re-consider the same clips in order to make decisions about where to trim segments in order to construct a final storyline while still meeting the length parameters of the video project.

The results of this study support prior research on the editing process itself being reflective (Cunningham, 2002) as preservice teachers' organize, select and refine

segments of their own teaching. Additionally, this study adds to the discussion on the use of digital video editing to facilitate reflection by finding that editing happens on three levels where reflection increases in each level as preservice teachers spend time making editing decisions to construct the final product. The following graphic illustrates the multiples levels of editing and the reflection that occurs within.

Figure 2. Reflection within Multiple Levels of Editing



Using the Talk Aloud Method to Facilitate Reflection

This study used the talk aloud method to directly collect data about the digital editing process through which preservice teachers engaged in editing tasks in order to construct a final product of their teaching. The use of this method to collect data about

the digital editing practices of preservice teachers was a unique aspect of this study and no prior research has indicated the use of this method for this purpose.

Results indicated that the talk aloud method was itself reflective for the participants. Although participants found that talking aloud slowed down their editing process, the additional time to consider their performance aided their reflection. Further, talking aloud about their practice helped them to understand their decisions and why they were making them. The ability to think, then speak about their performance, and then verbalize what decision they were making and why they were making it was reflective. The experience gave them additional opportunities to make decisions about their own editing that otherwise may not have been possible if only editing without the additional step of speaking aloud about the editing process.

Finally, a unique and unintended finding of this research was the use of the talk aloud method to meta-reflect. A few participants indicated that they went back to listen to their own talk aloud recordings. While reviewing their recordings, they were able to identify areas where they reflected well and areas where they were less reflective. This was an important discovery as no prior research mentions the use of the talk aloud method as a tool to meta-reflect. The ability for preservice teachers to meta-reflect was important for their reflective practice as they were able to listen back to their own recordings and confirm thorough reflection and identify areas where they could have been further reflective. The results of this study indicate that the talk aloud method was meta-reflective when used in this way. Further, the results indicated that the ability to be meta-reflective was important in aiding preservice teachers to facilitate and deepen their own reflection. Therefore, the additional step of listening back to their own talk-aloud

recordings was an opportunity for preservice teachers to meta-reflect on their own performance by confirming thorough reflection and identifying areas where further reflection was needed.

Implications for Practice

Preservice teachers editing their own teaching films for the purpose of reflection differs from traditional film editing. Unlike pre-written, scripted and acted filming, the events that take place in a classroom are far less predictable. The fact that preservice teachers are not the actual teachers of the classroom means that they are even less able to anticipate the storyline. At any moment, and especially on the day of filming, there are no predetermined scripts, no pre-determined actions and even with a lesson plan, the realities of the classroom unfold as they may. Furthermore, those filming the teaching are usually peers or cooperating teachers that are not experienced film makers, meaning they frequently are novices at operating video tools. Thus the raw footage that preservice teachers had to work with for editing to construct their storyline varied.

Additionally, this study used the talk aloud method to collect data about the way in which preservice teachers used digital editing to facilitate their reflection. The results of this study suggest that the talk aloud method itself facilitated reflection and was used to meta-reflect to aide further reflection. While this finding was unintended, it is important to note that improvements can be made to illicit better data and to create an overall better experience for participants' through the use of this method.

The following sections discuss the implications of this study and suggestions to provide training, support and guidance for the use of digital editing tools and a talk aloud method for reflective purposes data collection.

Digital Video and Editing Technology Training

As mentioned earlier, preservice teachers in this study were not trained film-makers or film-editors. The quality and quantity of the footage and the editing skills of the participants in this study varied. I realized that it would have been important to provide training sessions that focused on specific digital video and editing technology skills prior to the filming and editing process. To support and drive quality reflection, it will be important to provide training sessions on video recording, video reviewing and video editing skills at key points in the semester when preservice teachers use digital video and editing to reflect on their practice. These sessions will help students plan, prepare and gain necessary knowledge and skill sets that will be required to use digital video and editing to facilitate their reflection.

Editing Task Sheet

The editing project directions from the elementary methods course asked preservice teachers to construct a five-minute vignette of their performance with a beginning, middle, and end. Not all participants were equally adept at knowing what, when and how to edit their teaching video footage to construct a final product consisting of a beginning, middle and end of their lesson. I realized that an editing task sheet would be helpful for the participants to break down and simplify the process of editing. As this study found that preservice teachers reflected and edited within three levels of editing as they constructed their final product, a task sheet could be created and used as an

organization tool for participants to anticipate certain aspects of the editing process and provide assistance. The addition of a task sheet that breaks down the process of editing into three levels of editing would be helpful in simplifying the construction process. The task sheet can guide the preservice teachers through all three levels of the editing process while they construct the final product.

In the first level of editing, the task sheet could provide directions about discarding unusable content from the original footage. The task sheet could assist participants in understanding and finding unusable content in their own footage by defining unusable content as any footage that is shaky, blurry, messy or long segments of footage where there is repetition or little to no action and talking. The editing tasks at this level are technical and require less time for reflecting, therefore, giving participants a task sheet that identifies reflection as shallow at this level and instructions to move quickly through the footage in a linear fashion to remove unusable content will assist preservice teacher in completing the editing tasks and reflection required in this level quickly to focus on the more important aspects of the editing and reflection process.

Directions in the second level of editing could provide assistance for preservice teachers to anticipate spending a longer time thinking and reflecting on their usable content. Editing in this level will be specific as they make editing decisions about what to preserve and discard content to construct the final product. In this level, the task sheet would indicate a need to reflect more deeply while spending a longer time choosing segments to communicate their teaching storyline. The directions could provide hints from film editors that are experienced at identifying and choosing the essential parts of the storyline.

Finally, directions on the task sheet can give participants an idea about what to expect in the third level of editing. In this level, preservice teachers will need to spend the longest time reflecting on the final segments they have chosen to construct the storyline of their teaching. In this level, editing tasks will be specialized as they will have to reconsider the same segments to trim and finalize their segments. Next, they will need to spend time adding special editing features such as transitions and pan and zoom features to render a harmonious flow from one segment to another. They can also anticipate adding captions, titles and credits to create a final product that is concise, meets length parameters and is reflective of the story they want to tell about their own teaching.

Accordingly, the use of a task sheet can break the process of editing down into three levels, providing assistance at each level for preservice teachers to be able to anticipate what to look for, what editing tasks to expect and how long to reflect. Therefore, participants could anticipate how much time and effort will be needed in each level and plan accordingly for a better experience.

Scaffolding and Guiding the Talk Aloud Experience

Although the present study has reached its aims, I realize that there are certain limitations that need to be taken into account. With regard to the use of the talk aloud method to collect data about the digital editing process and the use of the talk aloud method itself for reflection, I realized that the protocol needed additional scaffolding or guidance. The following two sections will discuss the improvements needed to provide more guidance for preservice teachers to illicit better results when using this method.

Clarifying the Instructions on the Talk Aloud Protocol. With regard to the instructions given to the participants, I realize I should have emphasized and made it the heart of the protocol for participants to stop and say what editing decision they were making and explain why they were making it. While many times participants said what decision they were making and why, there were other times where they verbalized the editing decision but did not mention why. The instructions should have been very clear about having participants explain and justify their edition decisions. Therefore, modifying the protocol to have clearer instructions about how to verbalize their thoughts while editing, and to bold print the prompt to stop and explain editing decisions will illicit better and more complete results.

Modeling the Talk Aloud Method. While the talk-aloud method is designed to collect participant verbalizations while in the midst of activity, some participants talked aloud in the midst of editing while others completed editing tasks and then verbalized their thoughts. I realized that prior to distributing the recording equipment and the talk aloud protocol, a modeling of the process of conducting the talk aloud method for the participants would have been helpful. Modeling the process of the talk aloud method will show participants when and how to speak out loud while in the midst of editing. It will clarify the steps they need to take while conducting the process. Therefore, the additional step of modeling the talk aloud process prior to distributing the equipment and protocol is vital so that there is no confusion about how to conduct the talk aloud method while in the midst of the editing activity.

Recommendations as a Result of this Study

Recognizing that preservice teachers face a variety of issues while using video and editing tools to reflect on their practice, the findings of this study point to three recommendations for addressing and improving video based reflection: *Partnered Editing, Facilitated Video Review Session and Multiple Opportunities to Record Teaching Events.*

Recommendation 1: Partnered Editing

Participants tended to be more self-critical of their own performance than their peers in their professional learning community. As participants met with their group to watch the final products, group members were supportive and encouraged each other to look past certain superficial aspects and reflect further on their practice. Therefore it is my recommendation that preservice teachers to partner up with their peers in a partnered editing session initially to help one another move past the initial levels of self-criticisms and focus on important aspects of their performance. Partnering up while editing may help preservice teachers move past their critical thoughts quickly as their peers will be far less critical of the superficial aspects of the performance. Their peers may help them re-focus their attention to areas of their practice that are more important for their own growth and development as a teacher.

Recommendation 2: Facilitated Video Review Session.

During the course of this study, it was apparent that some participants were better able to use video to reflect on their performance than others. While some could easily identify good teaching practice and areas for improvement, others were fixated on self-

criticisms and found it challenging to reflect on their performance. Therefore, it is my recommendation that preservice teachers have the opportunity to review their video with a university based supervisor. A supportive environment for preservice teachers to review their footage with a knowledgeable, university based supervisor may be helpful in helping preservice teachers identify and discuss good pedagogy while identifying areas for improvement to further their reflection. Reviewing footage with a knowledgeable supervisor may provide additional opportunities for preservice teachers to move beyond self-criticism and focus on important areas of their practice. A facilitated video review session would be beneficial for preservice teachers by supporting their reflective practice, providing assistance in identifying segments of good pedagogy and areas for improvement in their own practice.

Recommendation 3: Multiple Opportunities to Record Teaching Events.

Two of the participants in this study had difficulty considering their footage for editing as they had to make the most of video footage that was incomplete, poorly recorded or where they felt their performance was awkward and unnatural. More opportunities to record their teaching would have been important and useful for these participants to collect better evidence about their overall performance during the semester. Therefore, it is my recommendation that preservice teachers have the opportunity to record on several occasions throughout their field experience. Providing additional opportunities to tape performance would give preservice teachers a wider scope of their practice and more footage to consider and reflect on. Further, it would provide additional opportunities for preservice to have a wider set of footage to substitute

poorly recorded footage and awkward or embarrassing performance to more authentically construct a final product of their teaching story.

Recommendations for Future Research

This research study attempted to increase the understanding regarding the use of digital editing to facilitate preservice teacher reflective outcomes through the use of the talk aloud method. Although literature on the use of video tools for preservice teacher reflection exists, there is far less literature available regarding the use of digital video editing as a tool to facilitate preservice teacher reflection. Furthermore, there is a lack of literature that focuses on the use of the talk aloud method to aide reflection while preservice teachers digitally edit their footage for the purpose of reflection. The qualitative case study methodology utilized in this study offered a detailed examination of the experiences of six preservice teachers that used digital video editing and the talk aloud method to facilitate their reflective practice.

Although this study adds to the growing body of research on the use of digital video editing for reflection, it is a start for developing a larger body of research on the use of the talk aloud method for facilitating reflection, thus further research is necessary.

Recommendations for future research are as follows:

Constructing Multiple Storylines of Teaching

Film editors believe that the story already exists and it is the job of the editor to remove superfluous content to reveal the story hidden between. Other opinions on the matter suggest that what comes out of the editing process is something that has never been seen before, a new story constructed by the editing decisions of the editor. Once uploaded into the editing software, the original footage is preserved from the actual

editing tasks used to construct the final product. This is significant as there is potential for multiple stories to exist within the single, unedited video where the practitioner could uncover and construct multiple stories hidden within the original footage.

As the results of this study reveal, participants made many editing decisions about what to preserve and discard to construct one single storyline of their teaching. However, as verbalizations on the talk aloud protocol suggest, there were many areas that participants considered preserving initially but later discarded keeping the length parameters of the final product in mind. Therefore, the possibility of selecting, editing and refining the footage to focus on other perspectives of their storyline exist.

In creating multiple stories from the single, unedited original recording, preservice teachers may be able to focus on the classroom or student perspective by constructing multiple, concise video vignettes from the single, unedited original footage of their practice. Thus, further research is necessary to explore digitally editing a single, unedited video recording into multiple concise storylines facilitates the ability to view performance from different perspectives and aide reflective practice of preservice teachers.

Facilitating Reflection through the Talk Aloud Method

This present study was distinct from prior studies as it used the talk aloud method to directly collect data about the use of digital editing to facilitate reflection. The results of this study suggest that the talk aloud method itself was used as a tool to facilitate reflection as participants revealed that it slowed down the process of editing to create more opportunities and time to consider their performance. Further, participants' found

the additional step of listening back to their talk aloud recordings to be meta-reflective as they were able to identify areas where they reflected thoroughly and areas where more reflection was needed. While it was not the intention of this study to explore the talk-aloud method as a tool for to aide reflection while editing, it would be valuable to conduct further research in this area by specifically looking at this method to facilitate reflection while digitally editing.

Continued Use of Digital Video Editing in Student Teaching

This research was completed during one semester of coursework before the semester where preservice teachers student teach. As preservice teachers gain experience and refine their own teaching practice, it will be important to understand how their editing decisions and reflections change over time. There may be significant differences in what segments preservice teachers choose to preserve and discard to communicate their own growth. Further the perspectives from within which they choose to analyze their own practice may be different as they gain mastery their teaching performance and begin to focus on other areas of their teaching practice within the student teaching semester. Therefore, further research should explore the use of digital video editing to facilitate reflection and to understand how editing decisions and reflections change over time as preservice teachers move into the student teaching semester.

Conclusion

In the semester prior to student teaching, preservice teachers that used digital video editing tools to examine their own practice came away with a considerable number of reflective outcomes. Editing happened within three levels where each subsequent level required additional time for reflection to allow preservice teachers in this study to think

deeply about their practice as they made more specific and specialized editing decisions to construct the final product. Furthermore, as participants used the talk aloud method to verbalize and justify their editing decisions, they had additional opportunities to reflect and consider their own performance. It is important to note that participants who reviewed their own talk aloud recordings had the additional opportunity to be meta-reflective and further their own reflection by examining their verbalizations and identify areas where they thoroughly reflected and where further reflection was needed.

The process of constructing a final product through digitally editing a larger teaching video is a unique experience for preservice teachers, with opportunities to reflect on their own practice, make decisions about what to change in their future teaching and communicate their growth and learning. The process of constructing a final product became a way for preservice teachers in this study to organize their performances and represent their teaching experiences into a concise teaching storylines to share with their peers and supervisors. The process of digital editing was shown to support and facilitate the development of reflective practice by the preservice teachers in this study. Learning to teach requires time and practice; reflecting through the use of video and editing tools can aide preservice teachers to better understand their own practice and make changes for their future practice as they move from coursework to student teaching on their way to becoming professional educators.

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APPENDIX A: TALK ALOUD PROTOCOL

Instructions for the participants:

This study investigates the way preservice teachers use the process of editing to create video vignettes of their teaching performance. As a part of your CUIIN Technology course, you are to edit your video performance to create a 5 minute vignette of your teaching. We ask you to talk aloud about what you are thinking and doing while editing your video.

Further Notes:

1. Find a comfortable place that will be free from distractions
2. Using the micro-tape recorders, always say the time when you begin. If you take a break, also record the time. At the end of your session, say the end time aloud.
3. Using the micro-tape recorders, *try to say everything that goes through your mind* :
 - a. Talk aloud about what you see, hear, think and feel when you see your video.
For example: When you first see and hear yourself on video, or you see a certain segment that concerns you, stop and talk aloud about what you see and hear and what your feelings are.
 - b. We are interested in what kinds of decisions you make and why.
For example: When you get to a point in your video where you are going to cut or join pieces of your video, stop and say aloud what you are cutting out or joining and why.

We are interested in your decision making process because what is in your mind while you are editing is very important. If you are as specific as possible, it will give us a more complete picture of how you put together your final vignette!

APPENDIX B: INTERVIEW PROTOCOL INSTRUMENT PRESENT STUDY

Opening Questions:

1. What was it like to see and hear yourself teach on video for the first time?
2. How did your initial thoughts about yourself change as you kept watching?

Video-based Reflection:

Now let's talk about your video and reflection. This semester you were asked to reflect on your teaching by reviewing a video of yourself teaching,

3. How would you personally define reflection?
4. What were your reflections about yourself as a teacher as you watched your video?
5. Was using video to reflect different than other methods of reflection you might have done in the past?
 - a. Can you tell in what ways it was different?
6. Do you feel there are any barriers of video-based reflection?

Editing as a Process:

So now, I would like to talk to you about editing. This semester you were asked to use moviemaker to edit your entire teaching video down to 5 minutes,

7. How would you personally define the term video-editing?
8. What did the steps and processes of editing your entire teaching video down to 5minutes involve?
 - a. Did you need to organize or prepare yourself or your time during the editing process in any ways?
9. In what ways do you think that the editing process supported your reflections?
10. Are there any ways in which editing could be seen as a form of reflection?
 - a. Can you tell me about those?
11. Can you tell me about any concerns or barriers you experienced while editing?

TAP Protocol:

So let's talk about the TAP protocol, you were asked to talk aloud into a digital voice recorder while editing your video,

12. What was it like to talk aloud while trying to conduct editing tasks?
13. Did having to stop and talk aloud about what you were keeping and what you were editing out make you more aware of your editing decisions?
 - a. Can you tell me more about how talking aloud made you more aware of your decisions?
 - b. Do you feel talking aloud about editing deepened your understanding of why you were making the decisions you made?

Final Vignette of Teaching:

The product of your editing process was the final 5 minute vignette of your teaching,

14. You made many decisions about what to keep and what to delete:
 - a. What kinds of clips did you keep in?
 - i. What factors affected your decision to keep those?
 - b. What kinds of things did you take out?
 - i. What factors affected your decision to delete those?
15. How did you feel about your final vignette when you were done?

Video-Based Reflection in Future Practice:

16. What role do you see digital video-based reflection playing in your future teaching?

APPENDIX C: INTERVIEW PROTOCOL INSTRUMENT PILOT STUDY

Face-to-Face Interview Protocol Questions

This is the basic format of the questions that will be used for the purpose of this study. The bracketed information refers to text that will be inserted based on situations or strategies that are unique to your teaching performance as seen on your videotaped lesson.

Topic Domain One: Perception of Self

1. I noticed that your first reaction to seeing and hearing yourself on camera was, [insert situation pertinent to subject first reaction]. Could you discuss why you might have felt [situation mentioned]?

Follow up Questions:

- While listening to your self-talk recording, I noticed that you were [insert surprises mentioned]. Could you discuss why that [did/did not] surprised you.
- Do you think it was beneficial to see [insert surprises mentioned]?

Topic Domain Two: Perceptions of Self as a Teacher/Authority Figure

1. I noticed that you discussed your activities and lesson with a sense of [negative/positive] feelings. Can you tell me what contributed to that?

Follow up Questions:

- You mentioned on the self-talk recording that you [would/ wouldn't] change your delivery or activities. Can you tell me more about that?
- You mentioned that [insert situation mentioned] surprised you. Can you discuss more about that?
- You also talked about the students as you gave your lesson, can you tell me how you felt about being their teacher when they [insert situations mentioned]?

Topic Domain Three: Editing Choices and Perceptions of Teaching Self

1. While listening to your “self-talk” about editing, I was interested in how you made choices about what to keep and what to throw out. Can you discuss your thoughts on that?

Follow up Questions:

- You chose to keep [insert parts kept], what do you think that says about you?

- You said that you felt that this [insert parts cut out] was something that was unnecessary. Can you tell me more about that?
- You said you wanted to [keep/not keep] the parts where students were [insert what subject said]. Can you give me more information about what was happening there?
- You mentioned that you would like other teachers and students to see you as [insert what subject mentioned] can you discuss why you feel that is an important way to be seen?

Topic Domain Four: Process of Editing and Reflection

1. You mentioned that the total time for editing was [insert time] and that you felt it was [insert what subject mentioned]. Can you give me more information on that?

Follow up questions:

- You also mentioned that you found that watching yourself [was/ was not] beneficial. Can you tell me more about why you felt that way?
 - You said that using the software to edit was [insert what subject said]. Why do think that you felt that way?
2. You mentioned that viewing/re-viewing your teaching was [insert what subject mentioned], can you give me more information about that?

Follow up questions:

- You also found that cutting/pasting was [insert what subject mentioned]. Based on what you viewed/cut and pasted, how much of yourself as a teacher did you feel was preserved/not preserved?
- You mentioned that you [did/did not] spend time adding creative elements to the video. Can you discuss how that relates to what you wanted to show about yourself as a teacher on this video?

Topic Domain Five: PLC Group and Perceptions of Teacher Self

1. Can you describe what your PLC group thought of your video?

Follow up Questions:

- You mentioned in your “self- talk” interview that the PLC group will [insert what subject mentioned], can you discuss what was the same/different in what you thought?

- You said that the video [did/did not] represent you as a teacher, do you feel different after hearing what your PLC group said?
- Can you describe what you felt when you watched your group members videos?
- You mentioned that you found them to be [insert what subject mentioned] can you be more specific?
- You mentioned that you really [insert what subject mentioned], would you want to incorporate that into your own?
- What do you think adding [insert what subject mentioned] would say about your of your teaching?

Questions to end face-to-face interview:

1. Can you describe your overall experience in the process of teaching/ taping and editing a video of your teaching?
2. Will you use this in the future?
3. Is there anything else that you would like to mention before we finish

APPENDIX D: CONSENT DOCUMENT

**UNIVERSITY OF HOUSTON
CONSENT TO PARTICIPATE IN RESEARCH**

PROJECT TITLE: Using the Process of Video Editing to Support Preservice Teachers' Video-Based

You are being invited to participate in a research project conducted by Ruqqayya Maudoodi, a doctoral student from the College of Education at the University of Houston. This is a study that will be used as part of a dissertation paper under the supervision of Dr. Melissa Pierson.

NON-PARTICIPATION STATEMENT

Your participation is voluntary and you may refuse to participate or withdraw at any time without penalty or loss of benefits to which you are otherwise entitled. If you are a student, a decision to participate or not or to withdraw your participation will have no effect on your standing.

PURPOSE OF THE STUDY

The purpose of this study is to examine the influence of editing on video-aided reflective practice of preservice teacher candidates enrolled in the QUEST II program at the University of Houston. The Duration of the study will be six weeks.

PROCEDURES

You will be one of approximately 20 subjects to be asked to participate in this project. Your total time commitment to this study will be approximately two hours for a talk aloud interview that you will do on your own while editing a digital video of your teaching performance, and a one hour in person interview. The talk aloud interview will require you to use a micro-tape recording device to audio tape your internal thoughts as you edit your video. The audio tapes of that recording will be turned into the researcher for analysis. The researcher will also observe two of your Professional Learning Community (PLC) meetings that are required by the QUEST II program.

CONFIDENTIALITY

Your participation in this project is completely confidential. Your name will be the only recorded indicator and will only be available to the research investigator, the faculty sponsor, and the methodologist. The pre and post reflection data will be stored on a password protected website hosted by the University of Houston. The information

collected through the digital video and the interview protocol will be recorded on digital media and will be kept in a secure location in the University of Houston. The data collected through the micro-tape recording device and talk aloud protocol will be recorded on audio tapes and will be kept in a secure location in the University of Houston. The information will only be accessible to the University sponsor, the research investigator and the methodologist and will be maintained for a 3 year period after the completion of the study.

RISKS/DISCOMFORTS

In participating in this study, there are no foreseeable risks.

BENEFITS

Your participation will replace Inquiry 4 in CUIN 3202: Content-Focused Teaching. Additionally, your participation may help investigators better understand the influence of editing on video-aided reflection.

ALTERNATIVES

Participation in this project is voluntary and the only alternative to this project is non-participation.

PUBLICATION STATEMENT

The results of this study may be published in professional and/or scientific journals. It may also be used for educational purposes or for professional presentations. However, no individual subject will be identified.

If you have any questions, you may contact Ruqqayya Maudoodi at ruqqayya@gmail.com. You may also contact Dr. Pierson, faculty sponsor, at 713 743-4961.

ANY QUESTIONS REGARDING YOUR RIGHTS AS A RESEARCH SUBJECT MAY BE ADDRESSED TO THE UNIVERSITY OF HOUSTON COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS (713-743-9204).

Principal Investigator's Name: __Ruqqayya Maudoodi_____
Signature of Principal Investigator: _____

Please sign below if you are willing to participate in the dissertation research project outlined above.

Signature _____ Print Name _____
Date _____