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The effect of video self-monitoring on teaching ABA paraprofessionals

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THE EFFECT OF VIDEO SELF-MONITORING
ON TEACHING ABA PARAPROFESSIONALS

A Dissertation

Submitted to the Graduate Faculty of
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctorate of Philosophy

in

The Department of Psychology

by
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ABSTRACT

This study examined the effects of psychoeducation method (video vs. manual) on the knowledge, attitudes, and beliefs of participants regarding the education of children with autism within a group design. There was not a significant difference between the two groups on the participants' thoughts, attitudes, or knowledge. Study Two examined the effect of video self-monitoring on teaching paraprofessionals to implement discrete trial instruction with children with autism. A single-subject multiple baseline design across four participants was utilized. The participants were taught to use discrete trial instruction (DTI) using a video self-monitoring procedure. Results showed that performance feedback was necessary for 3 participants; however, one participant was trained using video self-monitoring only. Performance feedback was rated as the most acceptable treatment.

INTRODUCTION

Paraprofessionals are an integral part of the education system, especially in the lives of children with special needs. Currently, there are more paraprofessionals in the special education classroom than special education teachers (Suter & Giangreco, 2009). Although there are many professionals such as psychologists, physicians, and social workers that receive extensive training to treat children with special needs, many of them are not direct care providers. Their role is to train, consult with, and supervise paraprofessionals to provide direct care services (French, 2001). A survey, conducted by Fisher, Jenkins, and Crumbley (1986), found that there were 2,000 students on average per school psychologist, suggesting the impracticality of school psychologists providing extensive direct care services. Psychologists, when asked to rank their current job roles, allocated the majority of their time to assessment with consultation and treatment ranked last (Fisher, Jenkins, & Crumbley, 1986). Therefore, it is vital that paraprofessionals receive the necessary training to care for children with special needs effectively.

Paraprofessionals often provide applied behavior analytic services to children with autism; however, paraprofessionals need supervision from a trained professional. Frequently, Board Certified Behavior Analysts (BCBA) train paraprofessionals in outpatient, inpatient, and educational facilities to teach children with autism. Although BCBA's are not the only professionals who train paraprofessionals, BCBA's are certified to assess, treat, and care for children with autism. According to the Behavior Analyst Certification Board, there are only 44 certified behavior analysts in the state of Louisiana (Certificant Registry, 2010). In 2008-2009, 3% of students receiving special education services in Louisiana were children with autism (State Autism Profiles Louisiana, 2010). In 2008, 2,851 children were identified with an autism

spectrum disorder in the Louisiana school system between the ages of 3-21. This number does not include children under the age of 3 or adults in need of services (State Autism Profiles Louisiana, 2010). If 44 BCBA's worked solely with children with autism in the school system, then each BCBA would be providing services to 65 students. Due to this lack of resources, trained professionals and the school system must rely on well-trained paraprofessionals to provide direct care services to children with autism.

Discrete Trial Instruction

Paraprofessionals are frequently taught to use behavior analytic techniques such as discrete trial instruction (DTI) for children with autism. DTI is an evidence-based treatment that is commonly used to teach children with autism (Lovaas, 1977; Young, Krantz, McClannahan, & Poulson, 1994; Smith, 2001; Abbondante, 2009). Discrete trial instruction is defined as “a method for individualizing and simplifying instruction to enhance children’s learning which is used to teach new forms of behavior” (Smith, 2001, p.86). DTI is typically used in early intervention programs for children with autism (Luiselli et al., 2008).

Discrete trial instruction (DTI) is shown to be one of the most effective methods for teaching social skills, academic skills, and self-help skills to children with autism (Smith, 2001). Not only does DTI increase the child’s skills, but it also can decrease the child’s disruptive behavior. DTI is usually used in conjunction with other treatments to increase generalization across skills, settings, and people (Smith, 2001). DTI is a time-consuming intervention, requiring at least several hours a week and well trained paraprofessionals to implement DTI effectively (Smith, 2001). More specifically, discrete trial instruction consists of the 3-term contingency: antecedents, behaviors, and consequences (Ghezzi, 2007). The paraprofessional provides a stimulus (e.g. a toy car paired with a verbal prompt, “What is this?”) that elicits a

response (e.g. “Car!”) and receives a consequence (e.g. candy/praise). A child learns a skill by continued presentation of the same stimulus, followed by a correct response, immediately followed by reinforcement for that correct response; or he learns by continued presentation of the same stimulus, followed by incorrect or no response, immediately followed by prompting the correct response (Ghezzi, 2007). For example, a child is asked to identify a number, does not provide an answer, and is prompted with the correct answer. After multiple repetitions, the child will eventually provide the correct answer. The 3-term contingency remains intact in DTI but may appear topographically different depending on the skill being taught. For example, discrimination and word identification are different skills but the same contingencies are in place. DTI is used to teach a multitude of skill sets (Smith, 2001).

Beyond the three-step contingency, DTI is broken down into multiple steps to teach multiple skills (Ghezzi, 2007). The first part of DTI is gaining the child’s attention by obtaining eye contact, providing a vocal prompt, or a physical prompt. After obtaining the child’s attention, the individual provides a discriminative stimulus. This stimulus differs depending on the skill (Smith, 2001). Prompting by the paraprofessional depends on the child’s response. Two types of prompting methods are used: most-to-least prompting or least to-most-prompting (Ghezzi, 2007). Three to five seconds are typically given between prompts in order to allow the child an opportunity to respond. Least-to-most prompting starts with a verbal prompt (e.g. What is this?) followed by a model prompt (e.g. Paraprofessionals model the prompt). If the child does not provide a response or gives an incorrect response, the child is physically prompted (e.g. touching the item). Most-to-least prompting is the same method in the reverse order. A correct response is reinforced with praise, edible, toys, or a break. Breaks are usually offered in between trials. A trial consists of one rotation of the previous steps for one skill (Smith, 2001).

For discrete trial instruction to be effective, it must be carried out by well prepared paraprofessionals (Luiselli et al., 2008). “The success of applied behavior analysis (ABA) is completely dependent on modifying the behavior of mediators, such as staff, peers, and parents.” (Luiselli, Russo, Christian, & Wilczynski, 2008, p. 159). In other words, treatments using behavior analytic techniques must be delivered by paraprofessionals that are well prepared because DTI is an integral part of treatment for children with autism (Smith, 2001). In the literature, paraprofessionals are identified by many terms such as teacher assistants, undergraduate students, staff, parents, or students (Thomson et al., 2009). For the purpose of this discussion, paraprofessionals are those persons who are taught to use behavior analytic techniques to work with children with disabilities. This study addresses those paraprofessionals who are being taught to use discrete trial instruction (DTI) for children with autism. Discrete trial instruction is sometimes referred to as discrete trial teaching or discrete trial training (DTT). All three terms are used interchangeably (Thomson et al., 2009). For the purpose of this discussion, the term discrete trial instruction (DTI) is used to describe discrete trial instruction, discrete trial teaching, and discrete trial training. This study investigates methods to educate paraprofessionals about DTI and prepares paraprofessionals to implement DTI effectively.

Psychoeducation

Before paraprofessionals can implement DTI effectively, they must be educated about DTI. Most psychoeducation includes a written curriculum, manuals, or handouts (Thomson et al., 2009). Previous studies have included a psychoeducation component prior to baseline or treatment. Catania et al. (2009) provided psychoeducation on DTI prior to teaching staff to implement DTI with video modeling. Ward-Horner and Sturmey (2012) assessed the components of a treatment package to teach participants to conduct functional analyses. During

the baseline phase, the authors provided written instruction. However, the written component was not assessed but was considered part of the treatment package. Ryan and Hemmes (2005) used a teaching manual to educate and teach paraprofessionals to implement DTI with children with autism. However, the teaching manual was not evaluated, only the treatment package.

Rarely do researchers assess the effectiveness of psychoeducation or the amount of information retained from psychoeducation. Moore and Fisher (2007) provided written instruction prior to teaching participants how to implement functional analyses. The authors provided testing to make sure the information was retained prior to entering the treatment phase. Arnal et al. (2007) evaluated the effectiveness of an instructional packet for teaching paraprofessionals to use DTI with children with autism. Participants increased their performance but did not reach mastery criteria. The authors described the written instruction as an instructional manual. However, with the lack of participating reaching mastery criteria, the manual might be better described as psychoeducation regarding DTI. The authors provided a test after the participants completed the instructional manual. However, the instructional manual was longer than twenty pages and the authors did not describe the materials that were assessed in the test or if there was a mastery criterion. The tests were described as self-evaluations. It was unclear whether the tests were mandatory.

Schultz, Schmidt, and Stichter (2011) conducted a literature review of parent education for children with autism. The study included 30 articles and education was provided to parents with children ages 3-5 years. The review found that 76% of programs provided direct training, 40% utilized teaching manuals, 86% used data collection in education, and 70% used single-subject designs to assess the education programs. Although these studies included an educational component, there was no assessment of the effectiveness of psychoeducation. The

previous studies have included either direct training or written materials. However, none of the studies assessed other formats of psychoeducation, such as video, where participants obtain information on treatments while watching as experts model those treatments. Video psychoeducation may be a helpful element of educating paraprofessionals about DTI because it can include expert models conducting DTI as opposed to simply reading about DTI. Although previous studies have provided information on education methods, no information was provided on how the education affects the attitudes or beliefs of participants towards autism.

Stone and Rosenbaum (1988) assessed the beliefs of parents and teachers about autism. Participants (47 teachers and 47 parents) completed a survey that assessed their beliefs about autism and their responses were compared to experts in the field. Both parents and teachers had misconceptions about autism. These misconceptions were across different domains including expectations regarding development, social skills, and cognitive development. Parents' and teachers' beliefs differed regarding autism and treatments for autism. This study suggested that treatment agents, especially parents, need to be educated about autism. These factors may also affect treatment acceptability when consumers are unaware of the causes of autism or treatment mechanisms.

Study One examined whether video versus written education had different effects on paraprofessionals' knowledge about children with autism as well as the collateral effects on their attitudes and beliefs. Although previous studies have included psychoeducation as part of their treatment packages or stressed the importance of psychoeducation, few studies have assessed the methods utilized to teach paraprofessionals about DTI and autism (Moore & Fisher, 2007; Schultz, Schmidt, & Stichter, 2011). This study assessed whether different forms of education

that provided the same content had an impact on participants. This study also assessed whether participants' attitudes and beliefs are affected by educational format.

Methods of Preparing Paraprofessionals to Implement Discrete Trial Instruction

Behavioral techniques are typically utilized to teach paraprofessionals to use DTI or other behavior analytic teaching methods (Allison & Ayllon, 1980; Sarakoff & Sturmey, 2004).

Although researchers did not begin publishing studies specifically examining techniques for teaching ABA paraprofessionals until the late 1960s, there is extensive research in these techniques (Luiselli et al., 2008). Teaching techniques commonly include a three-step procedure: tell, show, and do (Luiselli et al., 2008).

“Tell” involves an expert giving verbal instructions to a paraprofessional or written materials such as a teaching manual or instructional manual. Luiselli (2011) found that some common “tell” techniques included teaching manuals, lectures, or workshops. However, these treatments are rated as less favorably by participants and treatment integrity is not highly correlated with verbal or manual instructions. In 1977, Koegel was one of the first researchers to use an instructional manual to teach teachers how to implement DTI (Thomson et al., 2009). However, the instructional manual was utilized with other teaching methods (e.g. practice, video modeling) and took over 25 hours to teach participants to use DTI effectively. Arnal et al. (2007) assessed the use of an instructional manual to teach undergraduates to conduct DTI. Rehearsal, video modeling, and in-vivo practice were utilized to teach participants DTI. Although the manual improved behavior from baseline, the participants did not reach the mastery criterion. Ryan and Hemmes (2005) used an instructional manual to teach undergraduates to use DTI with children with autism. However, the manual was included as part of a treatment package that included role-plays, video modeling, and practice. Although studies have attempted

to use verbal instruction as a teaching method, it has been shown to be effective only in conjunction with other teaching methods (Arnal et al., 2007; Ryan & Hemmes, 2005).

“Show” indicates that someone is modeling the behavior. For example, an expert models the behavior expected of the paraprofessional (Koegel et al., 1977). Modeling was a teaching and learning technique that was most famously studied by Albert Bandura (1977). Moore and Fisher (2007) evaluated the effect of video modeling on teaching participants to conduct functional analyses. Participants were given verbal and written instruction and were tested prior to treatment. Participants experienced three phases of treatment. The first phase was a lecture, where participants watched a presentation about functional analyses. Participants received partial video modeling which included 50% of the behavior expected by participants. The last phase was full-video modeling where all behaviors were modeled by experimenters in a video. A multiple baseline across participants was used to assess behavior. Video modeling improved performance to a mastery criterion for 8 out of the 9 participants. Partial video modeling and lecturing did not improve performance. It should be noted that modeling alone was not necessarily an effective teaching method (Ward-Horner & Sturmey, 2012). Luiselli (2011) found that modeling was not effective when confederates were used in place of children when teaching paraprofessionals to use behavior analytic techniques with children with autism.

Koegel, Glahn, and Nieminem (1978) assessed parents ability to use behavior analytic techniques after watching a model. The authors found that the participants mastered the skill demonstrated by the expert but did not generalize their skills to teach new behaviors. A follow-up study was completed that utilized a videotape of multiple exemplars of behaviors. Results showed that participants learned to implement behavior analytic techniques and generalized these skills to novel behaviors. Participants needed direct teaching to generalize their skills.

“Do” is practicing the behavior that is intended. Practice is typically followed by performance feedback. Feedback may include verbal statements, error correction, written feedback, or feedback provided in graphic form. Performance feedback is a consistent and highly effective method of teaching. Iwata et al. (2000) trained undergraduates to conduct functional analyses with performance feedback within a two-hour training session. Eleven undergraduates were given reading materials in baseline. Treatment consisted of reading materials, quizzes, video demonstrations, and performance feedback. Participants practiced conducting functional analyses with confederates, graduate students trained in functional analyses during the treatment phase. A multiple baseline was used to assess treatment outcomes. All 11 participants were trained in 2 hours with 95% accuracy. Koegel et al. (1997) trained staff to conduct individual programs for children with autism with a training manual, modeling, practice, and performance feedback. A multiple baseline across participants was utilized. All participants reached the mastery criterion.

Some studies have shown that performance feedback is effective to teach paraprofessionals DTI (Downs, Downs, & Rau, 2007; Thomson et al., 2009). Leblanc, Ricciardi, and Luiselli (2005) used performance feedback to train participants to conduct discrete trial instruction. The participants received feedback from a trainer directly after each discrete trial. Results were assessed with a multiple baseline design. The authors found that all participants reached the mastery criterion with performance feedback. Findings were maintained after an 11-week period. Downs, Downs, and Rau (2008) evaluated the effects of performance feedback on teaching undergraduates to utilize DTI with children with autism. Six participants received an 8-hour training prior to entering treatment. Undergraduate students received oral or written feedback. A multiple baseline design was used to assess treatment. Regardless of

condition, performance feedback was effective at improving students' performance. Results were maintained and generalized across skills. The authors found that the children exhibited improved learning when performance feedback was provided to their DTI instructor.

Smith, Ward, and Van Houten (2006) found evidence supporting the importance of feedback to improve performance. They trained athletes with public posting, goal setting, and feedback. The authors found feedback to be most effective when a person was compared to their own performance rather than to another individual. However, they suggest that feedback alone is not sufficient. Although performance feedback is an effective teaching method, it is time consuming and requires a professional to be available. While the basic components of verbal instruction, modeling, and feedback have shown to be effective, many investigations have examined more complex treatment packages .

The Use of Treatment Packages to Implement Discrete Trial Instruction

Treatment packages have been shown to be an effective method for teaching paraprofessionals to implement DTI. Thomson et al. (2009) conducted a literature review of studies that evaluated teaching methods used to teach paraprofessionals to use discrete trial instruction with children with autism. Seventeen articles were selected for the literature review and all studies in the review used a treatment package to teach the paraprofessionals. Methods used in the treatment packages were: written instruction, rehearsal, video modeling, lectures, written feedback, and visual feedback.

Thomson et al. (2009) identified a number of similarities across studies. The review showed that about half of the studies used written instruction procedures while five studies utilized a self-instruction manual. Written instruction included handouts or manuals that provided information about DTI. The instructional manual was a how-to format with practice

tests that the participants took prior to implementing DTI (Ryan & Hemmes, 2005). Four studies utilized lectures as part of a teaching package. Lectures were as short as 20-30 minute presentations to full-day in-services for teachers. Thomson et al. (2009) reported that most studies used some form of feedback. Video modeling consisted of the participants watching a video of experts conducting DTI (Crockett et al., 2007). Two studies did not include a verbal feedback component; however, those studies used modeling (e.g. video modeling) and written instruction to teach DTI to paraprofessionals.

Newer studies provided feedback with graphs, in writing, or videos (Thomson et al., 2009). Most teaching packages contained a rehearsal component, where the participant practiced a role-play with a confederate or expert and received verbal feedback. Procedural integrity, the measure which identified that the treatment was implemented as intended, was only collected for 7 of the studies. For those studies that collected treatment integrity, integrity was 100%. Integrity was typically measured using a checklist of steps. Seven studies included a social validity component, assessing whether the treatment was socially acceptable to consumers. Most assessments were based on questionnaire data and were reported to have positive results (Thomson et al., 2009).

Thomson et al. (2009) reported some inconsistencies in the methods used to assess teaching packages for training paraprofessionals to use DTI. The authors reported that the amount of information the participants received during baseline varied across studies. Studies varied from no information about DTI to pre-training DTI prior to baseline. These discrepancies were correlated with baseline levels. For example, a study that has no information on DTI in baseline had baseline levels near 0%. The study also highlighted the variations in the level of experience of participants. Variations ranged from no experience to formal training (e.g.

classes, previous DTI experience) prior to baseline. Thomson et al. (2009) provided an extensive evaluation of treatment packages for teaching paraprofessionals to use DTI effectively.

Luiselli (2011) recommended a treatment package that he referred to as competency-based training to teach paraprofessionals to implement DTI effectively. Luiselli (2011) suggested that training take place in the setting in which the paraprofessional will conduct DTI with a representative of the target population. For example, DTI should be conducted in the classroom with a child with autism if the paraprofessional intends on working in the classroom conducting DTI with a child with autism. Luiselli (2011) also recommended the paraprofessional practice to a criterion with a trainer to increase fluency. Feedback from an expert on correct and incorrect behaviors was identified as one of the most important qualities (Luiselli, 2011). Luiselli also recommended utilizing a task analysis to break down the skills of DTI into steps and suggested identifying operational definitions of each step. Luiselli (2011) also encouraged that the training consist of written instruction, rehearsal, practice, and performance feedback.

Multiple studies have used treatment packages to teach behavior analytic techniques to paraprofessionals; however, not all components of the treatment packages may be necessary (Thomson et al., 2009). Ward-Horner and Sturmey (2012) evaluated the treatment components that were effective in a teaching package. In this study, participants were taught how to conduct a functional analysis. The treatment package included modeling, rehearsal, and performance feedback. An alternating treatment design was used to assess the variables that are most active in the training package. During baseline, participants received written instructions on how to conduct a functional analysis. The results showed that rehearsal was ineffective in teaching participants to conduct a functional analysis. However, performance feedback was the most

effective training procedure. Modeling was found to be effective but only for some of the participants. Results suggest that the full teaching package may not be necessary to teach participants to implement behavior plans for children with disabilities.

Self-Modeling and Video Self-Modeling

Self-modeling is a method that has shown to be effective in teaching paraprofessionals to implement DTI effectively (Catania et al., 2009). Self-modeling is a teaching method that solves some of the pitfalls of performance feedback by allowing the paraprofessionals to compare themselves to their own performance or to the performance of a model (Alvero, Bucklin, & Austin, 2001). Dowrick (1999) reviewed 150 studies that used self-modeling interventions. He found that self-modeling was successful across numerous skills, settings, and populations based on two features. Self-modeling provides a model of the behavior and provides a source of feedback. The person watches their performance on a video and alters their behavior based on their previous performance. Self-modeling has been used to teach numerous skills including vocational, academic, behavioral, physical, communication, and functional skills (Dowrick, 1999). Self-modeling has been used across the life span and with persons with diverse mental capabilities. Dowrick (1999) found that self-modeling was best used for skill acquisition and generalization. People learn these behaviors and adapt their behavior based on receiving feedback about their behavior, watching themselves conduct the new skill incorrectly, and adapting their behavior accordingly (Dowrick, 1999).

There are multiple theories as to why self-modeling is a successful intervention for skill acquisition (Dowrick, 1999; Bandura, 1997). The first and simplest explanation was presented by Bandura (1997). Bandura found that when a person can attend to a behavior, remember it, and reproduce it, that person is capable of learning from the modeled behavior. Bandura also

argued self-modeling builds self-efficacy by showing oneself she or he is capable of completing the skill. Dowrick (1999) found that self-modeling was effective because humans learn to adapt to their environment. A person watches their own behavior and changes their future behavior based on previous behavior that was correct or incorrect.

Video self-modeling is a teaching method that utilizes modeling with a performance feedback component that allows people to model their own performance or the performance of an expert after viewing a video. The person receives feedback by watching their own behavior. The person observes the behaviors he or she performed correctly or incorrectly and alters their own behavior based on their performance (Bellini & Akullian, 2007).

Video self-modeling has been studied in the sports literature to teach skill acquisition. Starek and McCullagh (1999) examined the effects of modeling on swimming performance, anxiety, and self-efficacy. The participants were adults who had never learned to swim. They compared self-modeling and peer-modeling. Video self-modeling was more effective in improving performance. Stokes et al. (2010) examined different behavior coaching styles to teach football players in high school pass-blocking. Stokes et al. (2010) taught pass-blocking using three different procedures: descriptive feedback alone, descriptive feedback with video feedback, and teaching with acoustic guidance (TAG). All procedures provide performance feedback. Descriptive feedback included instruction of the task analysis, modeling, physical prompting, and performance feedback. Feedback consisted of praise for correct completion and verbal feedback and modeling for wrong steps. The video feedback included descriptive assessment, with dual rating of performance by the coach and player, followed by performance feedback, and practice of incorrect steps. In TAG, the player was notified that he completed a correct step immediately after the step was completed. A pre-post assessment was conducted

during practice and games using a multiple baseline design across participants and pass-blocking was compared to experienced players' performances. Descriptive feedback plus video feedback was necessary to improve performance. The participants rated the video feedback as the most acceptable which was also the most effective in improving performance.

Video self-modeling has been used for numerous skills such as motor skills, social skills, and sports. It has been used with numerous populations including children with disabilities and athletes and has been examined in well over 200 studies (Dowrick, 1999). A meta-analysis was conducted on video modeling and video self-modeling interventions for children and adolescents with autism (Bellini & Akullian, 2007). Results suggest that both interventions are effective, skills are maintained, and results generalized. Video self-modeling is also considered an evidence-based intervention for children with ASD. Multiple studies have shown video self-modeling to be an effective intervention to teach skill acquisition to children with autism (Aryes & Langone, 2005; Bellini & Akullian, 2007; Lasater & Brady 1995; Theimann & Goldstein, 2001; Taylor, Levin, & Jasper 1999; Charlop & Milstein, 1989).

Although video self-modeling has been studied in the sports literature, there are only a few studies that have assessed video modeling techniques or utilized similar techniques to teach paraprofessionals working with children with autism. Lavie and Sturmey (2002) taught undergraduates to implement paired-choice preference assessments for children with autism using video modeling and performance feedback. The training consisted of written instruction, verbal instruction, video modeling, practice, and performance feedback. Training continued until students exhibited skills with 85% accuracy.

Singer (1986) used video instruction alone to improve the behavior of paraprofessionals responsible for teaching special education. However, it only improved some of the target

behaviors. Leblanc et al. (2005) trained paraprofessionals to conduct discrete trial instruction (DTI) with performance feedback. Verbal feedback, praise, and reprimands were given at the termination of the session. Performance feedback improved the performance of all three paraprofessionals and treatment outcomes were maintained post treatment. Leblanc et al. (2005) also assessed social validity and found that participants rated the treatment as acceptable and effective.

Crockett et al. (2007) utilized video modeling with a feedback component to teach parents to use DTI with their children with autism. A multiple baseline design was used to assess treatment effectiveness. However, the video modeling and feedback were part of a treatment package. The treatment package was effective in teaching the parents to use DTI with their children.

While these studies have demonstrated gains, they required an extensive time commitment of highly qualified teachers and the paraprofessionals, requiring up to 6 months to complete training. This level of time commitment is extremely problematic given the relatively high rates of turnover in paraprofessional positions. Additionally, many of the teaching techniques only taught a specific skill and did not assess generalization or teach a complete skill set. Furthermore, many of the procedures did not produce permanent products of the paraprofessionals' performances. Collectively, these studies identified effective teaching techniques; however, the techniques were time-consuming and did not demonstrate generalization.

Catania et al. (2009) used video modeling to train staff to implement discrete trial instruction. A multiple baseline across three participants was used to assess their performance. Participants were given information about DTI during baseline and also practiced a session with

a child prior to treatment. Participants watched a video of the experimenters conducting DTI during the treatment phase. Participants did not work with children in the treatment phase, but the experimenters acted as confederates. Two of the three participants reached mastery criterion in the treatment phase and one participant needed performance feedback to reach a mastery criterion. Results suggest that video modeling is an effective method for teaching DTI to paraprofessionals. However, the participants had prior experience working with children with autism and had taken classes prior to this study. Additionally, the treatment used confederates in lieu of children with autism. Working with children with autism can add multiple difficulties such as problem behavior or non-responding. Furthermore, this study focused on video modeling by experts, not of the participants' performances. Participants attempted to imitate the behavior of experts. Even with the expert modeling, one of the participants needed performance feedback.

The Differences between Video Self-Modeling and Video Self-Monitoring

Video self-monitoring and video self-modeling have been used interchangeably in the literature but describe different procedures. Video self-modeling has been studied more extensively in the literature than video self-monitoring (Aryes & Langone, 2005; Bellini & Akullian, 2007; Lasater & Brady 1995; Theimann & Goldstein, 2001; Taylor, Levin, & Jasper 1999; Charlop & Milstein, 1989). Video self-modeling involves imitating your own prior behavior or the behavior of an expert after watching a video. Video self-modeling has been shown to be effective across a variety of skills and diverse populations (Dowrick, 1999). Video self-modeling is hypothesized to be effective because it provides feedback to the person on how to complete the task when the person watches her own performance and adjusts her behavior based on her performance. It also provides an opportunity to correct behavior.

There has not been a clear differentiation in the literature between video self-modeling and video self-monitoring. There have been studies that used self-modeling that had participants track behavior and refer to their procedures as self-modeling (Dowrick, 1999). There have also been studies that have described self-modeling procedures but used experts instead of the participant's behavior (Catania et al., 2009). For purposes of this study, video self-modeling consists of a participant watching their own performance via a video without the addition of receiving external or socially mediated feedback. Video self-monitoring are studies in which a participant watched their own behavior and monitored their behavior during the video.

Video self-modeling has been described as both a performance feedback intervention and a modeling intervention (Dowrick, 1999; Thomson et al., 2009). Video self-modeling is considered a modeling procedure because the person is imitating their own behavior. It has been seen as a performance feedback procedure because the person receives feedback by watching their own behavior and makes adjustments based on correct or incorrect models. Video self-modeling has been shown to improve social interactions for children with autism (Dowrick, 1999). The child watches their behavior in an interaction and alters their future behavior based on the video. However, most interventions that include video self-modeling include a feedback component, especially when teaching paraprofessionals to implement behavioral analytic tasks (Thomson et al., 2009). Video self-modeling has been combined with performance feedback during treatment (Thomson et al., 2009). For purposes of this study, video self-modeling is referred to a method that utilizes both a modeling and performance feedback component.

Video self-monitoring has been studied less extensively. Video self-monitoring is different from video self-modeling because there is an added monitoring component (Knight, 2010). Video self-monitoring contains an added feedback component as well, in which the

participant monitors their own behavior by scoring his or her expected behavior. The participant watches his or her performance on a video. During the video, the participant is asked to monitor his or her performance. The monitoring allows the participant to see how well he or she is performing the task (Knight, 2010). Although video self-monitoring adds a feedback component, the participant can only compare his or her performance to him or herself. If the participant continues to score him or herself incorrectly, there is no feedback given, and the participant continues to practice the incorrect behavior.

Video self-monitoring has been used more often to assess procedural integrity, whereas video self-modeling has been used more often in skill acquisition (Catania et al., 2009, Knight, 2010). Video self-modeling has been utilized to teach skills that were not previously in the person's skill set (Catania et al., 2009). Fisher and Moore (2007) used video modeling to teach paraprofessionals to implement a functional analysis. Catania et al. (2009) taught staff to use discrete trial instruction using video self-modeling. These were new skills that were not part of the person's previous skill set. Video self-monitoring studies have focused on progress monitoring a skill that has already been taught. Most studies have taught the skill prior to baseline and then assessed procedural integrity utilizing self-monitoring (Knight, 2010). Pelletier et al. (2010) examined procedural integrity of DTI using self-monitoring. Knight (2010) evaluated the procedural integrity of parent's use of DTI. The author was unable to identify studies that have evaluated skill acquisition utilizing video self-monitoring.

There have been a few studies that have used video self-monitoring to monitor teaching behavior. Pelletier et al. (2010) examined the effects of video self-monitoring on procedural integrity. Three teachers were chosen to participate in this study who were implementing a behavior plan for students in the school. Participants were chosen based on low integrity scores.

Participants had been taught how to implement a behavior plan for a student in their classroom. Participants were also taught to self-monitor by watching a video of the experimenters and receiving feedback on their monitoring skills. After reaching a criterion, participants entered the self-monitoring phase.

In the self-monitoring phase, participants viewed and monitored their own behavior. However, experimenters gave them feedback when they scored the integrity incorrectly. A multiple baseline across participants was used to assess procedural integrity. All three participants reached a mastery criterion. Two of the participants completed a 1-month follow-up and maintained procedural integrity. Participants in this study were teachers who had at least one year experience and were conducting a treatment plan with 80% integrity prior to intervention. In addition, no new skills were taught during the treatment phase. The participants learned to self-monitor their own behaviors prior to treatment. Participants also received feedback from the experimenters during the treatment phase. Although the participants learned to self-monitor, participants received feedback throughout the sessions, were taught to self-monitor prior to treatment, and conducted the behavior plan at 80% integrity prior to treatment.

Knight (2010) used video self-monitoring to improve parent implementation of discrete trial instruction. Two parents participated in the study with their children. Baseline included written instruction, lectures, and a checklist. Participants were trained to self-monitor prior to treatment using a videotape of the experimenter conducting discrete trial instruction. During treatment, participants practiced DTI with their children on three skills and self-monitored their own behavior. Performance was assessed using a multiple baseline across participants. Video self-monitoring improved the DTI of both parents. However, generalization did not occur for novel skills. After self-monitoring those skills, both parents reached a mastery criterion.

Although this study improved the DTI of two parents, it did not generalize to new skills.

Participants were taught to self-monitor prior to treatment and participants received an extensive training prior to treatment (i.e. instruction, lecture, feedback).

Belfiore, Fritts, and Herman (2008) used video self-monitoring to increase the procedural integrity of DTI. Participants were trained to conduct DTI and self-monitor by watching footage of themselves performing DTI prior to treatment. Procedural integrity was assessed with a multiple baseline across participants. Participants were evaluated on 5-steps of discrete trial instructions. Procedural integrity increased after the self-monitoring phase. Although self-monitoring was effective, it was conducted with staff who previously worked at the clinic. Participants were also taught to self-monitor and use DTI prior to the intervention.

In the previous studies, video self-monitoring was utilized to increase the procedural integrity of the expected behavior (e.g. DTI, behavior plans). The researchers assessed the integrity of the learned procedure. None of the three studies assessed skill acquisition. Knight (2010) assessed procedural integrity and generalization of DTI; however, the skill did not generalize without feedback. The previous studies also included a feedback component during the treatment phase or participants were taught to self-monitor their behaviors prior to the treatment phase.

The purpose of this investigation is to extend the findings of previous studies to examine the effects of video self-monitoring on performance. This study assessed whether video self-monitoring alone is effective in teaching paraprofessionals to perform DTI or whether performance feedback is necessary. Although performance feedback has been shown to be effective, video self-monitoring alone may be an effective teaching method. Video self-monitoring would be time and resource efficient compared to performance feedback because it

would not require a one-to-one teaching arrangement (Charlop, Schreibman, & Tryon, 1983). Although previous studies have assessed video self-monitoring with performance feedback, this study examined the effects on video self-monitoring on teaching professionals to implement DTI effectively.

Social Validity of Teaching Methods

There have been numerous studies to show the effectiveness of behavior analytic treatments for children with autism; however, little research has been conducted on the social validity of these treatments (Thomson et al., 2009). Wolf (1978) was the first to introduce the term “social validity.” Wolf described social validity as measured by three aspects: socially significant goals, socially appropriate methods, and treatments that produce effects that are socially important (Wolf, 1978). Wolf argued that social validity allowed for the assessment of complex reinforcers. In other words, treatments can be more effective and sustainable if consumers find those treatments as appropriate and to produce important outcomes. This continues to be a concern due to fad treatments that consumers are spending time and effort but do not have empirical support (Wilczynski, 2010). Studies have been conducted to demonstrate the ineffectiveness of fad treatments such as sensory integration therapy but consumers continue to invest in these treatments for their children (Zane, Davis, & Rosswurm, 2008).

Kazdin (1977) proposed that social validity should be addressed when evaluating the effectiveness of behavioral treatments. Kazdin identified social validation as a means for evaluating social validity of behavioral interventions. According to Kazdin, it is important for treatments to produce change and for those changes to be clinically important. Kazdin identified strategies for assessing clinically important treatment changes. First, participants should be compared to peers to identify if the behavior being addressed is abnormal and needs change.

Secondly, subjective evaluations should be conducted in naturalistic settings. Thirdly, the change has to be important to consumers. The behavior change was not seen as clinically significant change when all three criteria were not met. In other words, it is important to make sure that the behaviors identified are in need of change and consumers find those outcomes socially important.

Minimal research has been conducted that assesses paraprofessionals' attitudes and beliefs towards treatments for children with autism and specifically DTI. Michigan State University conducted a research review that examined the effects of school interventions for children with autism between 1998-2008. The reviewed examined 21 variables across 3 different domains but the review did not include social validity or consumers' perceptions of treatments (Michigan State University, 2011). Few studies have focused on social validity of treatments for children with autism. Thomson et al. (2009) completed a literature review of treatment packages that taught paraprofessionals to use DTI with children with autism. Results showed that about one-third of the studies assessed social validity. Most studies used informal questionnaires or surveys to assess social validity (Thomson et al., 2009). Other assessments included informal interviews of the consumers or more formal assessments such as rating scales (i.e. Acceptability Rating Scale). Ratings were predominantly positive but no assessments were completed prior to treatment.

Finn and Sladeczek (2001) conducted a literature review of social validity of behavioral interventions. The review assessed types on measurement used to assess social validity. Results found that there were 19 different measures of social validity for behavioral interventions. The authors found that the most common type of measurement was questionnaire data in a rating format. Results also suggested that no one instrument was superior to other instruments. The

authors suggested that a more comprehensive assessment is needed to assess social validity of behavioral interventions and researchers should assess social validity regardless of the instrument utilized to assess social validity.

Ravindran and Myers (2012) assessed the cultural perceptions of autism and how those perceptions influence treatment choice. Treatment choice and perceived outcomes were based on the family's culture and the perception of the cause of disability. For example, parents that thought their child's autism was caused by karma or a spiritual factor were more likely to choose more holistic treatments (e.g. acupuncture, herbal remedies) over evidence-based treatments (Ravindran & Myers, 2012). Beliefs affected treatment choice, treatment expectations, and type of professionals chosen for consultation. Ravindran and Myers (2012) also noted that parents frequently did not directly communicate their concerns about treatment. Ravindran and Myers (2012) recommended that professionals who consult with parents regarding children with autism also assess families' attitudes and beliefs about autism as well as treatments for autism.

Al Anbar et al. (2010) assessed the role of parents' perceptions of autism on treatment choice for children with autism. Participants were asked to fill out a questionnaire that inquired about the treatments they have used for their child, potential causes of their children's disorder, and the type of information they had received about autism or the type of information they were seeking. A logistical regression was used to analyze the data. The authors found most parents believed that autism had a genetic cause. Other causes identified by parents were personal causes, hereditary causes, and external causes. There was also a positive relationship of severity of the disorder and the use of educational modalities. When parents rated the cause of the disorder as unpredictable, drug treatment was more likely. The opposite relationship was also found when parents felt they had a sense of understanding of autism and its path; parents were

less likely to choose drug or nutritional treatments. Results also showed that parents were more likely to participate in treatments when they believed causes were related to hereditary factors. The authors implicated the importance of psychoeducation for parents about autism, causes, and treatment effectiveness.

Mackintosh, Goin-Kochel, and Myers (2012) conducted a qualitative study to identify parents' perceptions of treatments for children with autism. Participants were 486 parents from 6 different countries. Participants were asked to complete a survey that inquired about likes and dislikes regarding current treatments for autism. Results showed that parents disliked (70%) more than they liked treatments (46%). Factors related to likability included cost, parental stress, access to treatment, consultation relationship, treatment effectiveness, and medication.

King and Valdovinos (2009) examined the social validity of behavioral treatments for children with autism using a popular television show, *Super Nanny*. Undergraduate students watched segments of the child's behavior on the television episode, before and after the intervention. Intervention consisted of behavioral treatments to decrease the child's disruptive behaviors. Participants were given a questionnaire that focused on the child's behavior, the intervention, and the family interactions. The ratings of the acceptability of the child's behavior, the family interactions, and the treatment acceptability increased after the intervention was implemented.

Previous studies suggest that social validity plays an integral role in treatment selection, treatment effectiveness, and consumer satisfaction (Mackintosh, Goin-Kochel, & Myers, 2012). Reviews have suggested treatments need to be not only effective but also identified as socially appropriate so that consumers utilize these treatments (Kazdin, 1977; Wolf, 1978). Furthermore, research has shown that consumers do not always express concerns (Ravindran &

Myers, 2012). It is vital that clinicians and researchers are continually assessing the social validity of effective treatments.

Treatment Acceptability

Witt and Elliot (1985) extended Wolf's work on social validity. Witt and Elliot coined the term, "treatment acceptability." Treatment acceptability is defined as how well the consumers of the treatment identify the treatment as fair, appropriate, and reasonable. Witt and Elliot's model hypothesized that when consumers find treatments more acceptable, treatments are implemented more often (i.e. use), with greater integrity, and those treatments are more effective. Witt and Elliot suggest that acceptability should be assessed prior to treatment.

Multiple literature reviews have been conducted examining treatment acceptability. Reimer, Wacker, and Koepl (1987) conducted a literature review of treatment acceptability. The focus of the literature review was to identify factors associated with treatment acceptability. The results of the review found that treatment approach, problem severity, time, treatment effectiveness, and treatment understanding have an effect on treatment acceptability. The authors suggest identifying these variables prior to implementing treatment and assessing treatment acceptability.

Miltenberger (1990) completed a literature review examining treatment acceptability. The review found that minimal research has been conducted in the area of special education, especially early intervention. Miltenberger (1990) also assessed the factors related to treatment acceptability. The review found that interventions were more acceptable if the treatments took little time, were less intrusive, and related to parent/teacher orientation. Miltenberger (1990) also suggested assessing treatment acceptability prior to treatment. The literature review did not

include studies that assess early special education. The results of the literature review may not generalize to early intervention treatments such as discrete trial instruction.

Reimers et al. (1992) compared parent acceptability of contrived versus naturalistic settings for treatment. Participants were 40 parents seeking services in an outpatient setting for their child with behavioral problems. Parents were asked to rate treatment acceptability of interventions that were utilized in the clinic for their children and they also rated case descriptions of a different treatment they had not experienced. Ratings were assessed throughout the treatment at the clinic. Acceptability was similar across conditions when the severity of the problem behavior was higher. Results also showed that ratings of treatment integrity increased when ratings of treatment acceptability increased. Treatment effectiveness was positively influenced by treatment acceptability.

Strain and Schwartz (2001) evaluated the social validity of behavior analytic interventions targeting the socialization of children with autism. The authors reviewed a number of studies that used different behavior analytic techniques to improve social interactions for children with autism. The review found that most treatments were not significantly successful in improving social interactions and most lacked a social validity component. Strain and Schwartz suggested designing interventions that are acceptable to consumers, easy to implement, and generalize to other settings.

Callahan and Shukla-Mehta (2010) assessed the social validity of two comprehensive models of treatment for children with autism, Applied Behavior Analysis (ABA) and Treatment and Education of Autistic and related Communication Handicapped Children (TEACCH). Callahan and Shukla-Mehta (2010) conducted a literature to identify the variables that make treatments acceptable to consumers and conducted statistical analyses on these variables to

identify which variables effect treatment acceptability. The participants with less knowledge about autism rated ABA techniques as less socially valid. Results also showed that participants with less autism-related training perceived ABA treatments as less socially valid. However, the severity of autism did not affect the social validity of interventions. Treatments packages were rated as more socially valid than single treatments.

Although there is a relatively extensive research base on teaching ABA paraprofessionals how to conduct DTI, there is minimal research on the social validity of these teaching methods (Thomson et al., 2009). The previous research suggests that treatment effectiveness, integrity, and use are mediated by treatment acceptability (Callahan and Shukla-Mehta, 2010; Reimers, 1990). Consumers have chosen less effective treatment methods for their children due to the treatments being more socially acceptable; therefore, it is vital that social validity is understood. Furthermore, the previous studies mostly assessed the treatment acceptability of parents or teachers. Rarely, do studies assess the acceptability of the treatment agent, those individuals being taught to use the skill, such as paraprofessionals. This study aims to assess the treatment acceptability of paraprofessionals being taught to implement a new skill, DTI.

The Current Studies

This investigation assessed the impact of different teaching methods and the social validity of these methods associated with teaching paraprofessionals about and how to implement DTI for children with autism in two studies. The first study examined the effects of video psychoeducation versus manual instruction on informing paraprofessionals about autism and discrete trial instruction. The first study also examined the impact on beliefs and attitudes of paraprofessionals regarding autism and discrete trial instruction. The second study assessed the effects of video self-monitoring on teaching paraprofessionals to use DTI with children with

autism. Although previous studies have assessed video self-monitoring with performance feedback, this study examined the effects of video self-monitoring alone on teaching paraprofessionals to implement DTI effectively. This study also assessed the social validity of these teaching methods.

STUDY ONE METHOD

Participants

Participants were sixty-two undergraduate students at Louisiana State University (LSU) taking an undergraduate psychology class. Participants received extra credit for class for participating in the study. No names were placed on their research materials and informed consent was kept separate from testing materials. A power analysis was conducted using G*power. Forty-two participants were needed to achieve a power of .8 with an alpha of .05 and an anticipated Cohen's *d* effect size of .4. Sixty-two people (29 manual, 33 video) participated in this study.

Setting

Participants were taught in a classroom setting. Rooms consisted of a table, chairs, treatment materials, and instructional materials. The participants took an experimenter-developed test after they read an educational packet or watched a teaching video.

Stimuli and Apparatus

Each participant took an experimenter-developed test after watching a video or receiving an educational packet. The test included information in the packet and video as well as questions to assess the thoughts and feeling about treatments for children with autism. The test assessed the participant's knowledge of autism, discrete trial instruction, and included questions regarding correct implementation of DTI. Participants were also asked about their attitudes and thoughts about autism and treatments for children with autism. Both the video and the packet contained the same information: background information on autism, treatment, discrete trial instruction procedures, and techniques for handling problem behaviors. The teaching manual was an outline of the teaching video. Three graduate students in the Doctoral Psychology program at Louisiana

State University developed the video to provide paraprofessionals with training prior to practicing DTI with the children as well as to provide information to those paraprofessionals who will be teaching children with autism. The video contained the graduate students conducting DTI sessions with an adult playing the role of a child. The video displayed multiple skills and scenarios of correct and incorrect teaching methods along with a professional explaining the video footage.

Procedure

A between-subjects design was utilized in this study to assess participants' knowledge, attitudes, and beliefs. The independent variable was the type of teaching method: teaching video or teaching manual. The dependent variables were the scores on the test, number of items correct/total items, and the responses to each attitude and belief question. Participants were randomly assigned to participate in one of the two groups. Participants were told that they would be receiving information on autism as well as information on an evidence-based treatment for autism, discrete trial instruction. Participants were also told they would take a test about the information received and asked to rate their thoughts and attitudes about autism and evidence-based treatments. Participants watched a teaching video for 15 minutes or read a manual for 15 minutes. After watching the video or reading the manual, participants had 10 minutes to complete a test. Tests were scored manually. Answers not completed were scored as incorrect.

STUDY TWO METHOD

Participants

Participants were 4 undergraduate students at Louisiana State University (LSU). The participants met the following criteria to participate in the study. The participants had no experience in delivering applied behavior analytic services to children with autism. Participants were either enrolled in an undergraduate research credit course at LSU, volunteering, or inquiring about employment at an early intervention school for children with autism (ages 3-6 years). The classroom setting typically includes 6-8 children led by a speech pathologist to enhance communication skills of the students. The school also provides individual discrete trial instruction by paraprofessionals. Paraprofessionals typically are undergraduate students. Instruction includes two 1-hour sessions of discrete trial instruction 2-3 days a week. Students' individual treatment plans are supervised by a licensed psychologist who is also a board certified behavior analyst (BCBA). All names used herein are pseudonyms.

Setting

Baseline and treatment phases were completed in individual therapy rooms. Rooms consisted of a table, chairs, treatment materials, and instructional materials. During sessions, the paraprofessionals provided instruction to the child at the table and two observers were present to record sessions and collect data. Videotape review and performance feedback sessions were conducted in an office with a computer available.

Stimuli and Apparatus

During baseline, the materials were similar across participants. Materials differed based on the child's individual treatment plan. For example, one child was learning the alphabet and needed letters whereas another child was learning how to count and used dots to count. The

materials included teaching items (i.e. as described above) such as objects for discrimination tasks, numbers, any other academic materials, and reinforcers (e.g. toys, food, games). A flip camera was utilized to tape sessions. A flip camera is a miniature camcorder that records footage for immediate viewing on a computer. The flip camera is 2 in. x 2 in. x 3 in. and records up to 30 minutes. Scoring sheets were utilized to collect data and procedural integrity. A teaching manual and teaching video were utilized to introduce discrete trial instruction (DTI) to participants. The manual and video were utilized to teach all paraprofessionals at the preschool about discrete trial instruction. The manual consists of an overview of the program, discrete trial instruction procedures, and techniques for handling problem behaviors, an overview of the children's program, and the paraprofessional's responsibilities and schedule. The teaching manual is an outline of the teaching video. Three graduate students in the Doctoral Psychology program at LSU developed the video to provide paraprofessionals with the necessary instruction prior to practicing DTI with the children. The video shows the graduate students conducting DTI sessions with an adult playing the role of a child. The video shows multiple skills and scenarios of correct and incorrect teaching methods along with a professional explaining the video footage.

During video self-monitoring, the same materials were utilizing as during baseline sessions. The materials included teaching items, as described above, such as objects for discrimination tasks, numbers, any other academic materials, and reinforcers such as toys and food. Items differed if changes were made in the child's target skills. This would occur if the child mastered a skill (e.g. colors) and her treatment shifted to focus on another skill (e.g. numbers). Her materials will now include numbers. A flip camera was used to record all sessions and were viewed on a computer. Scoring sheets were used to collect data, monitor behavior, and collect procedural integrity.

During performance feedback, similar materials were used as during baseline sessions. Materials differed if the child's treatment plan was altered or a child mastered a skill. A scoring sheet was used to give feedback after viewing performance on the computer. The feedback identified the DTI steps the participant completed correctly, steps he or she omitted, or the steps he or she performed incorrectly. The sheet included the 10 steps (see dependent measures) necessary to correctly complete discrete trial instruction for 5 skills. A percentage was calculated by dividing the number of correct steps completed by response opportunities. Scoring sheets were utilized to collect data, reliability, and procedural integrity.

Dependent Measurement and Interobserver Agreement

Treatment integrity was the dependent measure, number of steps implemented correctly divided by the number of steps completed. Skills implemented across participants differed but the number/type of steps needed to complete the skill was the same across participants. For example, one participant taught a child her colors while another participant taught a different child his shapes. Although the skills are different, the steps are the same. Steps included: (1) provided necessary materials, (2) attained child's attention, (3) provided one prompt, (4) provided necessary prompting, (5) utilized a 3-5 s intertrial time, (6) provided correct reinforcement/feedback, (7) provided immediate reinforcement/feedback, (8) provided specific praise/feedback (9) collected correct data collection, and (10) provided 30s breaks between skills. The task analysis was based on Sarakoff and Sturmey's (2004) task analysis. The scoring sheet provided a checklist of 10 steps for 5 skills. A step completed correctly was marked with a check and incomplete steps were left unmarked by an observer. If the skill did not require all 10 steps, that skill was omitted from the session. Five of the child's skill trials were scored for a total of 50 steps, 10 steps/skill. At the end of each session, the number of correct steps

implemented was divided by total steps (i.e. 50 steps) to obtain a percentage of treatment integrity. The number of steps (50) was selected based on LeBlanc et al. (2005) use of 30 trials to assess treatment integrity of DTI by paraprofessionals. LeBlanc et al. (2005) only taught 3 skills whereas paraprofessionals were required to conduct 5 skills in a session. Mastery of DTI was operationally defined as ninety percent or higher treatment integrity, two sessions in a row.

Interobserver agreement (IOA) data was collected for at least 25% of all sessions. Data collectors recorded steps as complete or incomplete. Percentage agreement was the number of steps for which the observers agreed divided by total responses (agreement and non-agreement responses) multiplied by 100.

Each participant completed a survey at the end of the treatment phase. The survey asked participants to rate the ease, efficiency, and acceptability of the treatment. Participants were also asked to choose the treatment they most preferred. Participants were asked to rate only the treatments he or she experienced. For example, if a participant mastered DTI in the self-monitoring phase, he or she could not rate the feedback phase.

Procedure

A multiple baseline across participants was utilized to assess different teaching procedures. Introduction to treatment was based on baseline data. Experimental control was demonstrated when participants reached mastery when the treatment was implemented. A session consisted of 50 steps, 10 steps for 5 skills. Sessions were conducted during the student's individual teaching time. Multiple sessions were conducted daily. Ninety percent treatment integrity, two sessions in a row, was considered mastery.

During baseline, each participant watched a teaching video and received a teaching manual. The manual consisted of an overview of the program, discrete trial instruction

procedures, techniques for handling problem behaviors, an overview of the children's program, and the paraprofessional's responsibilities and schedule. The same teaching manual and video that were described previously were provided to participants prior to baseline. Participants received the teaching manual and watched the video prior to conducting sessions. After watching the video, participants conducted DTI sessions. No other teaching was provided to the participants. Each participant was assigned to at least 2 students to conduct DTI sessions. After baseline, no new students were added. Each participant received a sheet that provided an explanation of each skill in the child's daily treatment plan. The participant was required to complete the 10 steps (see operational definitions) for 5 skills in the child's treatment plan. Skills were omitted that did not require the 10 steps. DTI requires the paraprofessional to score the child's performance on each skill. A "1" was scored when the child responded correctly within 3-5 seconds. A "0" was scored when the child did not respond, responded incorrectly, or responded after a prompt. During baseline, the sessions were recorded; however the participant received no feedback following baseline sessions. An observer recorded the participant's treatment integrity of DTI (i.e. 10 steps) for 5 skills in the child's treatment plan. A second observer recorded the therapist using the flip camera. Sessions were scored after the session was completed.

During the video self-monitoring phase, the procedure was similar to baseline. Participants conducted DTI sessions (i.e. 10 steps for 5 skills) and were recorded. However, participants self-monitored their own performance in between sessions. Participants were given a sheet that provided operational definitions of each step. The participants were allowed to have this sheet as a reminder of the necessary steps. After each session, the participant was given the blank scoring sheet used by the data collectors to monitor his or her own performance. The

participant watched her performance (i.e. prior session) on the computer and scored her performance as she watched (i.e. Number of steps completed correctly/total number of steps completed). The participant then calculated his or her treatment integrity for that session. The participants were allowed to watch the video as many times as necessary to score their performance. No other feedback was given other than the operational definitions and the participant's self-monitoring. No feedback was given as to whether the participant was scoring the steps correctly. After self-monitoring a session, the participant completed another session of DTI. After that session, the participant monitored his or her performance using the video and treatment integrity scoring sheet. This process continued until the participant reached mastery (90 % steps completed correctly, 2 sessions in a row) or if there was a stable or decreasing trend in the data, the participant moved to the performance feedback phase.

During the performance feedback phase, the procedure was similar to the self-monitoring phase. Participants conducted DTI sessions (i.e. 10 steps for 5 skills) and were recorded. Participants continued to view each session on the computer after completion of each session. Participants continued to monitor their own performance and collect treatment integrity. However, the data collector gave the participant the correct treatment integrity to compare to the self-monitoring data collection. The data collector provided feedback while watching the video with the participant regarding incorrect or omitted steps. The data collector only provided feedback regarding incorrect or omitted steps. After receiving feedback, the participant completed another session (i.e. 5 skills) and was recorded. Following this session, the participant was provided feedback as described above. Participants continued in the performance feedback stage until he or she reached 90% of steps completed correctly for 2 sessions in a row.

A maintenance phase was conducted at least 2 weeks after participants met the mastery criteria. The maintenance phase procedure followed baseline procedures.

An additional observer monitored procedural integrity for at least 25% of all sessions. The observer completed a checklist to ensure the participant correctly implemented the procedure. The checklist included the performance feedback sheet as well as ensuring correct implementation of the self-monitoring and performance feedback phases.

Participants were given a survey to rate treatment phases on ease, efficiently, and acceptability after treatment was complete.

STUDY ONE RESULTS

Participants completed a test that assessed the participants' knowledge of autism and discrete trial instruction. The data were analyzed using an independent sample t-test, with an alpha level of .05. The mean for the manual group was 13.41(SD =1.43) with an average score 89% correct. The mean for the video group was 13.58 (SD =1.20) with an average score 91% correct. The difference was not significant, $t(61) = -.489, p < .1$. Results are displayed in Table 1.

Table 1

Test Scores for Teaching Groups

Group	Mean	Mean Percent Correct	Standard Deviation
Manual	13.41	89%	1.42
Video	13.58	91%	1.20

Participants were asked to rate their thoughts and attitudes about autism and treatments for autism using a 5-point Likert scale. There were no statistically significant differences on any of the questions. The results are presented in Table 2. The first question addressed the participants' perceived ability to use DTI with children with autism (manual=3.28, video=3.76). The second question addressed the perceived success of discrete trial instruction with children with autism (manual=3.79, video=4.15). The third question asked about the perceived necessity of DTI for children with autism (manual=3.69, video=3.82). The fourth question asked about the increase in knowledge about autism (manual=4.03, video=3.94). The last question asked the participants about the perceived severity of autism (manual=4.00, video=4.15). All questions were rated positively after receiving either teaching method. Results are displayed in Table 2.

Table 2

Mean Attitudes and Beliefs about Autism and DTI

Teaching Method	Ability to conduct DTI	Success of DTI for children with autism	Need of treatment for autism	Increased knowledge of autism	Severity of autism
Manual	3.28	3.79	3.69	4.03	4.00
Video	3.76	4.15	3.82	3.94	4.15

*Scores based on a 5-point Likert scale with 1 strongly disagree and 5 being strongly agree.

STUDY TWO RESULTS

IOA was obtained for 48% of the sessions and agreement was above 85% for all participants. Procedural integrity was obtained for 48 % of sessions and procedural integrity was 100% for all participants.

Figure 1 shows data for all four participants. During baseline, Karen's treatment integrity was at or below 40%. After five sessions of low treatment integrity, Karen moved to treatment. The mastery criterion for training was 90% correct or above, two sessions in a row. Treatment integrity initially improved over baseline levels, but stabilized below the mastery criteria. After 13 sessions, Karen was moved to the feedback phase. Karen mastered DTI in 2 sessions in the feedback phase. After 2 weeks, Karen entered maintenance. Treatment integrity was greater than 90% on both sessions. Self-monitoring was not sufficient and Karen needed performance feedback to reach the mastery criterion.

During baseline, Brian's treatment integrity was below 30%. After six sessions of low treatment integrity, Brian moved to treatment. Treatment integrity improved, but remained below 60%. Brian mastered DTI in 3 sessions in the feedback phase. Maintenance data are not available due to the participant moving away. Self-monitoring was not sufficient and Brian needed performance feedback to achieve the mastery criterion.

During baseline, Kristen's treatment integrity was below 65% and exhibited a slight upward trend. Trend was not evident over the last three sessions of baseline. After eight sessions of low treatment integrity, Kristen moved to treatment. Kristen reached mastery criterion in 9 sessions. No maintenance data were collected due to the participant moving away. Self-monitoring was sufficient for Kristen to reach the mastery criterion.

During baseline, Joslyn’s treatment integrity was at or below 45%. After ten sessions of low treatment integrity, Joslyn moved to the self-monitoring treatment. Although treatment integrity improved somewhat, experimental control is ambiguous as there is considerable overlap with baseline levels of behavior. After 10 sessions, Joslyn was moved to the feedback phase. Joslyn reached the mastery criteria in 4 sessions in the feedback phase. No maintenance was collected due to the participant moving away. Self-monitoring was not sufficient and Joslyn needed performance feedback to achieve the mastery criterion.

Three of the four participants rated the acceptability, ease, and efficiency of the treatment as well as the preferred modality. One participant did not complete the survey and could not be reached after the study was completed. Table 3 shows the results of the survey. Ease, acceptability, and efficiency were rated on a 4-point Likert scale with 1 being more preferred and 4 being least preferred. Performance feedback was rated as the most preferred (1), easiest teaching method (1), most efficient (1), and most acceptable (1). Two of the three participants ranked performance feedback as the most preferred. Two of the participants ranked video self-monitoring as least preferred. One participant ranked the teaching video and teaching manual as most preferred and one participant ranked the teaching manual as least preferred.

Table 3: Social Validity of Treatments for Teaching DTI

Teaching Method	Ease	Efficiency	Acceptability	Most Preferred	Least Preferred
Video & Manual	2.7	2	2.3	33%	33%
Video Self-Monitoring	2.3	2.7	2.7	0%	66%
Performance Feedback	1	1	1	66%	0%

* Scores based on a 4-point Likert scale with 1 being more favorable and 4 being less favorable. Percentage of participants choosing treatment as most/least preferred.

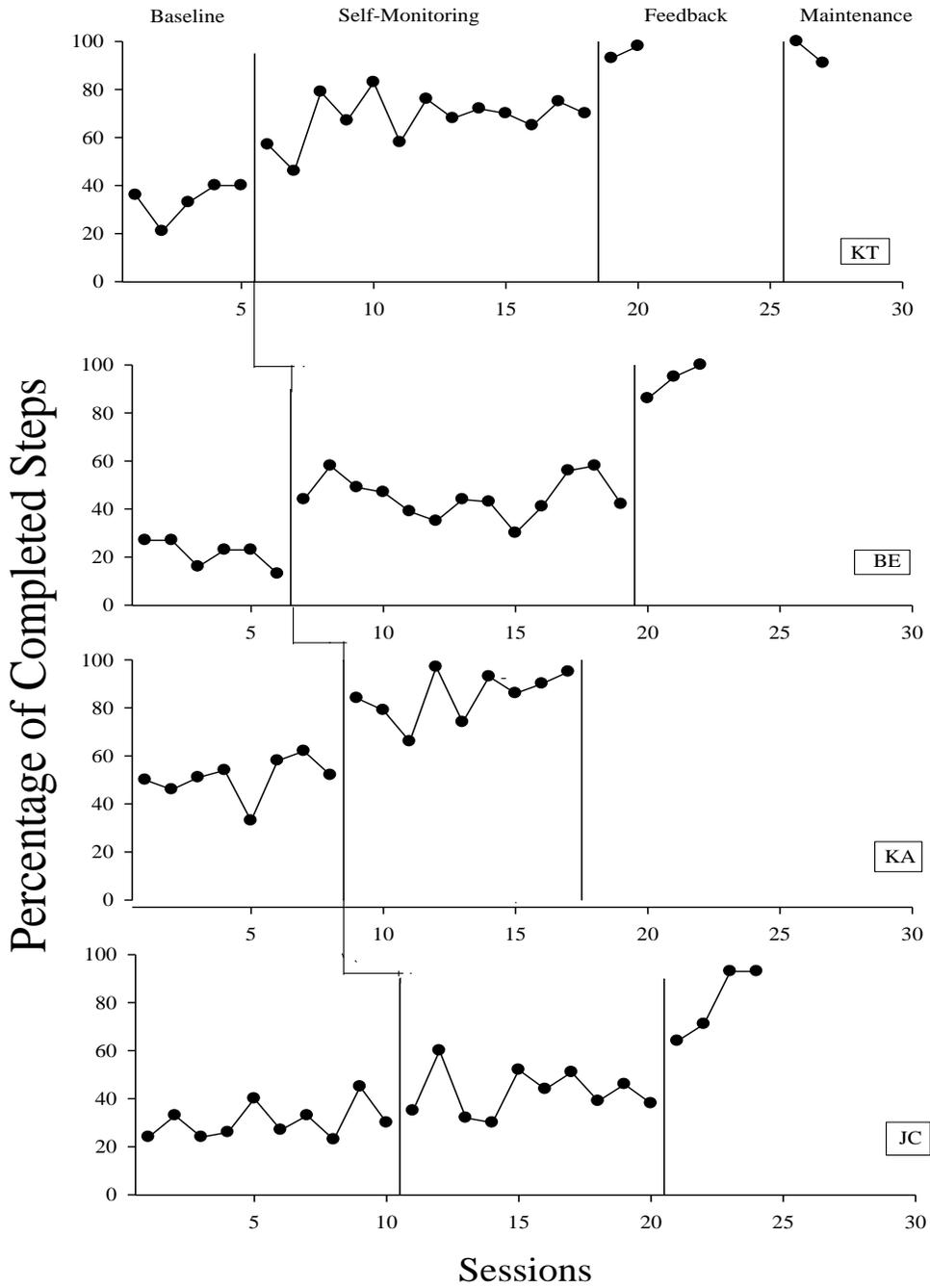


Figure 1. Four participants' results of treatment integrity. The sessions are graphed on the x-axis and the percent of correct completed steps is on the y-axis.

DISCUSSION

Study One

Teaching paraprofessionals is a vital part of discrete trial instruction since paraprofessionals are most often the direct care providers for children with autism. The purpose of the first study was to examine the effect of video versus manual based education on paraprofessionals' knowledge of DTI and autism as well as the collateral effects on their beliefs and attitudes about autism and DTI. There was no difference between video or manual teaching. Both groups were educated about DTI, its uses, and information about autism. Both groups performed well on the post-test, with all participants scoring above 67% correct and with mean above 89% correct in both groups.

These results are consistent with other studies that show psychoeducation, via manual or video, are successful teaching methods (Arnal et al., 2007; Ryan & Hemmes, 2005). The video teaching provided more in-depth review of DTI and showed actual professionals enacting discrete trials. However, this was not necessary for participants to perform well on the tests. These results suggest that a manual or video are sufficient methods for educating paraprofessionals about DTI and autism, when those paraprofessionals have some college education. The utility of printed materials should be expected to vary based on paraprofessionals' literacy skills and motivation. The test was developed by the researcher and was not a comprehensive assessment of knowledge about DTI or autism. Future research should investigate educational formats for more in-depth knowledge of autism and DTI.

Motivation may have played a role in similar scores. Participants attended a Friday morning class and were receiving extra credit for participating in this study. Although participants were told their extra credit was not contingent on their effort, participants'

motivation could have increased scores on the test. Arvey et al. (1990) found that test scores have increased when participants are provided an incentive. Future research should investigate whether scores would differ based on receiving an incentive or increase knowledge on a test. Future research may also uncover differences based on the backgrounds of the paraprofessionals. In the second study, participants received the teaching manual and video before baseline. However, there was no assessment as to how well they retained the information or attended to the materials. Moore and Fisher (2007) gave participants tests prior to using video self-modeling to teach participants to implement functional analyses. If the participants were given a test prior to entering the video self-monitoring, participants may have performed better in the treatment phase. Future research should investigate the effects of testing prior to the performance of skill.

Participants' attitudes and beliefs were also assessed in this study. Participants' attitudes and beliefs did not differ across teaching methods. Participants in the video group watched a professional conduct DTI on a confederate. Their perception of DTI and their ability to implement DTI may have differed if the participants had watched a child with autism. Thomson et al. (2009) found that participants could not generalize their skills from conducting DTI with a confederate to a child with autism. Participants needed performance feedback to conduct DTI effectively. Future research should identify the components that affect the attitudes and beliefs of paraprofessionals. Participants rated DTI as a favorable and necessary treatment for children with autism. Participants agreed that they were more informed about autism and the severity of the disorder. Participants also agreed that they would be able to implement DTI effectively. Although participants had a perceived ability to effectively teach children with autism with DTI, there is no way of knowing if those participants would actually be effective at DTI. However,

these are the same training material participants used to partially, but inadequately implement treatment during Study Two baseline. Future research should investigate paraprofessionals' perceived ability prior to intervention and its effect on actual performance.

Although DTI is an effective treatment for autism, it is not always the most preferred treatment. Parents sometimes use alternative treatments rather than more intrusive treatments like DTI (Wilczynski, 2010). In the behavior analytic field, attitudes and beliefs are rarely assessed. Typically, treatments are seen as effective or ineffective. However, the second study found that acceptability was related to effectiveness which is consistent with Witt and Elliot's (1985) treatment acceptability model. Participants rated the treatment that was most effective as the most acceptable. The same may be true for attitudes and beliefs. Future research should investigate the effects of attitudes and beliefs about disorders and treatments and their effects on the actual use of those treatments.

Study Two

The purpose of the second study was to assess the effectiveness of video self-monitoring for teaching paraprofessionals. Although previous studies have assessed video self-monitoring with performance feedback, this study examined the effect of video self-monitoring on teaching paraprofessionals to implement DTI effectively. This investigation obtained results that are similar to previous research (Belfiore, Fritts, & Herman, 2008; Leblanc, Ricciardi, & Luiselli, 2005; Knight, 2010), that a performance feedback component is necessary to teach paraprofessionals to conduct discrete trial instruction. Across three participants some gains were evident when the video self-monitoring procedure was implemented, but these three participants did not reach mastery during video self-monitoring. All three of these participants quickly met the mastery criterion when performance feedback was provided. One participant did meet the

mastery criterion using video self-monitoring alone. This study replicates prior research demonstrating that performance feedback is an effective method to teach paraprofessionals to implement behavior analytic teaching procedures (Leblanc et al., 2005; Thomson et al., 2009). Additionally the study is suggestive of the utility of video self-monitoring for one participant similar to some prior studies (Pelletier et al., 2010).

These results differed from the Pelletier et al. (2010) and Knight (2010) studies. The Pelletier et al. (2010) study utilized video self-monitoring to successfully teach teachers to implement behavioral interventions. Knight (2010) taught parents to successfully implement DTI using video self-monitoring. First, this study provided no practice with discrete trial instruction prior to treatment. Pelletier et al. (2010) and Knight (2010) taught participants the behavior that was expected (i.e. DTI and behavior plan) prior to the self-monitoring phase. The participants self-monitored their treatment integrity after they reached a criterion in baseline. In this study, no criterion was applied in baseline. This begs the question as to whether video self-monitoring is appropriate for skill acquisition or is it only effective method for increasing treatment integrity of a previously learned behavior. In previous video self-monitoring studies, the participants were taught skills prior to treatment (i.e. self-monitoring) and simply self-monitored their performance (Knight, 2010; Pelletier et al., 2010). In this study, the participants were teaching themselves discrete trial instruction (i.e. skill acquisition) with the materials provided. It is possible that self-monitoring is far more successful targeting skill maintenance and less so with skill acquisition. Further research should extend the finding of both studies to assess whether video self-monitoring can be used for skill acquisition.

One participant learned to use discrete trial instruction with video self-monitoring. Her ability to learn DTI may be due to multiple factors. First, Kristen had the highest baseline of the

four participants. It is possible that Kristen had better entry skills than the other three participants or was more highly motivated. Thomson et al. (2009) conducted a literature review on successful treatment packages for teaching paraprofessionals to implement DTI. The literature review showed that studies where participants had more experience prior to baseline, had higher baselines, and more likely to implement DTI successfully. Secondly, participants had access to the operational definitions and were allowed to watch themselves as many times as needed. Kristen may have taken advantage of these opportunities and was able to correct her behavior. However, Reid (1996) found that when children self-monitored their behaviors in the classroom, behavior improved regardless of accuracy. Future research should identify the variables (e.g. amount of self-monitoring, use of operational definitions, number of times viewed video) that make video self-monitoring an effective method.

Although generalization was not assessed directly, all participants implemented discrete trial instruction with at least two children with two different treatment plans. Participants attained a mastery criterion with a variety of skills. Some skills were omitted due to those skills not using the full 10-steps or did not meet the operational definitions. For example, eye contact is a skill typically taught to children with autism. However, the skill did not meet the operational definitions and was omitted. Knight (2010) increased the procedural integrity of DTI of two parents using video self-monitoring. However, the parents did not generalize their skills to novel skills. Future research should identify the generalization of video self-monitoring to skills not included in this study such as eye contact.

This study also addressed the social validity of the teaching methods. There is generally a shortage of social validity research in the behavior analytic field (Miltenberger, 1990; Reimers et al., 1992). Performance feedback was seen as the easiest, most efficient, and most acceptable

treatment for participants that were exposed to it. This study supports the model proposed by Witt and Elliot (1985) that treatments that are more effective, are more acceptable.

Performance feedback was rated as the most effective whereas video self-monitoring was the least preferred. Future research should address the social validity of treatment methods and its effects on the use and efficiency of those treatments.

Overall, video self-monitoring was not effective teaching method for discrete trial instruction. Three of the four participants needed performance feedback to reach mastery criteria. These results support previous research that found that performance feedback is an effective teaching method for DTI (Belfiore, Fritts, & Herman, 2008; Leblanc, Ricciardi, & Luiselli, 2005; Knight, 2010).

Limitations and Future Research

Interpretation of these findings should be tempered by consideration of the study's limitations. The study only included four participants teaching a small number of skills. These results should be investigated with multiple participants to generalize these findings. Future research should extend the findings to multiple skills with a variety of children and participants. Additionally, this study only assessed maintenance with one of the participants due to attrition. Pelletier et al. (2010) found that treatment integrity was maintained after one-month. Future research should assess the maintenance of teaching methods over more participants and longer maintenance windows.

During video self-monitoring, some of the participants were scoring themselves incorrectly. Some participants were making the same mistakes and continued to monitor incorrect steps as correct. Other participants only watched their performance once after each session and often scored their video incorrectly. Other studies have the participants practice self-

monitoring prior to treatment (Knight, 2010; Pelletier et al., 2010). Future research could extend these findings to identify the variables that make video self-monitoring an effective teaching method. With the increasing availability of complex and inexpensive technology, more and more professionals are using technology. In this study, performance feedback was shown to be more effective than using technology to permit self-monitoring. Future research should investigate the ability to provide feedback via video. Additionally, the turnover rate of paraprofessionals is a significant problem in many treatment facilities (Hillman, 1996). Three of the four participants did not have maintenance data due to attrition. Prior to these four participants, six participants did not complete the treatment due to attrition. Hillman (1996) suggested that the turnover rate of ABA paraprofessionals is due to low pay, intensive training, and burn out. Future research should identify the factors that decrease the turnover rate of paraprofessionals.

The focus of this study was to assess the effect of video self-monitoring on DTI. The results showed that a performance feedback component is necessary to teach paraprofessionals to use DTI with children with autism. The study provides an additional replication demonstrating that performance feedback is a necessary component to teaching DTI (Belfiore, Fritts, & Herman, 2008; Leblanc, Ricciardi, & Luiselli, 2000; Knight, 2010). Professionals should continue to use performance feedback component as a teaching method as well as continue to assess social validity. This study found that the most acceptable treatment was the most effective and efficient method of teaching. Future research should extend these findings to other behaviors, skills, and teaching methods.

Both studies investigated teaching methods for discrete trial instruction as well as social validity of discrete trial instruction. This first study found that paraprofessionals can be educated

about DTI and autism by using video or written formats. Regardless of method, paraprofessionals felt that they would be able to implement DTI and that it was a necessary and successful treatment for autism. Participants also agreed that they learned more information about autism and the severity of the disorder. The second study found that performance feedback was necessary to teach paraprofessionals to effectively use DTI. The most effective method, performance feedback, was also the most accepted and preferred method. Future research should continue to assess the social validity of treatments and the effects on the use of those treatments.

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APPENDIX

ACTION ON PROTOCOL APPROVAL REQUEST



Institutional Review Board
Dr. Robert Mathews, Chair
131 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.8692
F: 225.578.6792
irb@lsu.edu | lsu.edu/irb

TO: George Noell (for Kirsten Abbondante)
Psychology
FROM: Robert C. Mathews
Chair, Institutional Review Board
DATE: July 8, 2011
RE: IRB# 3192
TITLE: Video Self Modeling & Discrete Trial Teaching (DTT)

New Protocol/Modification/Continuation: New Protocol

Review type: Full ___ Expedited X Review date: 7/7/2011

Risk Factor: Minimal X Uncertain ___ Greater Than Minimal ___

Approved X Disapproved ___

Approval Date: 7/8/2011 Approval Expiration Date: 7/7/2012

Re-review frequency: (annual unless otherwise stated)

Number of subjects approved: n/a

Protocol Matches Scope of Work in Grant proposal: (if applicable) ___

By: Robert C. Mathews, Chairman [Signature]

PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING -
Continuing approval is CONDITIONAL on:

- 1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
7. Notification of the IRB of a serious compliance failure.
8. SPECIAL NOTE:

*All investigators and support staff have access to copies of the Belmont Report, LSU's Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at http://www.lsu.edu/irb

IRB #: E5963 LSU Proposal #: _____

Revised: 10/04/2006

LSU INSTITUTIONAL REVIEW BOARD (IRB) for
HUMAN RESEARCH SUBJECT PROTECTION

578-8692 FAX 6792
Office: 203 B-1 David Boyd Hall

APPLICATION FOR EXEMPTION FROM INSTITUTIONAL OVERSIGHT

Unless they are qualified as meeting the specific criteria for exemption from Institutional Review Board (IRB) oversight, ALL LSU research/projects using living humans as subjects, or samples or data obtained from humans, directly or indirectly, with or without their consent, must be approved or exempted in advance by the LSU IRB. This Form helps the PI determine if a project may be exempted, and is used to request an exemption.

Instructions: Complete this form.

Exemption Applicant: If it appears that your study qualifies for exemption send:

- (A) Two copies of this completed form,
- (B) a brief project description (adequate to evaluate risks to subjects and to explain your responses to Parts A & B),
- (C) copies of all instruments to be used. If this proposal is part of a grant proposal include a copy of the proposal and all recruitment material.
- (D) the consent form that you will use in the study. A Waiver of Written Informed Consent is attached and must be completed only if you do not intend to have a signed consent form.
- (E) Certificate of Completion of Human Subjects Protection Training for all personnel involved in the project (including students who are involved with testing or handling data) at <http://cme.cancer.gov/clinicaltrials/learning/humanparticipant-protections.asp>. (Unless already on file with the IRB.)

to: ONE screening committee member (listed at the end of this form) in the most closely related department/discipline or to IRB office.

If exemption seems likely, submit it. If not, submit regular IRB application. Help is available from Dr. Robert Mathews, 578-8692, irb@lsu.edu or any screening committee member.

Principal Investigator _____ Kristen Abbondante _____ Student? _____ Y/N

Ph: _____ 504-329-8246 _____ E-mail _____ kabbon1@tigers.lsu.edu _____ Dept/Unit _____ Psychology _____

If Student, name supervising professor _____ George Noell _____ Ph: _____ 225-578-4119 _____

Mailing Address _____ 233 Audubon Hall Louisiana State University Baton Rouge, LA 70803 _____ Ph _____ 225-578-4119 _____

Project _____ The Effect of Video Teaching & Self-Modeling on Teaching ABA Paraprofessionals _____

Agency expected to fund project _____ none _____

Subject pool (e.g. Psychology Students) Psychology Class

Circle any "vulnerable populations" to be used: (children <18; the mentally impaired, pregnant women, the aged, other). Projects with incarcerated persons cannot be exempted.

I certify my responses are accurate and complete. If the project scope or design is later changed I will resubmit for review. I will obtain written approval from the Authorized Representative of all non-LSU institutions in which the study is conducted.

PI Signature _____ Kristen Abbondante _____ Date _____ 4/13/2012 _____

Screening Committee Action: Exempted Not Exempted _____ Category/Paragraph _____

Study Exempted By _____ Mathews _____ Signature _____ Date _____ 4/17/12 _____
Dr. Robert C. Mathews, Chairman

Institutional Review Board
Louisiana State University
203 B-1 David Boyd Hall
225-578-8692 | www.lsu.edu/irb
Exemption Expires: _____ 4/16/2015 _____

VITA

Kristen Abbondante has earned her bachelor degree at Louisiana State University in psychology and sociology in 2007. She decided to pursue a career in psychology after working with children with special needs and behavior problems. Kristen earned her Masters of Arts degree in psychology at Louisiana State University in 2009. She is a candidate for the Doctor of Philosophy Degree to be awarded in August of 2012. Kristen intends to complete a postdoctoral fellowship at Boys Town in Nebraska where she will provide clinical services to children and adolescents with a variety of behavioral and mental health disorders