

EFFECTS OF VIDEO FEEDBACK AND SELF-ASSESSMENT ON THE PERFORMANCE OF EVIDENCE-BASED TEACHING STRATEGIES

by

CARA L. SMITH

(Under the Direction of Kevin Ayres)

ABSTRACT

The following study employed a multiple baseline design to attempt to evaluate the effect of video feedback (video playback and coding) and then video feedback paired with a guided self-assessment on the increased use of evidence-based teaching practices of preservice teachers. Research indicates that the use of praise, the ample provision for classroom students to respond to instruction, and the effective use of instructional learning time are three effective teaching practices that have a demonstrated positive effect on student achievement, especially students diagnosed with special needs. In this study, the use of video feedback and then video feedback used in conjunction with a self-assessment were compared to evaluate if these interventions were effective in increasing the skill level and self-efficacy of six preservice teacher participants. Results indicate that video feedback is an effective intervention responsible for the increased use of specific praise, the primary dependent variable, in all six candidates. Results also indicated positive effects for all secondary variables of interest. Finally, results implied that the addition of a self-assessment tool *may* have added to the increased skill level of the participants, yet limitations in methodology allow the researcher to draw only limited conclusions regarding the augmented effectiveness of the use of video paired with self-assessment.

INDEX WORDS: Video, feedback, coding, self-assessment, preservice, teachers, evidence-based, teaching, strategies, praise, opportunities to respond, instructional learning time

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DEDICATION

I would like to thank my whole family for the patience, support, and encouragement as I have worked for a very long time to fulfill a goal I set early on in my life - to complete this degree. Without my parents, Jim and Susan Peterman, my children, Addie and Aaron, and my wonderful new husband, Mark Smith, I don't think I would have had the capacity to persevere. I also must thank the many colleagues who have asked me *everyday*, "How is that dissertation going?" Finally, but not lastly, I have to thank my Grandma. She knows all the reasons why.

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CHAPER 1

INTRODUCTION

In a seminal piece of work on teacher effectiveness, Jere Brophy (1979) succinctly stated, “Teachers make a difference. Certain teachers elicit much more student learning than others, and their success is tied to consistent differences in teaching behavior” (p. 33). This notion that it is what a teacher *does* that equates directly to student academic achievement is a line of research that can be traced back in extant literature for more than 50 years (Coleman et al., 1966; Greenwald, Hedges, & Laine, 1996; Hanushek, 1986; Wang, Heartel, & Walberg, 1990). Earlier studies explored the correlations between teacher characteristics (i.e. personal traits and experience variables) and teacher effectiveness, but beginning around the late 1960’s, researchers turned their efforts to exploring and defining specific teacher *actions* that connect directly to student learning (Cochran-Smith & Lytle, 1990). This line of study known as *process-product* research began an era of accountability that still drives educational policy and decision making today, and is one that provides a theoretical framework for teacher preparation programs and practices.

During the late 1990’s teacher education reform became highly controversial and politicized (Cochran-Smith & Zeichner, 2009) as the notion of “highly qualified” teachers began to redefine teacher preparation programs across the nation. Antithetical to process-product research, the No Child Left Behind Act of 2001 placed sole emphasis on test scores to define teacher quality, and it has been the work of teacher education programs across the nation to

develop a research agenda for teacher education that dispels the notion that teacher preparation is primarily theoretical and that subject matter acquisition is the key to quality. Influential research in teacher education outlines evidence that re-draws the lines to process-product inquiry, demonstrating that teacher education *must* include direct, purposeful, meaningful, and continuous instruction geared towards the acquisition of knowledge, skills, and dispositions that teach a preservice teacher the right things to *do* in the classroom.

While there is a vast literature base surrounding in-service teaching, quality, and effectiveness, research regarding preservice teacher quality and preparation for effectiveness is more limited. Only since the last decade have researchers focused teacher education research as assumptions regarding the quality of teacher education became a national concern as the accountability movement took hold (Cochran-Smith & Lytle, 1999). This gap in the literature base reveals a need for more high-quality, targeted, contemporary research to be conducted in all areas of teacher preparation, specifically including the training of preservice teachers who will become the next generation of ‘veteran’ educators who will be charged with mentoring in a new generation. Training each new teaching force is a process that is crucial, and the research for doing so should be carefully analyzed and scrutinized (Young, Grant, Montbriand, & Therriault, 2001). New research into educator preparation is needed that will focus on studying elements of teaching that will train preservice candidates in understanding, implementing, and maintaining effective practices that translate into student success in the classroom.

The use of video in the classroom as an instructive tool for teachers is a development that “is revolutionizing the practices of educational researchers” (Derry, 2007, p. 1). The ever-increasing availability, affordability, and portability of video technology is making it a viable and practical tool in today’s classrooms, with substantial implications for practice. Researchers

are finding powerful ways to explore the use of video as a teaching and learning tool, and, specifically, the use of video to facilitate teacher self-assessment and reflection has become a more widely explored topic of research as of late (Tripp & Rich, 2012). Santagata and Guarino explain that using video with preservice teachers is valuable in terms of skill development in that it teaches developing educators to analyze and reflect on teaching, and through research, the authors demonstrate that the knowledge and skills of reflection and analysis can increase, in effective ways, via the use of video as an instructive tool (2010). Seminally, Martin and Mayerson (1992) explained that teachers, to include college professors, may have false impressions of their performance and rarely have any data on which to base their perceived effectiveness. They explained that reflection through the use of video can challenge educators to view their practices from a different perspective, and “see oneself from the student’s point of view” (p. 114). In an era when video is so readily available, and the analysis of one’s own practice is demonstrably effective, the value of using these as tools in today’s classrooms is an area worthy of further exploration. This study presents an example of how the use of video, self-assessment, self-analysis, and reflection have the potential to develop behaviors in preservice teacher candidates which directly relate to student achievement.

Rationale

Preservice teachers must have the opportunity to investigate, practice, and develop competencies that will translate into well executed, consistent, and dependable practices that they can employ in the classroom as in-service practitioners. Ideally is that they practice these skills while still under the mentorship of a supervising classroom teacher and university supervisor, both who should aid in skill development, refinement, and execution. Practicums and student teaching experiences should provide a model environment and climate in which a preservice

teacher can be exposed to exemplary teaching practices and effective instruction, and in which they should then have multiple opportunities to practice these skills with increasing proficiency until they develop them as part of their own teaching repertoire. The purpose of this study is to provide an authentic environment, under experienced guidance, in which a group of preservice teacher candidates can develop specific skills through a controlled experiment that will quantify their learning and skill acquisition. By introducing the use of video feedback and self-assessment, the participants will be using evidence-based interventions to develop common yet fundamental practices in their every day teaching. Of primary interest is their development in skills that have a demonstrated effect on student achievement. Since particular teacher competencies related to classroom and behavior management have clear effects on students' educational outcomes (Lefloft, van Lier, Onghena & Colpin, 2010; Simonson, Fairbanks, Briesch, Myers, & Sugai, 2008) the variables under consideration for investigation in this study are four that have been viewed by researches to be critical elements of student achievement, and have been demonstrated to be effective and practical skills to target to teach to preservice teachers (Cavanaugh, 2013; Hagar, 2012; Mulholland & Cepello, 2006). Since preservice teachers report being least prepared in areas related to classroom and behavior management (Bromfield, 2006; Oliver & Reschly, 2014; O'Neill & Stephernson, 2012) learning the skills proposed for this study will provide participants with advanced classroom management strategies, increase their range of skills they feel confident in employing, expand their knowledge of evidence-based practices, and will teach them how to become active rather than passive participants in their development as educators. The interventions proposed are tools that will be dependable, reliable, and consistent throughout future use should they want to continuously develop as reflective practitioners.

Research Questions

A review of literature in the areas of teacher preparation, preservice teacher performance and self-efficacy, the use of video in the classroom, the use of video as a tool for self-evaluation and reflection, and in areas related to evidence-based practices and student achievement have helped to narrow the research questions of interest in this study. The study will investigate the use of video feedback and self-assessment with preservice candidates, anticipating that they will acquire new skills and strategies that they can refine while student teaching and then employ as in-service professionals.

The specific research questions that will be explored are:

1. Will preservice teachers' self-analysis of their classroom and behavior management practices through video feedback and self-assessment result in an increase of their use of particular evidence-based teaching practices?
2. Will preservice teachers' self-analysis of their classroom and behavior management practices through video recording and self-assessment result in a decrease in their use of undesirable management strategies?
3. How does this line of research contribute, if at all, preservice teachers' perception of and satisfaction with his or her own performance?

The findings have the potential to add to a somewhat nominal literature base in the area of teacher education and could potentially contribute to the use both of video recording and self-evaluation as powerful tools to support teacher learning, growth, and development.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

This review was conducted to explore the research bases on the topics germane to this investigation including the use of video technology in the field of education, the fundamental understanding of effective behavior and classroom management as the foremost guiding factors of student success in the classroom, and the need for preservice teachers to be reflective practitioners in order to be agents of their own development and growth. While the literature is extensive in all areas of behavior and classroom management, and while *in-service* teacher evaluation and reflective practice have been evolving practices that have been studied for the last 50+ years, there is only a small empirical research base that has explored the use of video self-analysis and reflection by preservice teacher candidates to assess and adjust their own developing teaching skills. The majority of the research in these areas with preservice teachers is qualitative in nature, exploring questions surrounding pre-candidates' perceptions, reflections, and beliefs regarding the use of different technologies in the classroom (including video), and also their perceptions of their preparation and readiness to enter into the professional workforce. However, there is little quantitative research to support the notion that the use of video and self-analysis by preservice candidates, yet research along these lines has the potential to demonstrate how such practices can improve the performance of a preservice candidate, thus leading to potentially higher levels of success upon entering the profession. While more research in this

area is very recently becoming available, there is work yet to be done in demonstrating the power of video-feedback and self-assessment as tools for shaping the skill development of preservice teacher candidates.

Effective Management and Student Achievement

The effective management of student behavior is a critical factor and a lead indicator of student achievement. They are in direct relation to one another and contemporary literature widely supports the notion that it is perhaps the foremost contributing factor to student learning. Effective classroom management correlates to student achievement in that it “increases student engagement, decreases student disruptions, and makes good use of instructional time” (Wang, Haertel, & Walberg, 1993, p. 76). Doyle (1986) explains in an introduction to his review of literature on the topic that classroom management results in the interrelatedness of order and learning. He further explains in this same review that it is the teacher who is the primary agent of classroom management, and when orchestrated concisely and effectively, a well-managed classroom directly increases student engagement. As a result, higher levels of engagement as a result of good management equate directly to student learning. More recently, Marzano (2003), one of the foremost researchers on teaching and its impact on student learning, states that classroom management “is mentioned in some form in virtually every major study of factors affecting student achievement” (p.88).

Development of classroom management skills is a critical feature of educator preparation programs. Given the high-stakes relationship between successful classroom management and student achievement, teacher preparation programs have the responsibility for providing instruction, skill development, and applied practice in all areas of classroom and behavior management. Unfortunately however, much research conducted in this area demonstrates that

these are the very areas in which candidates feel *least* prepared upon graduation from their preparation program (Christofferson & Sullivan, 2015; Eisenman, Edwards, & Cushman, 2015; Jackson, Simoncini, Davidson, 2013; O'Neill & Stephenson, 2012).

As one of the most researched constructs in education, classroom management is again and again cited to have the largest impact on student achievement. Furthermore, research has demonstrated that there are *specific* behavior management strategies that are the most productive and effective approaches to managing classroom and individual behavior. Many researchers suggest that positive behavior management strategies are not only essential but are critical for preservice and in-service teachers alike to practice in order to support student success, especially students who have the worst prognoses for academic achievement including those with disabilities (Wagner, D'Amico, Marder, Newman, & Blackorby, 1992; Gunter, Denny, Jack & Shores, 1993; Kerr & Nelson, 2006). Researchers Hayes, Hindle, & Washington (2007) add to this notion stating, "Teachers' behavior is a significant factor in achieving positive outcomes and that verbal behavior, what teachers *say*, could be a key factor in successful outcomes." (p. 162). They contend that the amount of constructive feedback could possibly be the key to the effectiveness of their classroom management and thus their own self-efficacy. Finally, Miller (2003) cautions educators to be careful in always locating the cause of behavior management problems in children and their families but rather to consider that there could be aspects of one's teaching that persist over time that may be the real culprit in a difficult classroom. Classroom teachers must acquire and hone their classroom management skills to have the largest and most integral impact on their students' achievement (Kane, Taylor, Tyler, & Wooten, 2011). Three such evidence-based strategies of classroom management that have been demonstrated to lead to higher levels of student achievement are 1) the use of instructional learning time, 2) the provision

of opportunities for students to directly respond to instruction, and 3) the use of specific versus non-specific praise in the classroom.

The use of praise, the use of time earmarked for instruction, and opportunities for students to respond to instruction are three of the most significant practices for which there is a significant literature base demonstrating their direct effectiveness on student achievement. Simonson, Myers, and DeLuca (2010) explain that praise and the provision of opportunities to respond, are ideal to study in that they are evidence-based behavior management strategies that have a proven effect in the classroom, and both can and should occur at high frequencies so they are ideally suited and make worthy targets for teacher improvement endeavors. Additionally, researchers have found that in special education classrooms, student with behavior disorders are less likely to be praised by their teachers and are up to six times more likely to be reprimanded than their peers who are not receiving services (Nelson & Roberts, 2000).

Considering that the use of praise, instructional time, and student engagement through opportunities to respond to instruction are significant and practical variables for investigation, the literature base supports that this current study has the potential to demonstrate how these variables would be appropriate and apt to identify as skills targeted for development in preservice teachers. Additionally development of these skills will better prepare them to be more active and successful classroom managers as they transition into their first year of teaching, an area in which they otherwise would feel likely unprepared.

Instructional learning time. The most agreed upon and persistent theme that one finds in discussions regarding effective teaching is the notion that that is exactly what teachers need to be doing; teaching. Research has demonstrated that student achievement is directly linked and highly correlated in classrooms where instructional time is maximized (Gettinger & Seibert,

2002; Klein, 2012; Kubitschek, Hallinan, Arnett, Galipeau, 2005; Stronge, 2002). The effective teacher runs a smoothly operating, highly productive, and extremely organized environment where interruptions are minimized, transitions are seamless, and students are almost always engaged and on task. Current literature is replete of best practices and “how to” strategies for maximizing classroom instructional time, while at the same time, research demonstrates that the misuse of instructional time is detrimental to student learning. The amount of unused instructional time as noted in several recent studies is startling. In one such study, researchers Behar-Horenstein, Issac, Seabert, and Davis (2006), investigated a large, southeastern school district in an effort to quantify and account for the loss of instructional time. They were seeking to find not only how much time earmarked for instruction was misused (used for other tasks and activities not related to instruction), but also whether the time misused was teacher or student initiated. After observing 94 teachers for a total of approximately 70 hours, they found that overall, the loss of instructional time in this district ranged from 14% in the elementary school to 39% in the middle school, with an average of 27% of instructional time being lost across the district. Additionally they reported that while the data was highly variable between grade levels, both students and teachers share in the responsibility for disruptions to instructional time. Not surprisingly, the researchers found that the number one cause of student-initiated loss of time was due to student disruptions (talking to others, calling out, out of seat, “horseplay”, and discussion about things not related to instruction). More surprisingly however, the researchers report that after evaluating correlations between years of teaching experience and loss of instructional time, there was significant and positive relationship between experience and teacher-initiated loss of time, meaning that more experienced teachers were more prone to misusing time allocated for class instruction. In summary, these investigators reiterate the fact

that classroom management is the key to maximizing instructional time, and the lack thereof is the culprit for the majority of instructional time being lost. They conclude by stating that these findings are certain to affect the “quality of learning and the type of student who emerges from the K-12 system” (Behar-Horenstein, Issac, Seabert, Davis, 2006, p. 98).

In another study, researchers sought to demonstrate how the use of data collection and analysis through the use of video-feedback could increase special education preservice candidates’ understanding of the relationship between student achievement and on-task learning (Mulholland & Cepello, 2006). Ninety special education preservice teachers were selected to participate in the investigation that had them monitor their teaching behaviors, types of classroom activities, and the activities of students who were not academically successful. They collected data through the use of video to record their own teaching episodes. After analyzing their videos, they would chart the targeted variables and write a written reflection regarding their use of instructional time in the classroom. Results from this study indicated that participants increased their awareness “of the correlation between teacher behaviors and student on task behaviors, which impact achievement” (p. 69).

Opportunities to respond. Providing students with ample opportunity to respond to instruction is a set of practices that have a demonstrated direct effect on student achievement (Haydon & Hunter, 2011; MacSuga-Gage, Simonsen, & Briere 2012; Sutherland & Whedby, 2001). Providing opportunities to respond is a class of behaviors that occasion student responses which deliberately elicit feedback from the student(s). Tying directly to student engagement, opportunities to respond can be delivered by the teacher(s) in the classroom, other students (peers), or via technology interface such as with computer games (MacSuga-Gage, Simonsen, 2015). The provision of opportunities to respond provide a direct link to corrective or positive

feedback which is delivered immediately and is targeted to the specific learning task. In a typical scenario, the teacher asks a question, the student responds, and the teacher then provides corrective feedback or acknowledges that the student was correct. The timeliness of the feedback, which is immediate, is what best situates the student for learning the content. Delayed feedback has less of an effect in that the learning opportunity that is the most timely and beneficial has passed, such as in the scenario when a student takes a test and receives a grade days later.

While the literature base is rather small in regards to using opportunities to respond with children with disabilities, studies have demonstrated the use of opportunities to respond with this population of learners. Sutherland and Wehby (2001) investigated the use of opportunities to respond with students with emotional and behavior disorders (EBD). In this study, they measured the impact of increased teacher directed opportunities to respond and reported positive effects on academic and behavioral outcomes for the students in the study, and also demonstrated positive effects on variables of interest controlled by the teachers, including increased efficiency in the use of instructional learning time. In a similar study, Sutherland, Alder, and Gunter (2003) used an ABAB withdrawal design to demonstrate that an increased provision of opportunities to respond (measured by the mean rate of presentation of opportunities to respond/minute) resulted in increased correct responses, decreased disruptive behavior, and increased in on-task behavior by eight students being served in a self-contained, special education setting. Results of this study support the assertion that increased student engagement and academic learning support through direct questioning and prompting by the teacher lead to positive outcomes that equate to increased student achievement. This is especially significant when working with children with special needs, as learning or behavioral challenges are often barriers to academic success.

Praise. Another evidence-based teaching practice that has a direct and demonstrated effect on student achievement is the use of teacher directed praise in the classroom. Cavanaugh (2013) defines praise as “the verbal acknowledgement of expected appropriate social or academic behavior exhibited by students (p. 113). Akin to opportunities to respond, feedback provided through praise is contingent and direct feedback, which immediately reinforces learning and appropriate and positive behavior. These opportunities are particularly significant for students identified with learning and behavioral and emotional disabilities. In an early study on the topic, Brophy (1981) discussed the functional relationship between teacher praise and positive outcomes for students. He explains that non-specific praise is “unnecessary (and sometimes intrusive) in most teacher-student exchanges (p. 21). He goes on to explain that to have any functional relationship to student achievement, praise *may* have some effect but it has to be specific, contingent, and credible or genuine. He determines, through an examination of research available at the time, that in order for praise to have any effect, it has to be used appropriately and teachers cannot expect that general praise statements (“good job”, “well done”, or “nice work”) are, in and of themselves, reinforcing. He differentiates clearly between the use of specific and non-specific praise and the use of each, the first possibly effective and the latter of weak “potency” (p. 21) and possibly even a nuisance to students, especially older ones who no longer thrive on general approval from adult figures. Brophy’s research laid the groundwork for much subsequent research on the topic.

Sutherland (2000) conducted a review of literature regarding the use of praise with students with EBD. His finding after a synthesis of the available research was that the studies provide a troubling demonstration regarding the use of praise by teachers in classrooms for students with emotional and behavior disabilities. While he supported the notion that research

clearly demonstrates that the use of specific praise has a positive effect on both behavioral and academic outcomes for students with EBD, it was the rates at which teachers were delivering praise that was disconcerting. He found that although they had the ability to use a proven method, they were not employing it. The use of praise by the teachers in the studies was very low (ranging from 1.2-4.5 statements per hour per student) yet results indicated that the use of reprimands were triple or quadruple that of praise, approximately a 3:1 or 4:1 ratio across participants in the studies. Sutherland explains that there are methods to increase the use of praise by teachers, and one such method is through the use of self-evaluation via video recording of instruction.

Research demonstrates that within a teacher's repertoire of techniques, there are key strategies and skills that are essential to master given their direct link to student achievement. Stakes become especially high in an inclusive classroom setting where the responsibility lies with the teacher to ensure that *all* students are engaged academically and are succeeding at the highest rates possible.

The Potential for Self-Evaluation

Self-assessment as a tool for teacher development has come into favorable acceptance in the light of evaluation as a system rather than a practice. However, this is not a new notion. Levin (1979) defined self-evaluation as a process that "improves instruction through having teachers reflect on their own teaching and modify it accordingly" (p. 243). The research began in the mid-seventies and again, despite popularity of the idea of the practice, it is not commonplace in today's schools. Levin provides a history of the early research in self-evaluation citing the following studies:

1. Neely (1972) finds that the attitudes of Oregon teachers range from neutral to slightly favorable for self-evaluation.
2. Johnson (1973) compared the effects of traditional and self-evaluation on 84 student teachers and found that those involved in self-evaluation had higher scores on indices of indirect instruction, concluding that self-evaluation can produce changes in teaching behavior.
3. Wolf (1973) found that 58 percent of teachers surveyed were not encouraged by administrators to participate in self-assessment, indicating that it was unlikely to occur.

These original studies and others similar laid the foundations for self-evaluation to be considered as a credible and useful practice for both pre- and in-service teachers. Research efforts continued through the next three decades to evolve the practice.

The use of self-assessment and self-analysis to assist preservice teachers in developing themselves as professionals is an effective one in that it situates the learning with the learner. The preservice teacher is the primary agent of his or her own development when he or she is in charge of it. Teachers who instinctively want to become better teachers, even those who are already top performers, have the potential to grow and refine their practice through self-analysis. Hinett and Weeden (2000) delineate the two and suggest the importance of teachers engaging in both the analysis (what and how did I do?) and the assessment (how well did I do it?) in a reflective manner. They suggest that an integral part of these processes is the “taking stock” of what they know but further more it is the recognition and acceptance of how they are truly performing that is the critical piece in undergoing and sustaining self-development.

An additional important consideration in the discussion of teacher development is that of teacher self-efficacy and the contributions of the self-assessment process toward developing more self-efficacious teachers. Pre and in-service teachers who are able to measure and assess their own effectiveness should potentially develop stronger beliefs about their abilities in the classroom such as their ability to bring about student learning and their capability in being an effective classroom manager. These beliefs in their own success and abilities should potentially lead teachers to setting higher goals for themselves and their students (Ross & Bruce, 2007). If they anticipate reaching these higher goals and demonstrate it via ongoing self-assessment, they continue a cycle of self-assessing, improving, self-assessing, improving, and so on. It would be rare that a traditional route of preparation in typical teacher education programs (coursework, field work, etc...) would have the same kind of effect on preservice teachers' growth and development as one would that has consistent, robust, and structured self-evaluation opportunities built in.

Video in the Classroom

Educators must continually verify their own effectiveness in their classrooms. While there are many external indicators of effectiveness, teachers should still gather their own data to support their conclusion that what they are doing in the classroom works and that their 'image' of themselves as a teacher matches the day-to-day reality of their performance (Martin & Mayerson, 1992). With current video technology, teachers can easily and effectively gauge their own performance. The same holds true, perhaps more so, for those developing as teachers. The use of video by preservice teachers can greatly influence their development by assisting them in gathering data regarding their own teaching, and allowing for rich self-assessment as a product of the endeavor.

The use of video in the classroom is not a new one and was, ironically, at its peak when it was a much less practical and much more expensive endeavor. In 1967, the editor of *The Modern Language Journal* wrote:

The potential of the portable video-tape recorder and playback is still untapped and uncharted. Widespread use of these recorders would make it possible for teacher training supervisors to exchange tapes and build libraries, to develop highly professional techniques of supervision and evaluation, but most important, to expose all teachers to a system of self-examination. Teachers at all levels would benefit because professional development would be expanded into a system of shared experiences rather than the subjective one-to-one relationship of teacher and supervising critic. (Dugas, p. 165)

This notion and the use of this newly available technology saw in the era of microteaching.

Invented in mid-1960 by Dr. Dwight Allen and his colleagues in the School of Education at Stanford University, microteaching was introduced to the education community as a training technique in which student were videotaped during brief teaching segments. Immediately after the teaching session, the segment was reviewed by the preservice teacher, the supervising host instructor, the university supervisor, classroom students, and even peers at the same school. All participants collaborated to target one or two areas of greatest difficulty that the trainee exhibited on the tape. The trainee then practiced those skills and taught them to a subsequent class in a brief teaching session. That session was also videotaped and reviewed by the trainee and a mentor to see if her skills in that area had improved. This cycle of doing, reviewing, and doing again continued throughout the teacher's training. The success of this technique quickly spread and was adopted by the education school at Brigham Young University shortly after Stanford began releasing their research. Brigham Young researchers found the process effective in

increasing performance in their population of trainees and they presented suggestions at the American Educational Research Association's (AERA) Annual Meeting in 1967 of how to improve and expand the line of research that was proving highly promising (Jurich, 2000). Additional research continued throughout the 1970's and 1980's that confirmed the success of video technology and microteaching training (Kpanja, 2001). However, although well substantiated as an effective practice in the training and development of teacher trainees, the 1990's saw in an era of new educational theory and practices and microteaching declined in popularity as a shifts in both practice and policy moved to the forefront (Jurich, 2000).

Today, though not widely addressed in current literature, the use of video as a tool for improving teaching is still clearly in use. In 2005, after investigation, a researcher found video playback with self-analysis to be effective in improving teacher *withitness* including skills such as recognizing confusion, responding personally and directly to individual students, and knowing what is going on in all parts of the classroom (Snoeyink, 2010). In 2007, researchers Lundeborg, Koehler, Zhang, Karunaratne, McConnell, and Eberhardt found that extensive use of video in the classroom including the use of outside video cases (modeling), video clubs, and teacher's personal video cases (episodes of their own teaching) was successful in changing different aspects of practice for their participants (framing discussions, leading questions, exercising control, working with groups, managing behavior, etc...). Furthermore they reported larger effects for the use of self and peer video over the use of outside video cases. They shared participants' perspectives as well and discussed how the use of video in professional development clearly challenged and changed their participants' performance and perspectives. All participants reported that they found the process empowering and valuable and they would continue to use this to "develop and explore new teaching identities" (p. 28). Finally, in 2009,

researchers Calandra, Brantley-Dias, Lee, and Fox reported that the use of video during the reflection process of their participants greatly influenced the substance and quality of the candidates' reflections and that the use of video made for more accurate reflections and critiques. Finally their discussion indicated that a powerful element of the study was that it demonstrated that the use of video "transformed" the thinking about critical aspects of teaching and pedagogy of the experimental group while this was less evident in the control group. The researchers argue that this higher level of thinking that moved beyond technical reflecting is the hallmark of the video group, and that these transformations of knowledge are attributed to these participants actually being able to see themselves in action rather than simply relying on memory to try to remember what is what that they did and then trying to translate that into how well they performed.

Current educational reform efforts are setting ambitious goals for today's educational agenda. A major portion of the demand falls squarely on teacher education programs across the nation to teach a wide variety of teacher candidates to successfully teach a wide variety of classroom students. The responsibility is an extraordinary one, and "critics argue that teacher education programs make no contribution to K-12 student achievement, are not intellectually challenging, and act as deterrents to bright, young people interested in entering the classroom" (Brownell, Colon, Ross & McCallum, 2005, p. 242). This challenge to teacher preparation programs demands that evidence to the contrary be continually presented. While researchers work with preservice candidates is becoming more prolific, there is still a need to increase the literature base in this area, demonstrating all aspects of teacher preparation including strategies that translate into success as full-time practitioners.

The research presented in this study has the potential to increase understanding of the use of video technology as a viable alternative and authentic form of feedback that aids in preservice candidates' ability to self-monitor and develop with little supervisory assistance. The variables chosen for investigation are those that equate directly to student achievement so this study has the potential to contribute to the current knowledge of what strategies can successfully be employed by preservice teachers that have a direct impact on student success.

CHAPTER 3

METHOD

The purpose of this study was to determine if, through two phases of intervention: (a) video playback only, and then (b) video playback paired with self-assessment by preservice teachers' of their classroom instruction would result in (a) an increase in the preservice teachers' use of specific praise statements, (b) a decrease in their use of non-specific praise statements, (c) an increase in their provision of opportunities for students to respond during academic tasks and (d) an increase in the use of instructional learning time. As demonstrated in the literature, using video playback as a "mirror up to practice" (Rogers, 1987; Tochon, 1999; Lundeberg, Koehler, Zhang, Karunaratne, McConnell, Eberhardt, 2008) with a guiding self-assessment tool has the potential to change teachers' classroom and behavior management practices that are antithetical to a thriving classroom environment and that hinder high levels of student achievement and engagement. The benefits of both have been explored in earlier chapters and this line of research is needed to expand the rather limited base that currently exists. A quantitative research approach was employed to capture and document the process and its effect on the participants as they participated in this investigation during their student teaching internships.

Context and Research Participants.

The context for this study was a teacher education program in a mid-sized public institution in the southeastern United States that focused on preparing preservice teachers at the undergraduate level to work with children with mild disabilities, primarily in inclusion settings.

Participants were recruited from a program that accepts 20 preservice candidates per year and each follows a prescribed course of study including a variety of authentic field experiences throughout the junior and senior years. For this study, all 20 senior preservice teachers were considered eligible for consideration to participate. A screening process was employed to purposefully select candidates who were identified by their university and field supervisors as low performers in their cohort.

The screening process involved ranking students on academic factors including overall GPA, field experience evaluations from their university supervisors and collaborative teachers, grades in education courses, and attendance in university courses and field placement experiences. All 20 students were ranked in each of the five categories from highest performance to lowest performance. Out of the 20, nine candidates were eligible based on their standings in the rank order. Each of the nine was identified in the bottom fourth in at least two out of the five domains. Resultant from the ranking, six candidates were selected to participate in the study.

Participant selection. Six preservice teachers participated in the present study. The average age of participants was 22 (range 21-23). The number of semesters of full-time college enrollment ranged from 10-14, with a median enrollment record of 12 semesters. All were classified as traditional (under 25 years of age, continually enrolled) students at the time of the study in that they were enrolled full-time, resided on or near campus (were not commuting students), and had earned less than 30 hours of college credit upon admission. Two had attended the institution for their entire time at college while 4 transferred from other institutions prior to their junior year. There were six female participants; all self-identified as 'White' upon enrollment to the university. All participants were in their senior year in their undergraduate program. Informed consent was obtained for each participant according to ethical practices and

guidelines and was submitted for prior approval to University of Georgia's Institutional Review Board (IRB). Additional information was provided to the participants including the possible benefits to them as participants, full confidentiality and privacy assurances, and the strictly voluntary nature of their participation, including their right to withdraw from the study at any time with no repercussions from the researchers and with no potential impact on their course grades or program completion. This final element of consent was covered in depth because it was anticipated that this would be of particular concern to the candidates. Consent forms were obtained and kept on file from all participants.

Settings

This investigation took place in a rural school district in the southeast region of the country. The total population of students in the district was 5,426 during the 2009-2010, and the percentage of students receiving free and reduced lunch was 65%. The district served close to the national average of students with disabilities (13%). The school system did not make Annual Yearly Progress for the 2008-2009 or 2009-2010 school years. For the same school years, the district did not meet the state target for the percentage of students with disabilities being served in general education. Over 25% were reported as being served in a general education setting less than 40% of their school day. That number is well above the state average. The school settings were one elementary school, one middle school, and one high school. The study was conducted in three elementary level classrooms, two middle school classrooms, and one high school classroom. Two of the classrooms in which the participants were placed were classified as self-contained settings (both elementary) and four were classified as resource settings (one elementary, two middle, and one high). No portion of the study was conducted in a general education classroom; all data collection occurred during a class period in which students were

being served in a special education setting. The classrooms ranged from serving between 7 and 12 students with varying disabilities including autism, emotional and behavior disorders, other health impairments, specific learning disabilities, mild intellectual disabilities, and speech/language impairments.

Materials

Technology. A mini video camera was provided to each participant to keep throughout the duration of the investigation. It was deemed that checking the equipment in and out would be time and resource prohibitive. The video recorders were mini (palm-sized) HD digital ‘flip’ 4GB cameras. They shoot in high definition and are capable of recording up to one hour of video per session. They record video in high definition with image stabilization and high resolution. Each participant was also provided with a case and mini tripod. Memory is built in to these cameras so no additional memory was needed (i.e. memory card). Also, one design characteristic of the cameras is a USB ‘arm’ that both charges and transfers the video clips, so no additional power cords and cables were needed for the operation or upload processes. All equipment was inventoried prior to distribution, and participants were asked to sign an agreement to keep the equipment secure at all times.

Video analysis tool (VAT). A web-based video analysis program was selected to use in order to allow participants to upload, store, and playback their video clips. They were provided with an individual secure account that had unlimited storage. Each account was linked to the primary investigator’s account yet separate from each other, so the primary investigator and assistant had full access to each participant’s account, but participants did not have access to each others’ accounts. This allowed for the participants to remotely upload and save each video clip during all phases and allowed the investigator to view and code remotely. This program

eliminated several logistical concerns such as the storage space needed for large amounts of video footage per participant, time needed to deliver the footage back and forth between participant and investigator, and money needed for additional resources. The company provided the accounts to the participant and investigator at no cost for the duration of the study. The participants and research assistant were all provided with a one-hour training session in using the web-based program and practiced saving, uploading, and splitting video clips prior to the onset of the data collection for the study. Training in splitting the video clips including teaching the users how to pre-segment the 10-minute video into 30 second intervals so they would not have to use a timing device during data analysis nor would they have to watch the time stamp while the video was running.

Self-Assessment instrument. An instrument was developed for introduction during the third condition of the study (“Video + Self-Assessment” hereinafter) to assist teachers in analyzing, targeting, and reflecting upon their performance immediately after viewing and collecting data from their own videotaped teaching sessions. The purpose for this tool as an intervention is that research demonstrates that while there is a benefit when teachers (pre- or in-service) view and interpret themselves teaching via video feedback (as in the second condition, “Video” hereinafter) there is greater benefit when a self-evaluation component is added that allows for further analysis and reflection. Eckart and Gibson (1993) support the notion that “teachers may benefit from using self-assessment tools to analyze their videotapes” (p. 290) and that such tools help them refine their performance into discrete behaviors rather than viewing their performance as a single event or episode. The tool was developed for the following purposes:

1. To produce a targeted and uniform tool for self-evaluation.

2. To produce a tangible record of each participant's self-evaluation.
3. To provide a tool that allowed for more focused and critical examination of the dependent measures beyond what would occur during the Video only condition.

The tool contained 10 items, 8 Likert items (2 or 3 pertaining to each dependent measure) and two open-ended questions that asked participants to consider and reflect upon the particular teaching episode as a whole. The tool required them to rate their own performance on each of the nine items in terms of agreement from *strongly agree* to *strongly disagree* using a 5-point Likert scale. The choice of 10 items was driven by current literature in the area of teacher self-evaluation that suggests that considerations such as difficulty, accuracy, time, fatigue, and focus must be taken into account when designing such a tool (Airasian & Gullickson, 1997).

Dependent Measures

Teacher praise. The first dependent measure of interest in this investigation was the teacher's use of praise statements directed towards individual students, groups of students, or the class as a whole. For the purpose of this study, praise was defined as a teacher delivered statement of specific or non-specific approval, appreciation, or thankfulness to an individual student, group of students, or whole class of students during the recorded time of instruction. Praise was considered specific (SP) if it was directed towards a learner or group of learners and told them precisely what behavior(s) they were performing that the teacher approved of or judged favorable ("You are very good at...", "That is a great...", "Nice job on the...", "I like the way you are...", "Everyone, look at the way [*student*] is..."). Non-specific praise (NSP) statements were those that were general in nature and unqualified in that they did not target a specific individual or group of students and did not target a particular behavior ("Nice job everyone," "Good work class," "Everyone behaved well today," "I like that," "Good," "Nice,"

“Wonderful work,” “Job well done, group”). Not counted as praise statements were the words “Right”, or “OK”. Partial interval recording was used to measure the percentage of intervals in which specific and non-specific praise statements were delivered. Directions for data collection for praise were, “For each 30-second interval, indicate whether the participant delivered a statement of specific or nonspecific praise at any time during the 30-second interval. Circle 0 for no, no specific or nonspecific praise statement was delivered during the interval. Circle X next to ‘S’ if the participant delivered a specific praise statement or circle the 0 next to ‘NS’ if they delivered a nonspecific praise statement.” The duration of the entire session was ten minutes in length.

Opportunities to respond (OTR). The second dependent measure of interest in this investigation was the provision of opportunities for the children to respond to instruction, specifically through the use of direct questioning or prompting to respond to an academic item during the targeted instructional time. If the participant asked a question regarding the academic lesson, activity, or task, this was considered to be the provision of an opportunity for a student, group of students, or the whole class to respond. Examples of such questions could include, but certainly not be limited to, the following: “What is a constellation?” “How many centimeters are in a meter?” “Why did the main character run away at the end of the story?” or any such question to which the students had the chance to provide an answer to the question. Similarly, if the participant made a request for academic information from an individual student, group of students, or the class, this was considered an opportunity for that student or students to give a response. Examples could include: “Please tell me what the person in the picture is doing,” “Come to the board and answer question three,” or “Everyone, solve this problem on your response board and hold it up when you are finished.” Partial interval recording was used to

measure the percentage of intervals in which opportunities to respond were delivered. Directions for data collection for OTR were, “For each 30-second interval, indicate whether the participant provided an opportunity for an individual student, group of students, or class of students to respond to an academic prompt. Circle 0 for no, no academic prompt leading to an OTR was delivered by the participant during the interval. Circle X if yes, the participant presented an academic prompt to which a student, group of students, or class of students could respond.” The duration of the entire session was ten minutes in length.

Use of instructional learning time (ILT). The final dependent measure of significance to this study is the preservice teachers’ use of time allotted for instruction. As illustrated earlier, the appropriate and effective use of instructional time is directly associated to student achievement. While there are many considerations that enter into defining the appropriate use of instructional time, for the purposes of this study, it was operationalized as follows using elements of the academic learning time (ALT) model first introduced in 1980 (Denham & Lieberman). During this investigation, participants were instructed to analyze their teaching sessions for how much of the session they dedicated entirely to relevant instruction. For the time to be considered as being used for relevant instruction, three criteria had to be met:

1. The students must have been engaged in a relevant academic activity. Engaged was further defined as the students appearing to be paying attention to the materials, presentation, lecture, activity, or instruction. If the students were looking at their materials, writing, reading, or focused on the presentation it was assumed that they were engaged in the learning activity. While data was not directly collected on students, the first of the criteria was not to be quantified in any way such as looking for a target of n out of n students on task but rather was evaluated by the participant via a visual scan of the classroom while viewing the video taped segment and making

the judgment if the majority of the class either was actively engaged or was not actively engaged. If deemed that the majority of the class was not engaged in the learning activity the interval of time under observation could not be counted towards instructional time.

2. The materials, presentation, lecture, activity, or instruction had to be aligned with the lesson objectives. This aspect was checking for relevance of the instructional learning time. If the lesson being presented addressed composing a five-paragraph essay, then the activity at that moment had to cover some aspect of composing an essay for it to be counted as meeting this criterion.

3. The participant in the study had to be the one who was delivering or facilitating instruction. If the participant was observing instruction, was working with one student or a group while the teacher led instruction, was engaged in a different task altogether (bulletin board, grading, making materials for a different class, etc...) or if he or she had stepped out of the room, even though the first two criteria were being met, they were being met by someone else, not the participant, so the segment of time under consideration could not count towards instructional learning time because it failed to meet this third criterion. Whole interval recording was used to measure the percentage of total intervals in which instructional learning time was fully utilized. Directions for data collection were, "For each 30-second interval, indicate whether the *entire* interval was used for instructional learning time. Circle 0 for no, the entire 30-second interval was not used for instruction. Circle X if yes, the entire 30-second interval was dedicated to relevant instructional activities." The duration of the entire session was ten minutes in length.

Data Collection

Data collection for this study was aimed at measuring preservice teachers' behaviors across a predetermined instructional unit of time for each teacher participant, not exceeding 10

minutes in duration per session. Data were collected via digital video and was limited to behaviors as have been previously operationally defined. Data were collected at the same time of day for each participating class via digital recording for the purposes of post-event scoring and analysis by the preservice teacher participants, researcher, and an independent third observer recruited to assist the researcher with the study. For each videotaping event, the participant or designee (host teacher or paraprofessional in the classroom) set up the video camera in a predetermined place in the classroom that best provided a wide-angle view that would capture the entire room. The participant (or appropriate designee) was instructed to begin recording at the beginning of the predetermined time for recording and stop recording at the end of the designated session. On the day of videotaping, the participant was then instructed to upload their video segment into their secure VAT account. Each event was maintained as separate file and clearly labeled for each participant including the date, session number, and phase of study.

Data collection sheets were developed and designed specifically to capture the quantitative measures critical to the scope and nature of the present investigation. The data collection sheet began with providing space for the data collector (participant, researcher, research assistant) to provide all necessary identifying information for session for which they were analyzing the data. It then was divided into three sections, one for each dependent measure, which provided brief instructions for the data recording of each measure along with a table for the purposes of recording observations and calculating percent occurrence.

Training and Baseline Procedures

Training in data collection. Prior to the onset of the study, a graduate assistant (also “data collector” hereinafter) was trained in data collection procedures and responsibilities. To achieve this, the researcher made two training videos that contained 30 examples of the target

behaviors as previously defined. The video included, in total, 10 examples of each of the target behaviors, with different types of examples of the dependent measures represented in the video. The video was a simulation video made of clips of contrived situations, each clip depicting one example of a target behavior. These clips were edited together resulting in a model for training that included only exact examples of target behaviors in a continuous feed. The researcher and assistant watched the first half of the training video that contained 15 instances of any of the target behaviors in random order. They independently coded the segments, stopped the tape, and compared for initial agreement. If there wasn't initial agreement, they then discussed each decision until agreement was reached. Next, the assistant was asked to watch the rest of the video and code the remaining 15 behaviors. If the research assistant coded at least 13 correct (13/15 or 87%), then he or she was considered proficient in identifying the target behaviors and ready to move on to data collection for baseline. If they did not demonstrate proficiency, then the training was repeated the next day with a new training video including a new set of 30 behaviors. This process was followed until criterion was met.

Baseline. During baseline condition, video probes were captured in each classroom and uploaded to the participants' VAT account using the predetermined software. Participants had been previously trained in the use of the software prior to the beginning of baseline. The participant was asked to initiate each recording upon the beginning of the session, cease recording at the end of the session, and then store the video equipment without viewing the video. They were then asked to, before the end of the day, save and upload their clip to their individual VAT account. Participants did not analyze videos during this phase. Data was coded and analyzed during this phase of the study only by the investigator and the research assistant.

To collect data during baseline, the researcher or research assistant carried out data collection according to the following procedures:

1. Log in to the researcher's VAT account.
2. From the video collection, locate in the video file for the session that is to be analyzed. It will be named as follows: *participantname_session #_date_ condition of study* (baseline, II, or III).
3. On the data collection sheet, fill out the identifiers on the top with information corresponding to this participant, session, date, study phase, and collector.
4. Pre-slice the video into 1-minute increments.
5. Locate the table for collecting data on the first dependent measure (Behavior # 1) on the data collection sheet.
6. Press 'play' to begin the video segment.
7. For each 30 second increment, watch for any instance of the participants' use of specific or non-specific praise, following the *Coding Conventions for Dependent Measures* sheet of instructions. Circle the '0' under the corresponding interval in row 'S' if no instance of specific praise was observed. Circle the 'X' under the corresponding interval in row 'S' if an instance of specific praise was observed. Circle the '0' under the corresponding interval in row 'NS' if no instance of specific praise was observed. Circle the 'X' under the corresponding interval in row 'NS' if an instance of specific praise was observed.
8. Locate the table for collecting data on the second dependent measure (Behavior # 2) on the data collection sheet.
9. Press 'play' to restart the video segment.

10. Beginning at the beginning of the video, for each 30 second increment, watch for any instance of the participants' presentation of an opportunity to respond, following the *Coding Conventions for Dependent Measures* sheet of instructions. Circle the '0' under the corresponding interval in row 'OTR' if no instance of an opportunity to respond was presented. Circle the 'X' under the corresponding interval in row 'OTR' if an opportunity to respond was presented.
11. Locate the table for collecting data on the third dependent measure (Behavior # 3) on the data collection sheet.
12. Press 'play' to restart the video segment.
13. Beginning at the beginning of the video, for each 1-minute increment, watch for the *entire* segment to be dedicated to the use of relevant instruction, following the *Coding Conventions for Dependent Measures* sheet of instructions. Circle the '0' under the corresponding interval in row 'ILT' if any portion of the segment was not used for instructional learning time. Circle the 'X' under the corresponding interval in row 'ILT' if the entire minute segment was used for instructional learning time.
14. After recording all three dependent measures on the data collection sheet, calculate the percent of intervals out of 20 that each behavior occurred or did not occur. For example, if opportunities to respond were observed in 3 out of the 20 segments for that particular session, divide 3 into 20 to determine that the participant engaged in that behavior during 15% of that particular session. Do this for each of the three dependent measures and record it on the data collection sheet.
15. Log out of the VAT account.

16. Appropriately file the data collection sheets for that session in the participants' binder.

Intervention Procedures.

The use of specific praise (SP) was the primary variable used for defining criteria used to make decisions regarding when to move students through the phases in the multiple baseline design that was used in this study. Specific praise was chosen as the primary variable for two reasons. First, it is the most discrete and easily measured of the four dependent variables, thus it was conjectured that this would be the variable with the highest levels of agreement across researchers and participants. Second, in a previously run pilot study of very similar design, specific praise was the variable that was most stable and least performed by the teacher candidates. For these reasons, it was determined that this variable would be the most stable and sensitive to change thus it would be ideal for making determinations as to when to introduce each independent variable.

Criterion was preset prior to baseline to determine when participants would be introduced, in sequence, to each intervention. It was determined that when a participant reached a 20% increase over the last data point in baseline, and maintained the increase across at least two sessions in phase two, the intervention would be introduced to the next participant (two and then three, or five and then six, in turn) given only that her performance remained stable and unchanged during their baseline phase. During phase two, once data demonstrated a therapeutic (increasing) change in trend and level, the second intervention would be introduced to the first participant, and a criterion of an at least 30% increase over the last data point in phase II across at least two sessions would be the determinant for when to introduce the final intervention to

each subsequent participant, given that data during phase two remained relatively stable and were demonstrating a desired effect.

Video Condition. Once baseline data stabilized, the first intervention was introduced to the participant. A training session was scheduled with each participant for training purposes. During the session, the investigator introduced the first intervention condition, Video, by explaining to the participant that he or she will be using video recordings of their own teaching to collect data on their teaching behaviors and through this data collection, they will hopefully notice patterns in their behavior. They were told that through the use of video, they are able to observe and analyze their own behaviors (the dependent measures) and through this observation, should become more aware of their practices and have the opportunity to examine their practices as they watch their own teaching episodes. During this condition, the participants were only asked to view the videos and record data. They were not asked to formally reflect, draw conclusions, journal, or work with the researcher or host teacher to discuss their performance on the dependent measures. They were merely instructed to view, code, and calculate their behaviors during this condition. Training in data collection and data collection procedures were identical to those for the research assistant during the baseline condition (see Baseline procedures).

Video + Self-Analysis Condition. Once criterion guidelines were met (see above), participants were introduced to a second intervention, a self-analysis tool that they would be using in conjunction with viewing and coding their video segments. In addition to the data collection, they would use this self-assessment tool to help them interpret the data in a meaningful way and to assist them in considering more specific aspects of their practices in addition to simply watching, coding, and quantifying their behavior as they did during the

previous condition. The researcher told the participants of the added value of using a tool to guide their reflective practice after they have the opportunity to view themselves in practice. A brief analysis of the literature was presented to further explain the value of the addition of the second intervention thus the addition of a third condition.

During this condition, procedures were identical for data collection as they were in the previous condition. Participants were instructed to continue collecting, uploading, viewing, and recording data every day. However, at end of each session, they completed the self-analysis tool to answer specific questions regarding the dependent measures that they just observed in the session they just viewed. Participants were instructed to follow the same exact procedures yet the following set of procedures were added to the protocol:

1. Immediately after completing step number 14 for data collection, take out the self-analysis worksheet.
2. Fill in the identifying information at the top of the sheet.
3. Answer questions # 1-10, indicating *strong agreement* to *strong disagreement* with the first 8 items and then briefly answer the two open-ended reflection questions on the back of the sheet. *Briefly* was defined as no less 4 sentences, but participants were encouraged to answer the questions in more detail if they desired and were encouraged to write candidly and thoughtfully. This self-assessment was for purposes for the participant only, primarily to engage in the activities of self-evaluation and reflection. The researcher and data collector did not evaluate the participants' responses in any way or complete a similar evaluation on participants.

Validity

To ensure reliability and to assess accuracy of the procedure's protocol, Interobserver agreement data (IOA) were gathered between data collectors, and accuracy probes were

conducted for each participant throughout the duration of the study. Procedural fidelity data were also collected throughout the study for each participant.

Interobserver agreement. IOA data were collected in at least 35% of the sessions for both data collectors. Agreement of at least 85% was preferred for each session. Accuracy was calculated for each of the three target behaviors by dividing the number of agreements between the participants by the number of agreements plus disagreements, with that quotient multiplied by 100:

$$\frac{\text{Agreements}}{\text{Agreements} + \text{Disagreements}} \times 100 = \text{Percent of Agreement}$$

Participant accuracy probes. Data collectors conducted accuracy probes during a minimum of 30% of sessions across participants in order to evaluate their accuracy in observing and recording their own behavior. It was necessary to include these measures because it was critical in the third condition that participants were evaluating and analyzing their performance accurately. Both the primary researcher and research assistant collected and quantified data from participants' sessions independently and then agreement was calculated using the same point-by-point method as was used for calculating IOA. Agreement of at least 85% was preferred for each session.

Procedural fidelity. Procedural fidelity data were collected during both training sessions for each teacher participant in which the research assistant attended the session and completed a reliability checklist assessing the procedures used by the primary researcher in training each participant. If the research assistant was not able to attend, the training session was videotaped and later analyzed for accuracy in procedural protocol. Additionally, procedural reliability was collected several times throughout the study on each participant to ensure that they were

following the procedures of the study in the correct order, in the correct way as they were trained, and also to assure that they were adhering to the correct coding conventions. This was accomplished when either the researcher or participant attended sessions for each participant and completed a procedural checklist following the prearranged protocol for participants. For each participant, this process equated to assessing procedural reliability on at least 30% of his or her sessions.

Research Design

A multiple baseline across participants design was used with two independent groups comprised of three participants each to assess the effects of video feedback and self-assessment on four targeted teaching practices. This research design was chosen because it is one that is recommended as being beneficial and appropriate to use in clinical and applied settings and also because of its usefulness in evaluating the effectiveness of interventions on behaviors that should be acquired and maintained rather than reversed (Gast, 2010). The design was employed across two groups simultaneously in order to evaluate the effectiveness of the interventions within two functionally independent groups. Steps were taken during the process of choosing participants to ensure that each participant was functioning independently and separately from one another. For example, no two teachers on the same 'team' were chosen to participate in that their daily interaction could potentially threaten internal validity.

Baseline for each participant included a minimum of three sessions, in order to allow for demonstrations of stability. Following baseline, interventions were introduced, in sequence, to each participant in two groups of three. As criterion guidelines were satisfied, participants were moved through the conditions, with each of the two groups functioning interdependently yet independently from each other.

Data Analysis

Data collected throughout the duration of the study were plotted and graphed for visual analysis, a practice widely accepted in the field of behavioral sciences (Alberto & Troutman, 2008; Baer, 1977; Cooper, Heron & Heward, 1987;). With the data graphed, the following questions could be easily answered: (a) Are meaningful changes occurring in each participant's behavior?, (b) Is it the intervention that is apparently responsible for the participants' change in behavior?, and (c) Are the data answering the research questions? (Cooper, Heron & Heward, 1987). The data were plotted on separate line graphs for each participant, with each dependent measure charted on its own data path allowing consumers of the data to notice and draw meaningful, accurate, and correlative conclusions.

Social Validity

Social validity was assessed at the conclusion of the investigation to answer questions pertaining to the importance of the intervention goals, procedures, and outcomes. The participants were interviewed via narrative prompts to obtain their opinions regarding, among other considerations, (a) the appropriateness and feasibility of the intervention procedures, (b) their appraisal of the intervention and how it could be improved, (c) their opinion of whether the intervention 'worked', (d) their satisfaction in regards to 'before' and 'after', (e) the impact on their confidence in their teaching, and (f) the likelihood that they would continue the use of videotaping into and beyond their first year of teaching.

CHAPTER 4

RESULTS

Introduction and Purpose

This study evaluated if the effects of video playback and self-assessment would result in an increase of three specific teaching behaviors (praise, providing opportunities to respond, and use of instructional time) by senior preservice teacher candidates. Particularly of interest was the potential to demonstrate an increase in teacher behaviors that correlate positively with student academic achievement, while at the same time, decreasing one particular behavior, the use of non-specific praise, that research has demonstrated has no or little effect on student achievement (Rathel, Drasgow, Brown, & Marshall, 2013). The study evaluated efficacy of video playback as a form of feedback and then video playback coupled with self-evaluation on the performance of six preservice teacher candidates. Information presented in this chapter outlines results of interobserver agreement and procedural reliability measures, then data are presented for each participant by dependent variable across each condition (Baseline, Video, Video + Self Assessment). Finally, the chapter concludes with a discussion regarding the social validity of the study, informed by the preservice candidates' self-evaluations.

Interobserver Agreement and Participant Accuracy Probes

Interobserver agreement (IOA) data were collected throughout the duration of the study to evaluate and demonstrate consistent agreement between the primary researcher and research assistant, the two data collectors in the study. Data collectors also conducted accuracy probes

throughout each condition for each of the six teacher candidate participants, to gauge the accuracy of their own data collection. These reliability data (IOA and accuracy probes) were collected in over 30% of the sessions between data collectors and accuracy probes were conducted during approximately 40% of sessions across conditions for each participant.

Data Collectors. IOA data were collected for 35% of the sessions of the first data collector and in approximately 41% of the sessions of the second data collector. IOA ranged from 88.6% to 97.1% across all sessions across all dependent variables. In all instances across all participants, agreement was highest between researchers for the variable of (NSP) with a range of agreement between 92.9-97.1%, and lowest for (OTR), with a range of 88.6-92.9%. Table 1 details the IOA results between data collectors.

Participants. Data collectors conducted accuracy probes during a minimum of 30% of sessions across participants in order to evaluate their accuracy in observing and recording their own behavior. It was necessary to include these measures because it was critical in the last condition that participants were evaluating and analyzing their performance accurately. Accuracy was measured by agreement between data collector and participant. These probes were conducted and calculated just as IOA was calculated. Agreement ranged from 84 to 97.1%. Agreement was generally highest for specific praise and lowest for opportunities to respond. Table 2 details conditions for each participant, including number of sessions in each condition, number and percent of sessions in which agreement data were collected by condition, and agreement data by dependent variable.

Procedural Fidelity

Although participants were trained to 100% procedural fidelity prior to the onset of the study, fidelity data were collected throughout the duration of the study to ensure that participants

adhered to procedures of implementation. This was an important measure because it was important to ensure that they were consistently watching their videos and completing their own self-assessment, as these were the two interventions. Procedural reliability data were collected during at least 33.3% of sessions for all participants during the last two conditions only, as they were not coding video during baseline. For the first five participants, reliability was calculated at 100% in all sessions in which data were collected. However, for the last participant, session 1 reliability was calculated at 56.25%, with her completing seven out of 16 steps incorrectly. This was used as a retraining opportunity and she was instructed to correct the steps that she carried out incorrectly during the observation period when data were collected. Given the concerns of procedural infidelity, data were collected for this participant in approximately 50% of sessions across V and V+SA conditions. With one exception, after the first session, reliability for all sessions was calculated at 100%.

Acquisition of Desired Behaviors

Specific praise (SP): group one. The use of SP was the primary variable used for defining criteria used to make decisions regarding when to move participants through the conditions in the multiple baseline design that was used in this study. Participant 1, Beth, did not deliver any specific praise statement during any recorded session during baseline. Given the stable and zero celerating trend, the intervention of video playback was introduced. Initially, a delayed effect was evident, in that day one of the Video condition, performance remained the same, at 0%. However, in session two of the condition, performance quadrupled, with data demonstrating that Beth delivered SP during 40% of the intervals during the 10-minute session. On day three, Beth's performance peaked, rising to a delivery of SP in 60% of the intervals during that session, but then, her performance began showing a steady decline. It was still at a

level well above baseline but the trend over the next four sessions steadily decelerated slowly. Despite not demonstrating an accelerating trend, the researcher noted a clear increase in overall performance after the introduction of the intervention in Beth's Video Condition, also noting a clear therapeutic effect in the conditions of participants 2 and 3 (both demonstrating an immediate and dramatic change in level upon the introduction of the intervention). At the same time, data were clearly demonstrating an accelerating and stable trend in all participants in the second group. Due to these indicators, the second intervention, self-assessment, was implemented with Beth. Immediately in the Video + Self-Assessment condition, data demonstrated a strong effect in that there was an immediate jump in level, increasing 70% over the last data point in the Video condition. Occurrence of behavior remained high, therapeutically trending, and consistently stable throughout the remainder of the Video + Self-Assessment condition, ranging from 85%- 100% occurrence through the remainder of the sessions.

Julia, had the most variable baseline in the group, yet data were relatively stable, with all data points remaining at 25% or below across all six days of baseline. Baseline data remained stable when the intervention was introduced to Beth. When Beth met criterion in the Video condition (at least two consecutive sessions at a 20% increase over baseline), Julia was introduced to the procedures of the intervention and began implementation. Data demonstrated an immediate effect at the beginning of the Video condition, jumping in level 70% and remaining high (above 60%) for the next two sessions. For the following three sessions, sessions 10-12, Julia's performance decreased consistently, dropping to 20% by session 12. However, by session 13, percent of occurrence increased to 65% and increased steadily throughout the rest of the condition, increasing to 85, then 90% for the remaining two sessions in the condition. Since Beth met criterion over and above what was expected immediately during the Video + Self-

Assessment condition, Julia moved into the Video + Self-Assessment condition and was introduced to the next intervention. Julia's performance had almost topped out by the end of the Video condition so while she didn't have very much additional room for increased performance, data remained high, stable, and after one dip down to 85% (from 100%) in session 17, the trend consistently accelerated until she was back up to 100%, indicating that she was performing the dependent variable, delivering specific praise, from between 85-100% of the intervals during her instructional sessions.

Kat, had a very low and stable baseline data. Over eight sessions, data ranged from 0-5%, only rising to 5% in two sessions. Upon the introduction of the intervention in the Video condition, there was an immediate increase in level, rising from 0% to 60% during the first session of the Video condition. Data were variable during the Video condition, ranging from 45-85%, yet all data points remained at a level substantially higher over baseline. The data trend was zero celerating, yet was at a level that remained quadrupled over baseline. When participant 2 met criterion during her third condition, Kat was introduced to the second intervention. During the Video + Self-Assessment condition Kat engaged in the target behavior for between 80-100% of intervals finishing at 100% during the last session.

Specific praise (SP): group two.

Chelsey's baseline performance ranged from 0-10% across three sessions. During the third session of treatment Chelsey's performance rose to criterion levels (30%). Data for the remainder of the session remained slightly elevated over baseline, ranging from 10-30%. Data across the whole condition was somewhat variable yet accelerated in trend, consistently rising (with the exception of day 8) from 0-30%. Once data stabilized and demonstrating a beneficial trend, the third intervention was introduced. Upon introduction, there was an immediate change

in level, rising from 30-70%. During the Video condition, performance remained consistently higher than in the Video condition, with no data points dropping down to the level of any in the Video condition. Across the Video + Self-Assessment condition, performance ranged from 55-70%, indicating an increased acquisition in behavior above both baseline and the Video condition. The trend in the Video + Self-Assessment condition was slightly decelerating, yet it remained at an appropriate level to be deemed both therapeutic and desirable.

During six days of baseline, Mary's performance of the target behavior remained at zero, with only one instance rising to 5% on day four. Upon introduction of the intervention in the Video condition, Mary's performance steadily increased in both level and trend from 10% to 50% with an increase at each session. Once criterion was met for participant 4 in the Video condition, Mary moved to the Video + Self-Assessment condition and results indicated a delay in effect, yet then sharply increased and remained high for the remainder of the condition. Performance in the Video + Self-Assessment condition ranged from 45-90%, within an accelerating trend in a therapeutic direction.

Katie, maintained a low and stable baseline, as expected, at the beginning of the study, as other participants were being introduced to intervention one, thus demonstrating internal control within this group. Over eight sessions of baseline, Katie demonstrated a low occurrence of the target behavior, ranging between 0 and 15%. Upon immediate introduction of the first intervention on day nine, however, Katie performed the target behavior (SP) during 85% of the intervals in the session, increasing from 0% in the previous session. Data during the Video condition were slightly to moderately variable, ranging from 50-90% occurrence, yet the overall trend was accelerating and the level remained at a 35% or greater increase over baseline. During

the Video + Self-Assessment condition, Katie's performance slightly decelerated, yet level was consistently at or above the Video condition, ranging from 85-100% across six sessions.

Data for specific praise are presented in Figure 1.1 for group one and Figure 1.2 for group two. The data indicate that the use of video feedback and then the use of video feedback paired with self-assessment was highly effective in increasing the use of specific praise by all six participants.

Opportunities to respond (OTR): group one. Variable three of the study was the participants' provision of opportunities for students to respond to direct questioning or prompting. This was accomplished when a participant asked a student or a group of students a specific question or provided a prompt to which the students could respond. During the study, all participants steadily increased performance of this behavior across conditions, demonstrating a desirable effect of the interventions by the end of the study. Data for this variable are presented in Figures 2.1 and 2.2.

Beth's provided consistently high OTR in baseline, with data ranging from 75-90% across baseline.. During the Video condition, data were variable and at a lower level than during baseline. Data ranged from 40-90% during the Video condition. During the Video + Self-Assessment condition, data stabilized, with the first data point in the condition measuring 95% performance, and then increasing to 100% for the next and final five sessions.

Julia began baseline by providing a high level of OTR, ranging from 80-100%, but rates dropped consistently over the next three sessions, decreasing from 80-35% respectively. However, at the introduction of the Video condition, level increased and data stabilized. With the exception of one data point in the middle of the condition (55%), all data points were above 80%, with the final three sessions leveling out at 100%. This effect was carried into the Video +

Self-Assessment condition, where data remained stable and at a high level, ranging from 95-100% across the six sessions of the condition.

Kat provided a variable range of OTR during baseline, with data ranging from 30-95%. No inferences could be drawn regarding her performance of the variable during baseline. However, during the two intervention conditions, data showed more stability and consistency in level. Across the Video condition, data ranged from 70-100%, with clearly more stability over baseline. Upon implementation of the Video + Self-Assessment condition, data continued to increase in level and stability, with data ranging from 90-100% across the six sessions.

Opportunities to respond (OTR): group two. Chelsey provided OTR during baseline between a range of 55-80% of intervals during. During the Video condition, data remained variable, ranging from 55-90%. Upon the introduction of the second intervention however, data stabilized and remained at a consistently higher level, ranging from 85-100% across the six sessions.

Mary provided OTR across baseline at a variable rate. Data ranged from 0-60% across six sessions of baseline. Across the Video condition, data were variable yet showed an accelerating trend and occurred at consistently higher level than in baseline. Data ranged from 60-95% during this condition. At the introduction of the second intervention signaling the beginning of the Video + Self-Assessment condition, data increased in level and stability. Data ranged from 90-100%, remaining high throughout the final sessions of the study.

Katie's performance of the target behavior remained slightly variable and high across the duration of the study. During baseline, data ranged from 35-90%, with only two data points dropping below 70% in the middle of the condition. Data stabilized more during the Video condition, ranging from 65-95% in a slightly accelerating trend. During the Video + Self-

Assessment condition, data ranged between 85-100% yet started high then began to slightly decelerated across the final three sessions, dropping from 100 to 85% across sessions.

Instructional learning time (ILT): group one. The participants' use of instructional learning was the fourth variable of interest in this study. Overall, a therapeutic effect of interventions was more apparent in group one than in group two, yet performance of the target behavior was somewhat high by all participants throughout the duration of the study, as was anticipated given the environmental conditions and expectations of the setting. Figures 3.1 and 3.2 present the data regarding the use of instructional learning time for groups one and two.

Beth used ILT during baseline at consistently high rates, ranging from 95-100%, indicating that students were engaged in direct instruction for the duration of each session during baseline. During the Video condition, data were more variable yet remained high, ranging from 65-100% yet showed a slight deceleration across the condition. In the Video + Self-Assessment condition however, data peaked and remained at 100% across the entire condition, spanning six sessions.

Julia utilized ILT inconsistently during baseline, with ranges spanning from 50-90% of student engagement per session. During the Video condition, data somewhat stabilized increase in level, ranging from 70-100% in an accelerating trend. During the Video + Self-Assessment condition, data continued along a path similar to the end of the Video condition, continuing to stabilize and slightly accelerate, ranging from 85-100% across the six sessions of the condition.

Kat's use of ILT during baseline was variable, ranging from 35-100%, however only one data point was low, at 35%, with the remaining ranging from 70-100%. During the Video condition, data continued to occur at high levels and were less variable, ranging from 75-100% but discluding the outlier in baseline, performance was almost identical across baseline and the

Video condition. During Video + Self-Assessment, , data peaked and remained at 100% across the entire condition, spanning six sessions and persisting throughout the remainder of the study.

Instructional learning time (ILT): group two. Chelsey's use of ILT was very inconsistent across the duration of the study. Data ranged variably from 75-95% during baseline, from 15-75% during the Video condition, and between 35-60% during the last phase.

Mary's use of ILT across all three conditions was consistently variable and somewhat high, yet no discernable trend occurred. Data ranged from 40-95% in baseline, between 75-90% during the Video condition, and from 60-100% during the Video + Self-Assessment condition.

Katie's use of ILT during baseline was highly variable, ranging from 55-90%, only slightly stabilizing over the last three sessions of the condition, with data points at 95, 90, and 90% respectively. During the Video condition, data ranged from 75-100% in a near zero celerating direction. During the Video + Self-Assessment condition, data continued along a path similar to the end of the Video condition, ranging from 85-100% yet in a slightly decelerating trend.

Reduction of Non-Desired Behaviors

Non-specific praise (NSP): group one. In contrast to specific praise, the delivery of non-specific praise (NSP) has been demonstrated to have little to no effect on student performance. A fourth variable of interest, non-specific praise was measured and predicted to have a negative correlative relationship with specific praise. As the first increased, the latter should decrease. As with the final two dependent variables, data for this variable were collected and studied on the schedule of the first dependent variable so the move through the conditions was dependent on the first variable.

Across all participants, data for NSP were variable and provided for little predictive analysis. Five out of the six participants did decrease their use of non-specific praise by the Video + Self-Assessment condition, but while results were somewhat consistent within participants, they were rather inconsistent across participants. Figures 4.1 and 4.2 present NSP data for groups one and two.

For Beth, data were low and stable during baseline, ranging from 0-5% occurrence. The Video condition data were somewhat high and variable, ranging from 0- 55%. During the Video + Self-Assessment condition, performance dropped and remained low, as desired, ranging from 0-15%.

Across all conditions, data for Julia demonstrated a slow yet consistent decelerating trend. Data during baseline were high and variable, ranging between 10 and 45%. During the Video condition, two early sessions skewed data at 40 and 85%, yet the remainder of the sessions (n= 5) decelerated from 15-5% consistently. During the Video + Self-Assessment condition, data were relatively stable dropping to a range of 0-5%, with the exception of one session which reached a level of 15%. However, every point in the Video + Self-Assessment condition was at or below that of baseline and the Video condition, indicating a desirable decelerating trend in behavior.

Kat's use of NSP remained low and stable throughout all three conditions. Range of occurrence was between 0-10% across all three conditions, indicating very little performance of the target behavior.

Non-specific praise (NSP): group two.

In a counter-therapeutic demonstration, Chelsey's use of NSP increased steadily and consistently across all three conditions, ranging in an accelerating trend from 15- 55%. Mary's

baseline data ranged from 0-20% yet were stable. Only one data point fell above 5% across six sessions during baseline. During the Video condition, Mary's data were variable, ranging from 5-45%, with no observable trend or specific change in level. During condition three, however, performance dropped to zero percent for every session. For Katie, data across intervention conditions were variable. Overall range for the Video condition was consistently higher than baseline, but data made interpretation difficult. During the Video + Self-Assessment condition, data became more stable, demonstrating a steady decline over sessions 22-26, dropping consistently from 15-0%.

Participant Self -Assessment Results

Table 3 presents data regarding participants' results on their individual self-evaluations during the Video + Self-Assessment condition. Data presented express how well the participant felt they performed each dependent variable by session by indicating level of agreement. (Two variables, praise and non-specific praise, were combined into one category, "Use of Praise" for the purposes of data reporting.) Participants were asked to agree (SA) or agree (A) in a number of items if they felt they satisfactorily performed the dependent variable during a session yet were also able to rate whether they were undecided (U) or disagreed (D) if they performed well regarding the variable per session. All participants strongly agreed or agreed that they were satisfied with their performance of each target variable during at least 40% of their sessions (range 40%-100%), with all indicating the highest level of agreement that they performed best in the area of use of praise.

Social Validity

Social validity for the study were captured through the participants narrative responses to a set of ten questions that were sent to them at the conclusion of the study. As responses were

expected to be thorough and since it was anticipated that the final product would be several pages in length, participants were allowed to complete this as an alternative to a different yet similar project in the same course. Questions posed to the students sought to determine the benefit to their teaching knowledge, skills, and dispositions, to inquire as to how likely they'd be use videotaping (intervention one) in their classroom as practicing classroom teachers, and to gauge the perceived benefit of the study on the children in their classrooms.

All participants provided positive answers to the questions in the questionnaire. All agreed that they'd use videotaping in their own classrooms as practicing teachers and that the use of self-assessment increased their performance above the video feedback as a stand-alone intervention. All of the six participants agreed that the study benefited the students in their classrooms due to the fact that they became better teachers. Finally, all participants indicated that they gained knowledge and skills as a result of the study that they don't think that they would have acquired had they not participated. Four out of the six stated specifically that they were now at an advantage over their cohort peers (who did not participate in the study) in that they have learned how to employ some specific teaching behaviors that weren't otherwise specifically covered in their program. Finally, all participants indicated that they were at an advantage over their cohort peers going into their first year teaching in that they how to define, measure, target, and change their own teaching behaviors. They all indicated that this was an advanced level set of skills that they would not have otherwise been able to learn had they not participated in the study.

Table 1

Interobserver Agreement Data between Data Collectors

Participant	Percent sessions IOA collected	Average percent agreement SP	Average percent agreement NSP	Average percent agreement OTR	Average percent agreement ILT
Beth	41.2%	92.9%	92.9%	88.6%	91.4%
Julia	33.3%	92.9%	97.1%	92.9%	95.7%
Kat	31.8%	94.3%	95.7%	92.9%	97.1%
Chelsey	43.4%	92.9%	97.1%	88.6%	92.6%
Mary	41.2%	95.7%	97.1%	87.1%	91.4%
Katie	37.0%	95.0%	96.0%	92.0%	96.0%

Note. SP=specific praise, NSP=nonspecific praise, OTR=opportunities to respond, ILT=instructional learning time

Table 2

Accuracy Probe Data for Participants

Participant	Sessions in baseline, Probe sessions (n,% of sessions)	Sessions in Video Condition, Probe sessions (n,% of sessions)	Sessions in Video + Self- Assessment Condition, Probe sessions (n,% of sessions)	Total sessions across conditions, Total percent of sessions probed across conditions	Average percent agreement SP	Average percent agreement NSP	Average percent agreement OTR	Average percent agreement ILT
Beth	4, (2, 50%)	7, (3, 42.9%)	6, (2, 33.3%)	17, 41.2%	92.86%	97.14%	87.14%	95.71%
Julia	6, (2, 33.3%)	9, (3, 33.3%)	6, (2, 33.3%)	21, 33.3%	97.14%	98.57%	84.29%	94.29%
Kat	8, (2, 25%)	8, (3, 37.5%)	6, (2, 33.3%)	22, 31.8%	92.86%	95.71%	87.14%	97.14%
Chelsey	3, (2, 66.6%)	7, (3, 42.9%)	6, (2, 33.3%)	16, 43.4%	92.86%	95.71%	91.43%	91.43%
Mary	6, (2, 33.3%)	6, (3, 50.0%)	5, (2, 40.0%)	17, 41.2%	95.71%	95.71%	91.43%	88.57%
Katie	8, (3, 37.5%)	12, (4, 33.3%)	6, (3, 50.0%)	26, 37.0%	92.0%	91.0%	84.0%	92.0%

Note. SP=specific praise, NSP=nonspecific praise, OTR=opportunities to respond, ILT= instructional learning time

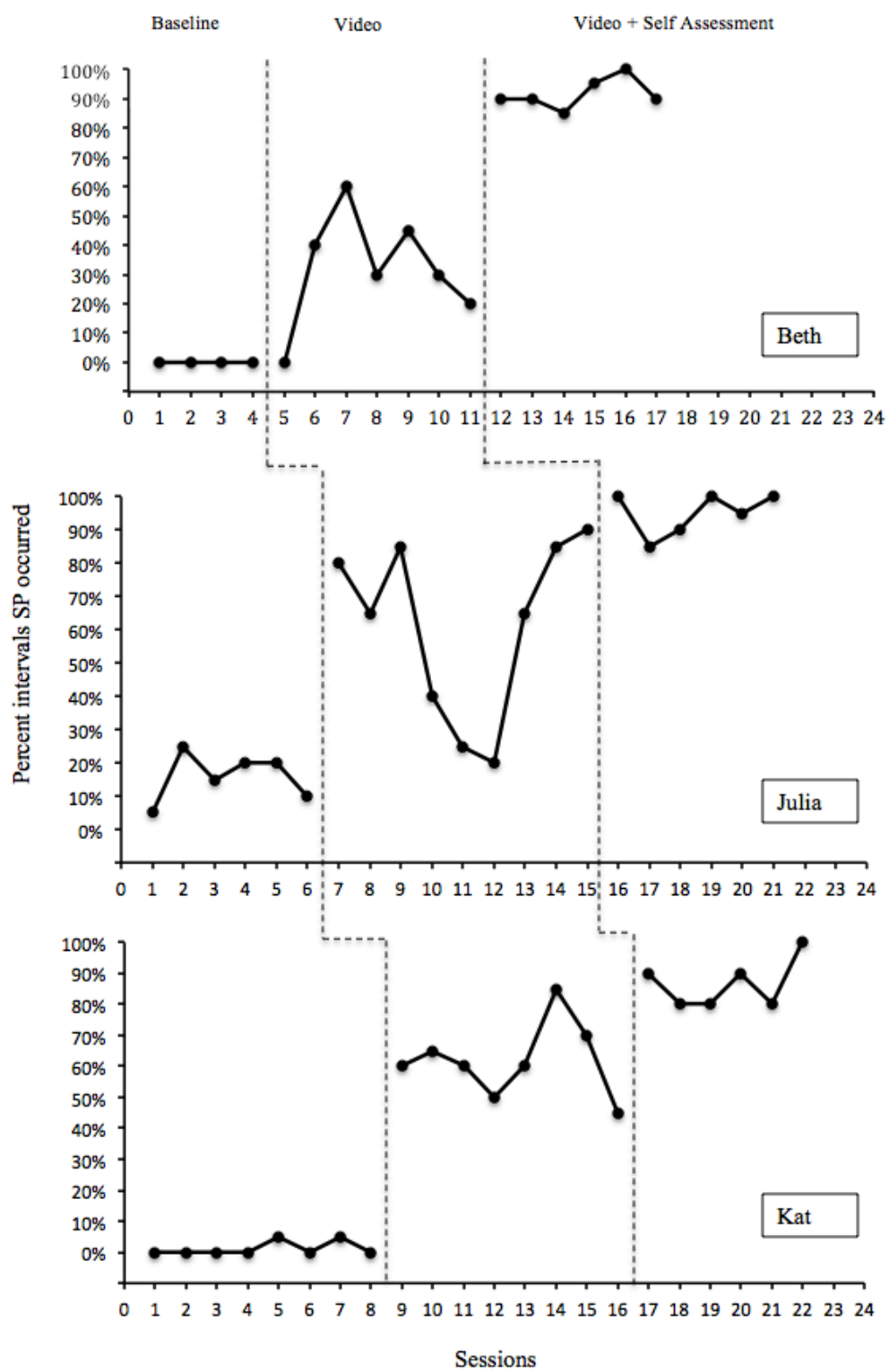


Figure 1.1: Group 1, Specific Praise

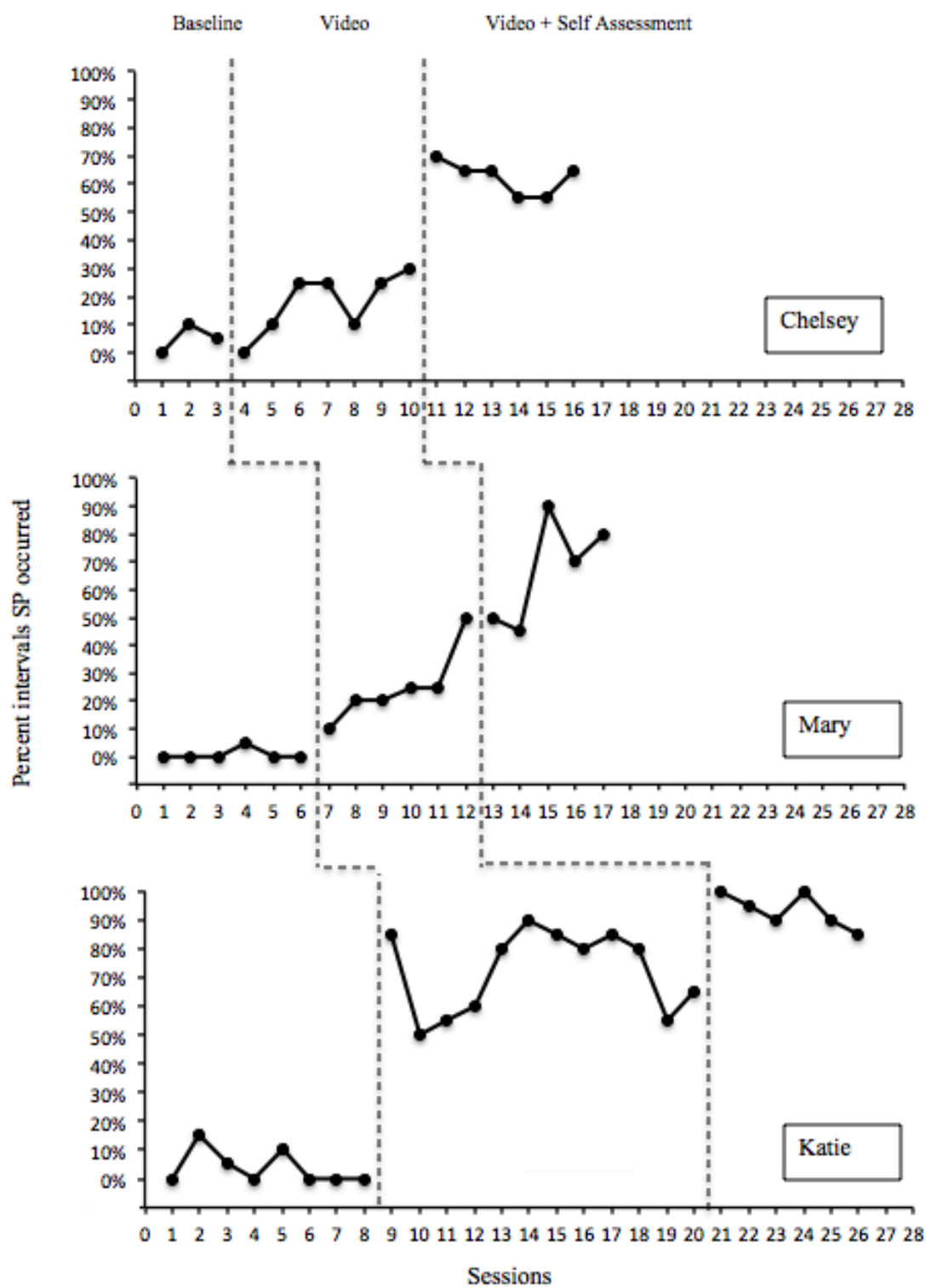


Figure 1.2: Group 2, Specific Praise

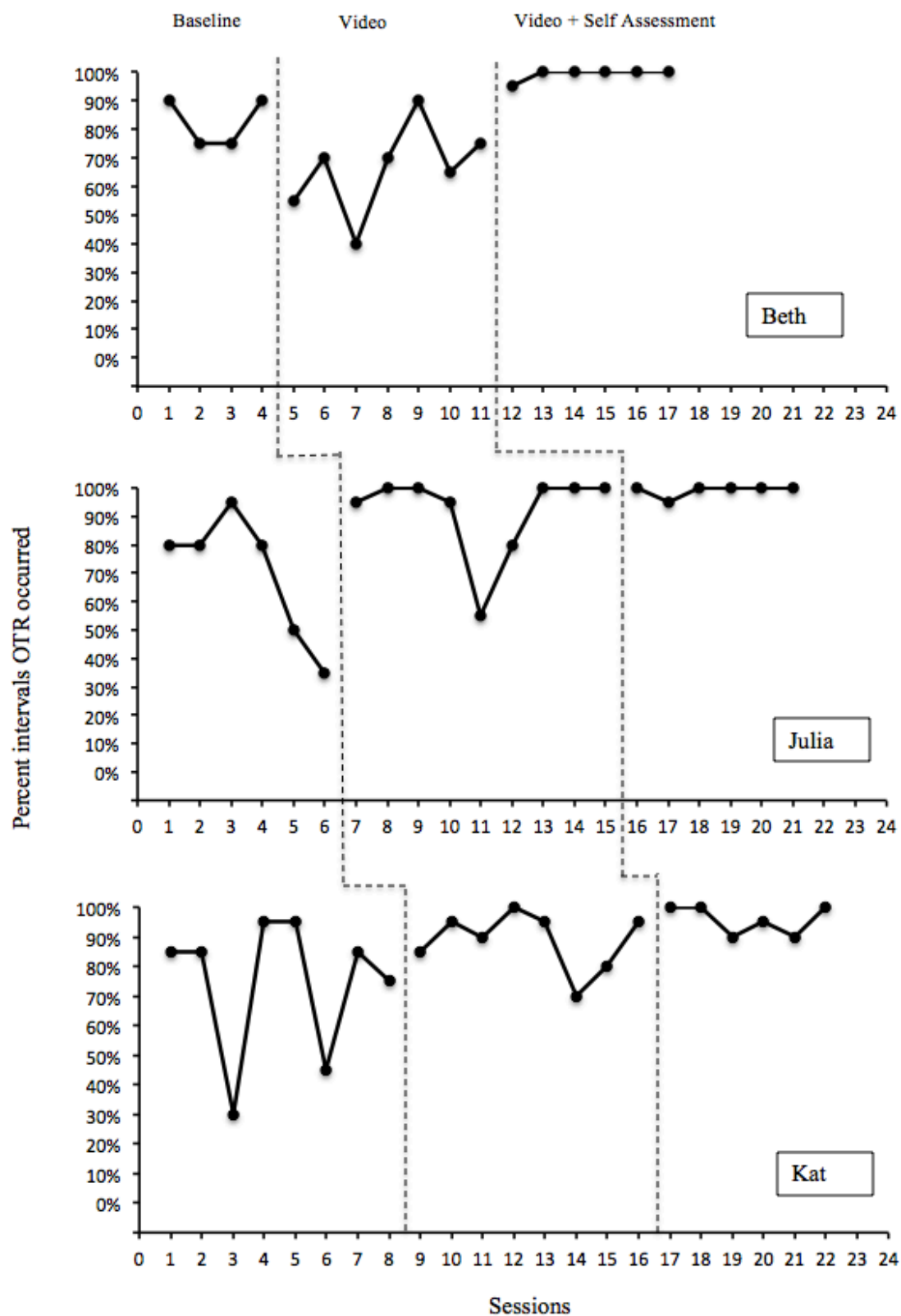


Figure 2.1: Group 1, Opportunities to Respond

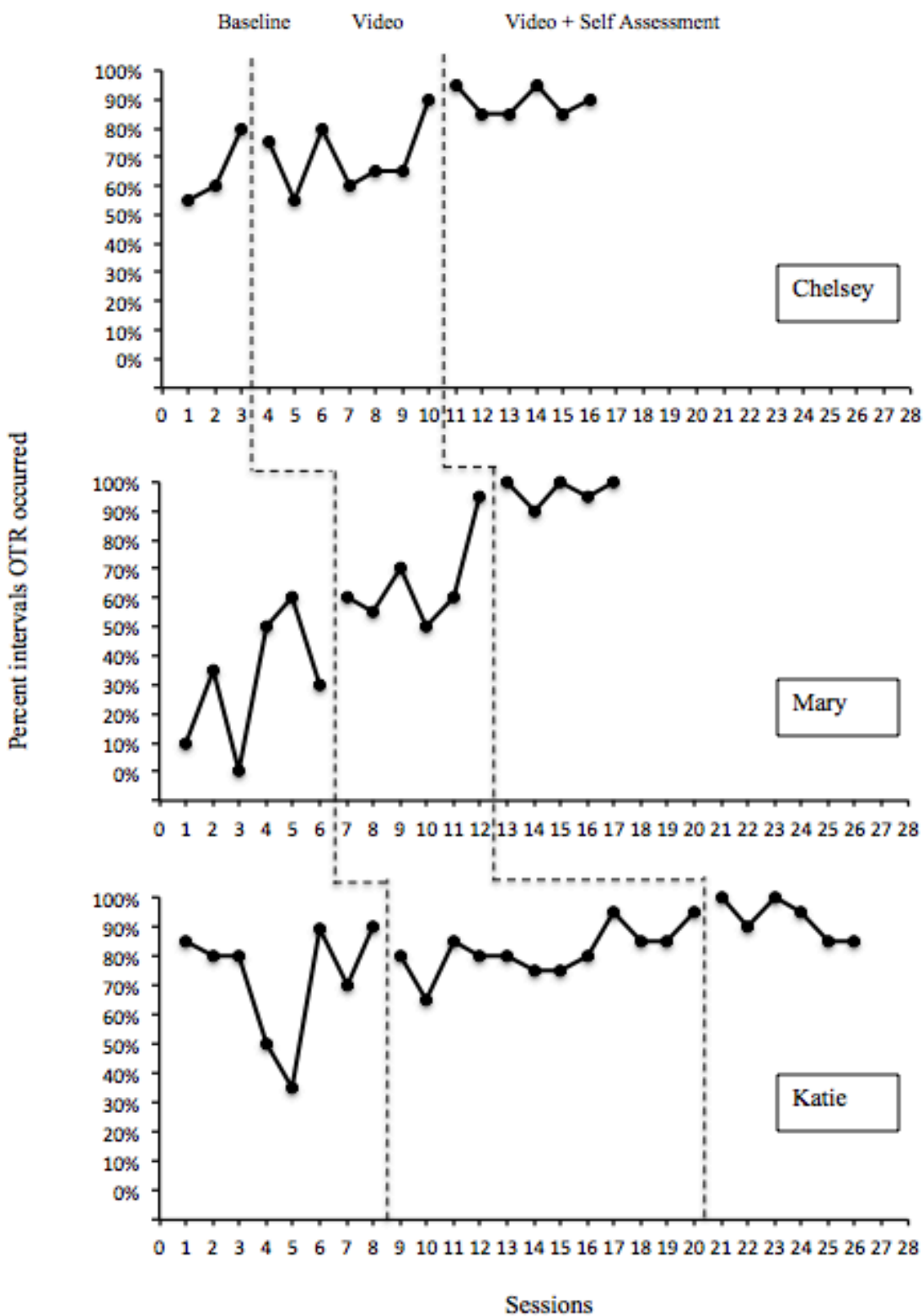


Figure 2.2: Group 2, Opportunities to Respond

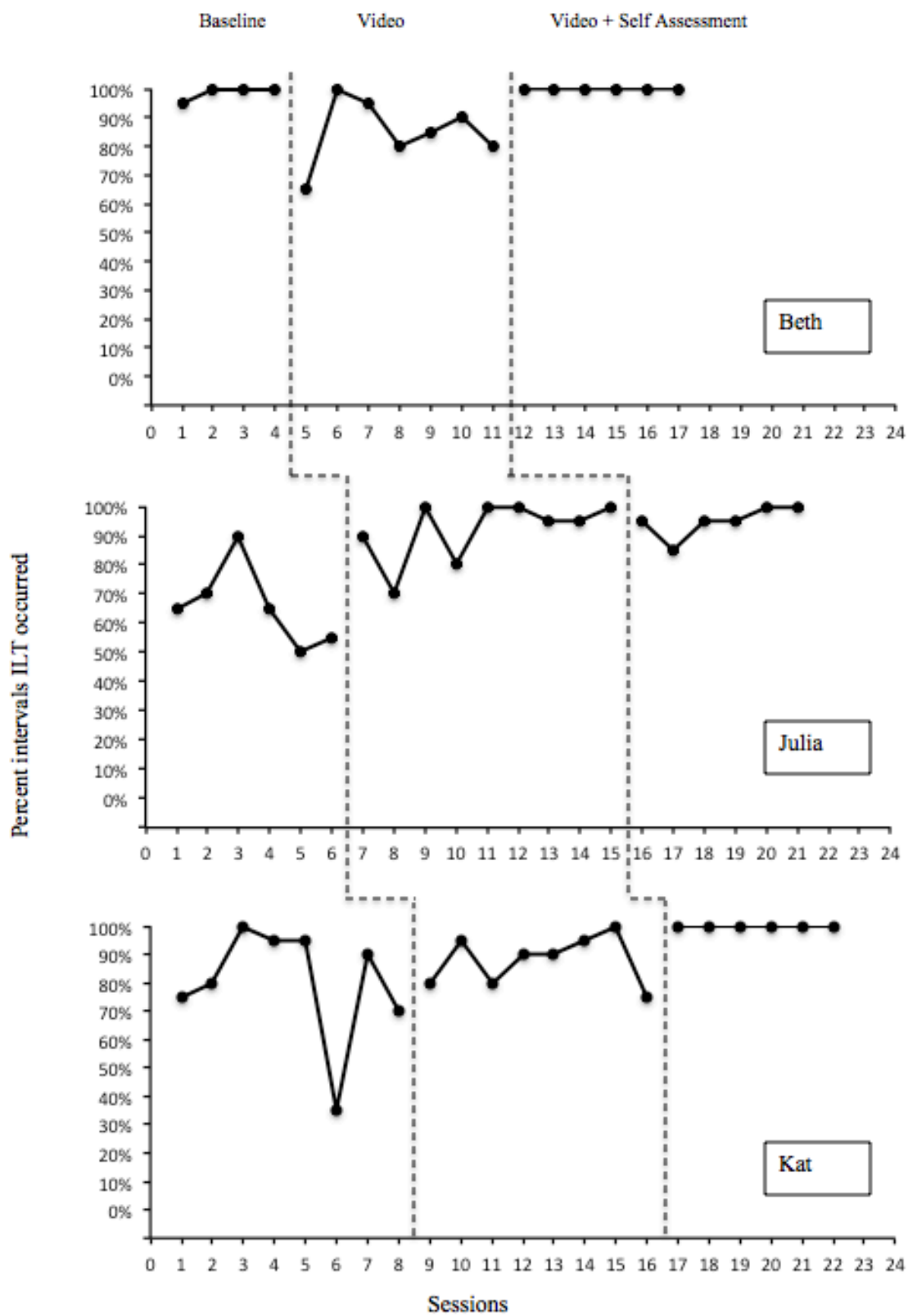


Figure 3:1: Group 1, Instructional Learning Time

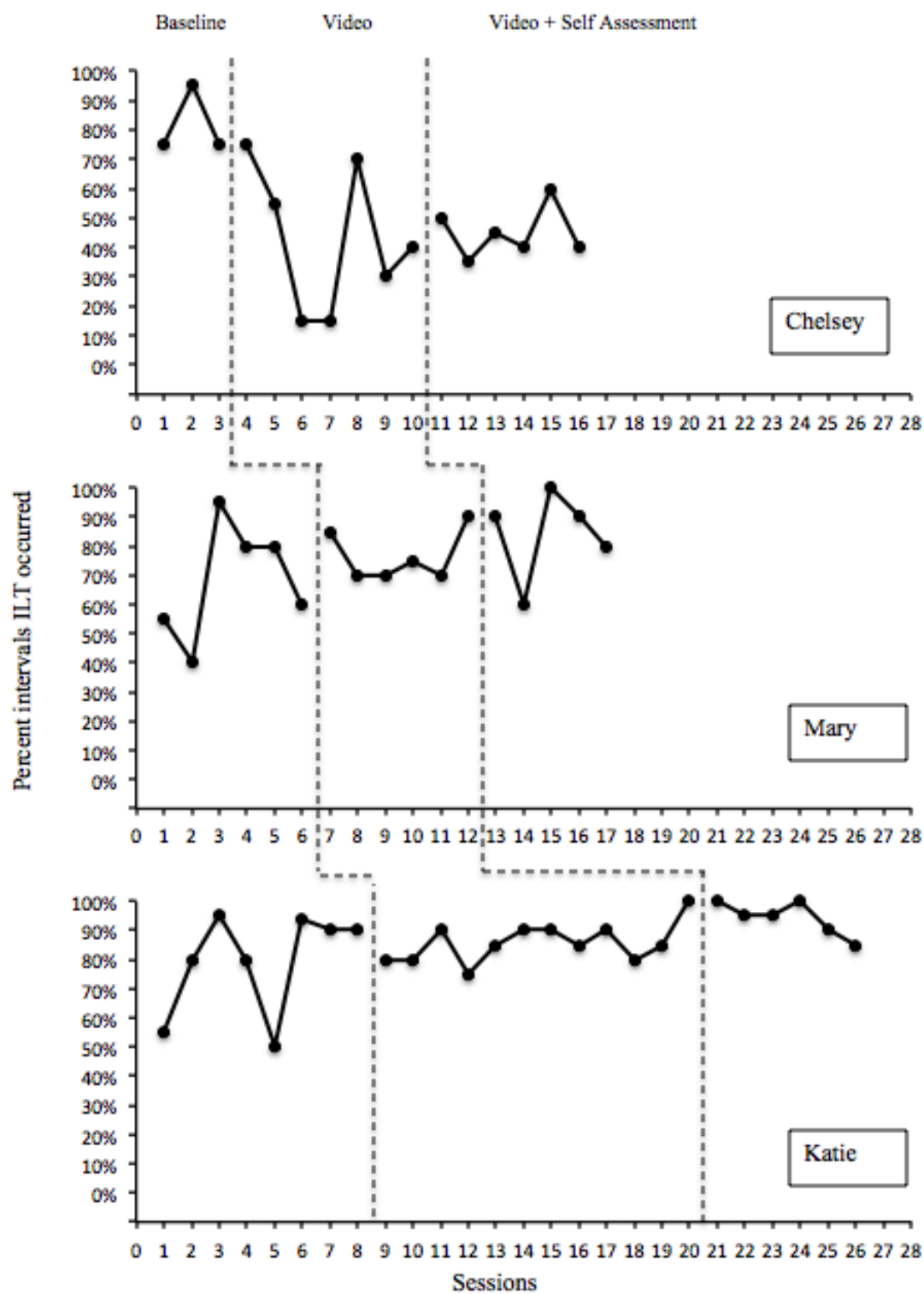


Figure 3.2: Group 2, Instructional Learning Time

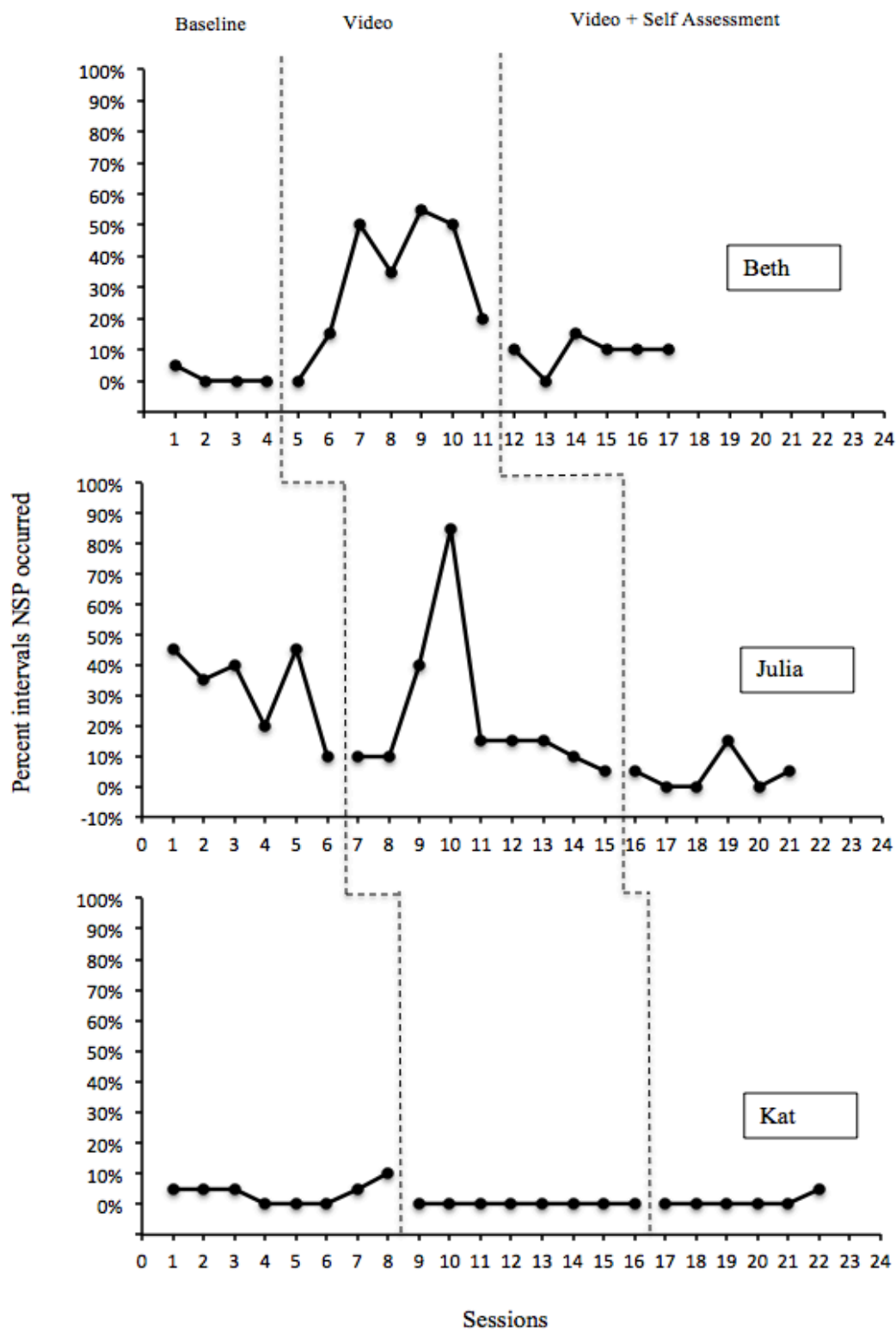


Figure 4.1: Group 1, Non-Specific Praise

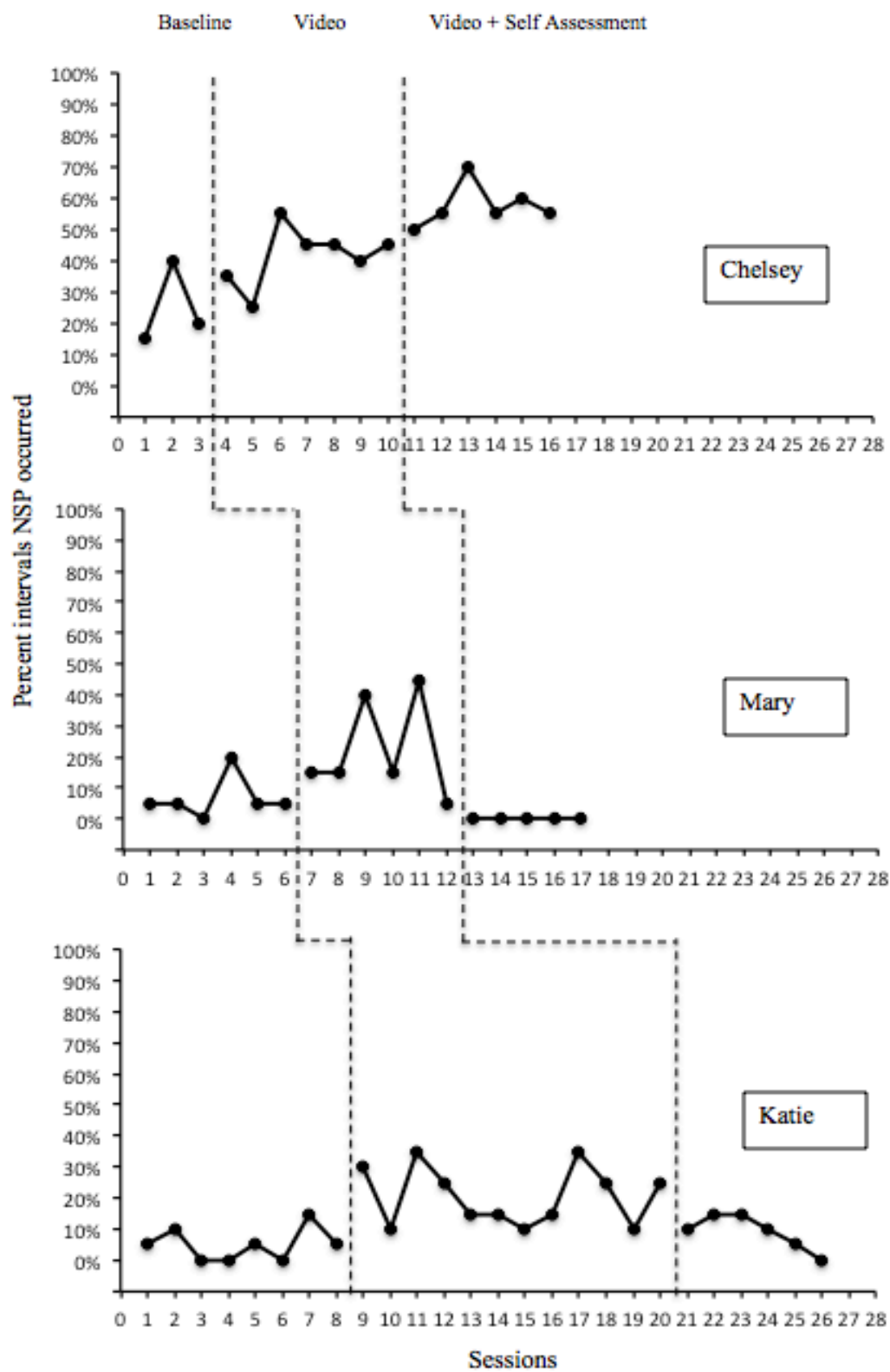


Figure 4.2: Group 2, Non-Specific Praise

Table 3

Participants' Self-Assessment of Performance

Participant	Percent Agreement Use of Praise (SP and NSP)			Percent Agreement OTR			Percent Agreement ILT		
	SA or A	U	D	SA or A	U	D	SA or A	U	D
Beth	100%	0%	0%	92%	8%	0%	67%	25%	8%
Julia	93%	0%	7%	70%	10%	20%	40%	10%	50%
Kat	83%	0%	17%	75%	8%	17%	50%	17%	33%
Chelsey	56%	22%	22%	58%	42%	0%	75%	0%	25%
Mary	80%	20%	0%	100%	0%	0%	100%	0%	0%
Katie*	100%	0%	0%	67%	33%	0%	58%	8%	8%

Note. SP=specific praise, NSP=nonspecific praise, OTR=opportunities to respond, ILT=instructional learning time. SA=strongly agree, A=agree, U=undecided, D=disagree.

*Participant failed to respond to one ILT item on three occasions so total does not equal 100%.

CHAPTER 5

DISCUSSION

A multiple baseline across participants design was used in this study to evaluate the effects of the efficacy of video feedback and self-assessment as means to increase preservice teachers' performance of instructional and behavior management tasks that have an evidence base for improving academic outcomes for students (Lefloft, van Lier, Onghena & Colpin, 2010; Simonson, Fairbanks, Briesch, Myers, & Sugai, 2008). Results of this study demonstrate that video feedback and self-assessment had a beneficial effect on the acquisition of effective teaching strategies as well as a demonstrated decrease in the use of one ineffective strategy. This chapter provides an analysis and discussion of the results of the study, considering the findings in relation to existing research, and provides information regarding how this study can add to the extant literature base. Additionally, limitations of the study are discussed along with suggestions for future research in similar areas. Finally, the chapter concludes with implications for practice, which is a conversation that is both timely and essential given the climate of our current educational system in our nation.

Analysis of Results

On two of the variables of interest in this study, the delivery of SP and the provision of OTR, all participants steadily increased their performance during the Video condition, and then again in the Video + Self-Assessment condition, supporting the notion that both interventions likely had an effect on changing participants' behaviors in desirable ways. (Limitations due to a

likely sequencing effect will be discussed in depth in the Limitations section below.) Simonson, Myers, and DeLuca (2010) explain that both variables, praise and OTR, are ideal to study in that they are evidence-based behavior management strategies that have a proven effect in the classroom, and both can and should occur at high frequencies so they are ideally suited and make worthy targets for teacher improvement endeavors. Additionally, researchers have found that in special education classrooms, student with behavior disorders are less likely to be praised by their teachers and are up to six times more likely to be reprimanded than their peers who are not receiving services (Nelson & Roberts, 2000). The results of this study provide evidence that may be useful as special education teacher candidates prepare to enter into classrooms of their own upon graduation.

Participant performance on the use of instructional learning time is promising yet less dramatic than on the first two variables. Given the already high performance of the target behavior, there was less margin for significant increases or decreases, yet five of six participants did increase their use of instructional time by the end of the third condition, with group one remaining at almost 100% occurrence across the entire last condition, indicating they were using every minute of instructional time in advantageous ways by the end of the study. Performance in group two was more variable so fewer conclusions can be drawn. Chelsey reduced her use of ILT over the course of the study, Mary remained very variable from session to session, and Katie demonstrated slight gains over baseline in both intervention conditions but her performance of the behavior remained relatively high so fewer gains were discernible. With the exception of Chelsey, the results are promising, indicating that the participants increased their use of ILT, thus exposing their students in their classrooms to higher levels of engagement, which has the potential to maximize their achievement. The time of year of this study made these finding

especially significant in that in each instance, each class was about to begin benchmark testing, and since research has demonstrated that increases in student engagement covary with gains on both Curriculum-Based Measures and standardized tests (Gettinger & Seibert, 2002), the preservice teachers' performance on this variable had the potential to have a direct and immediate benefit on their students.

Participants in the study showed more modest gains regarding their reduction of NSP. Four participants showed desired responses to the interventions when paired. These four demonstrated a clear reduction in the use of non-specific praise once they began viewing and analyzing their videoed instruction. Kat had continuously low occurrence of the behavior that remained low throughout the study while Chelsea increased her use of non-specific praise steadily throughout the study. From a research perspective, these results are desirable in that the reduction of NSP, which has no identified effect on student behavior or achievement, ideally replaced with the more effective use of SP, which does have an effect on student achievement (Rao & Haydon, 2011), was apparent in four out of the six participants.

Recent research supports the addition of a feedback model to traditional teacher training alone, a notion supported by this study. Researchers have found that training alone (as occurred at the end of baseline in this study) does not improve the application of desired teaching behaviors and skills (Christofferson & Sullivan, 2015; Joyce & Showers, 2002) and multiple research studies have introduced feedback as interventions above and beyond traditional training models. Results from these studies indicate that it is the performance feedback that increases participants' performance on desired behaviors under study (Barton & Wolery, 2007; Hawkins & Heflin, 2010; Simonsen, Myers & DeLuca, 2010;) and in many instances in the literature, video feedback and self-assessment were the vehicles by which feedback was provided. Specifically, in

a replicated study from one in 1973 (Crossairt et al., 1973), a contemporary set of researchers confirmed evidence that a performance feedback condition improved the use of classroom teachers' praise over a condition of training alone (Myers et al., 2011). Similarly, many studies conclude similar findings in regards to the other variables in this study. Sutherland and Whehby found in 2001 that when teachers use recordings of their own teaching to provide themselves with feedback, they increased the provision of opportunities to respond during the school day. Mulholland and Cepello (2006) found that teacher candidates could increase their use of "quality" instructional time when engaged in a feedback model including the use of video feedback and data recording. Researchers Mulholland and Cepallo had student teachers watch lengthy sessions of their teaching, in some instances, whole class periods, then had the students create charts that recorded the use of their instructional time during the videoed session. After these sessions, they were required to write a written reflection of what they found interrupted ILT, and which of *their* behaviors contributed to the loss of instructional time. Results of this study indicate that the participants were able to increase their use of ILT as a result of a robust feedback model. The Mulholland and Cepallo study was one of the models for this dissertation, in that it experimented in particular with preservice candidates and attempted to increase their use of a proven evidence-based practice. While there is less evidence of this type of research conducted with preservice teachers (most of it occurs in in-service teachers' classrooms), this is becoming a more and more prevalent population to study. The advantages are obvious, as preparing practitioners *before* they enter the classroom has innumerable benefits and has the potential to have a greater impact, in that a whole cohort can be trained in desirable ways, rather than just a teacher a time.

Areas for Future Research

The results of this study indicate that the use of video and self-assessment has the potential to influence teaching practices of preservice candidates, and other research indicates the same for in-service professionals. This line of research can be far reaching and has the potential to spread into many different areas of teacher preparation and in-service practice. Some areas for exploration include working with a mentor or in a collaborative dyad or triad in performance feedback models, working with low performing populations of pre- and in-service teachers, working with a self-implemented goal-setting strategy along with a feedback model, and working with a different research model that introduces training modules throughout a similar study, coupling self-assessment with training, which could likely increase learning gains, but also aid in the maintenance of behaviors.

Working with a mentor or peer group within a feedback model could be beneficial for preservice candidates. Research indicates that teacher learning communities or development groups can be beneficial in introducing varying ideas, concepts, and observations that a teacher working in isolation in a self-evaluation model may not notice or understand (Hoaglund, Birkenfeld, & Box, 2014) . This has the potential to be especially beneficial to preservice candidates as they are developing new skills, and at the same time, are trying to practice them in authentic environments. They rarely have the luxury to practice skills before they have to attempt implementation in a “real” classroom and this increases the high-stakes nature of “getting it right” the first time. Dobie and Anderson (2015) found that the use of learning communities in which participants can engage with each other in order to provide critique, feedback, and constructive interactions regarding their teaching, increases teachers’ strategies in these areas, perhaps situating them as mentors or faculty developers. Expanding this present study to include

using video feedback and analysis of teaching to models that examine group participation could contribute to the line of using feedback with teacher candidates, possibly demonstrating that working with a more experienced mentor or peer could provide additional benefits than them working in isolation in a self-monitoring model. The benefit to lower functioning teacher candidates; those with poor college supervisor evaluations, low grades, unsatisfactory teaching observations by host teachers could also be explored in many ways as could the implications of such research on poor performing in-service teachers, perhaps including elements of this type of research and types of interventions into professional development or improvement plans.

Additional contributions to the research base could include variations of interventions introduced into the study. Variations to the current research model could introduce goal setting, data graphing, training sessions, or more extensive written reflection as additional interventions. Kalis, Vannest, and Parker (2007) demonstrated that goal-setting exercises embedded into feedback models is an effective strategy for improving the use of praise. Robinson and Kelley (2007) demonstrated that written reflections among groups of candidates using video feedback (as opposed to role playing) were more likely to contain critical thinking and quality reflective thought, leading to the consideration that their behavior changes may be longer lasting than those in the control group. Finally, in an extensive review of literature, Cavanaugh (2013) demonstrated through his review that performance feedback in the form of many different models contribute to the effectiveness of pre-and in-service teachers, including data that indicates that different instructive elements may contribute more than others to the maintenance and generalization of skills.

Limitations

The sequencing of conditions likely contributed to one major limitation of this study, as this posed a threat to internal validity. The order of introduction of interventions to both groups was identical, so there were no controls in place to account for sequencing effect. Due to this sequencing of conditions, it is difficult to determine that one intervention had more of an effect or produced any ‘value-added’ results. What seems like treatment effect could most likely be due to a sequencing effect so unequivocal statements regarding the power of one treatment over the other cannot be made. To control for this, the introduction of treatments should have been transposed. Group A could have received the treatments in an AB order and group B could have received them in a BA order. This would have allowed for a more functional relationship to be declared regarding the Video + Self-Assessment condition. While there appears to be an increased effect after the introduction of the self-assessment, this cannot be fully concluded without further investigation and an adaption to the research design.

Along similar lines, also regarding a research design issue, an effect that may have been better controlled for was due to combining interventions during each treatment condition. The Video condition actually introduced two independent variables, video and coding. This did not allow for an absolute determination of a functional relationship for either intervention. Similarly, the introduction of an additional intervention (self-assessment) during the Self-Assessment condition did not allow for a separate and complete functional relationship to be determined regarding the use of self-assessment alone. So while there was what seemed to be a clear increase in behaviors during the last phase of the study, this cannot alone be attributed to the introduction and use of self-assessment. To control for this, a variation of a multitreatment design

could have been employed, however, a concern with a comparative design would be that the timeframe in which to complete the study could have posed a significant issue, given that the study was already running towards the end of the school year. The addition of an additional phase(s) would have run into benchmark testing, during which time the preservice teachers typically complete their teaching requirements and return to the university for the end of the semester.

A final limitation is the lack of pre-baseline data that was gathered in regards to the knowledge of the participants prior to entering the study. A pre-test or similar assessment, and a skills assessment would have informed the researcher regarding what the participants understood and their ability to perform the target variables prior to baseline and this could have more informed the design and implementation of the study.

Implications for Practice

A major implication for practice is the potential for such research with teacher candidates to continue to influence their practice as future educators. Training preservice teachers in the use of video as an instructive tool, along with the use of self-assessment equips them with concrete methods them to become effective reflective practitioners, and could provide them the opportunities to continue to engage in similar practices once they have classrooms of their own. Potentially they would continue utilizing the tools of video and reflection, engaging in reflective practices perhaps monthly or on a similarly feasible schedule, or they could identify a peer or a few peers with whom they could participate in similar endeavors. The methods employed have the potential to be used with any number of target behaviors so as practitioners, they have the opportunity to become lifelong learners using this approach as a teaching and learning tool.

Similarly, the potential for faculty development endeavors along these lines of research are innumerable. Schools or districts could develop a workshop series centering around the “big ideas” of self-assessment, self-monitoring, and the use of video in the classroom, centering development opportunities on evidence-based practices and teacher effectiveness. Exploration into the field of faculty development is timely and powerful, in a time now where teacher performance has the potential to drive factors such as salary, promotion, tenure, and school and district funding.

Video recording and self-assessment are both practical ways for teachers to evaluate their own practice and act as active rather than passive participants in their own development. While the research on educator preparation is rather limited, this study contributes findings that indicate that the interventions employed have the potential to aid in the success of teacher training models by increasing valuable and evidence-based skill sets in those studying to become future educators.

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APPENDIX A

Participant Self-Assessment

How Am I Doing?
Preservice Candidate Self-Evaluation Tool

This self-evaluation tool is to help you more deeply explore and reflect on your recorded teaching session from today. Please answer the following questions candidly and honestly, reflecting on today's teaching episode only.

Directions: For each statement, circle the number that indicates your agreement or disagreement with the statement using the following scale:

5 = strongly agree 4 = agree 3 = uncertain 2 = disagree 1 = strongly disagree

	SA	A	U	D	SD
1. Today I used the full instructional time for teaching my students the lesson that was planned for this time.	5	4	3	2	1
2. Interruptions to the lesson today could have been avoided.	5	4	3	2	1
3. I believe that I used the right amount of praise when teaching my class today.	5	4	3	2	1
4. When I praised my students today, I was careful to make sure that they knew what behaviors or actions for which they were being praised.	5	4	3	2	1
5. When I praised my students today, I was careful to make sure that they knew whom I was praising.	5	4	3	2	1
6. During the instruction time I just watched, I believe that I provided my students ample opportunities to verbally participate in the class activity.	5	4	3	2	1
7. I believe that I provided <i>each</i> student with approximately equal opportunities to participate in the lesson today.	5	4	3	2	1

8. I could have asked more questions or provided more opportunities for more children to participate in the class activity today.	5	4	3	2	1
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When considering my teaching today, the one thing I would like to target for further reflection is:

My reflections: