The Effects of Video Modeling as a Reading Intervention Strategy for Students with Deficits in Reading Fluency

by

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Abstract

This study investigated the effects of using video self-modeling as an intervention strategy to improve the oral reading fluency of students with and without disabilities with a descriptive look at its impact on reading comprehension skills. Although there have been studies conducted on the use of video modeling and video self-modeling on students with autism and other disabilities to improve social, behavioral, and other functional skills, there has been limited research on using video modeling and video self-modeling as an oral reading intervention strategy for students with or without disabilities. The purpose of this study was to examine the effects of this instructional intervention strategy by means of conducting a single-subject multiple probe across participants design. This study examined the existence of functional relation between video self-modeling and oral reading fluency with a descriptive look at reading comprehension. At the conclusion of this study, two of the students demonstrated an increase in oral reading fluency; however, a functional relation was not determined for the study. In addition to this, implications for the practice and future research are discussed.

Dedication

Giving glory and honor unto God from whom all blessings flow, I dedicate this project to my family first and foremost, beginning with my amazing, supportive husband, Quenton Rachel, for his continuous strength, love, and belief in me. Without his encouragement, I would have given up and the process of getting my PhD would have been inconceivable. Thank you for challenging me to be a better person, wife, and mother. To my handsome sons, Darius, Xavier, Elijah, Isaiah, and Quenton, thank you for being my reasons to keep going. Through my struggles, I hope that I have shown you that it is not always the end goal that defines success, but it is the manner in which you learn from mistakes and treat others with respect that provides you with a wealth of prosperity. My hope for all of you is that you reach your destiny, enjoy the journey, and continue to be the positive lights that shine in the world. I am truly blessed to have such a wonderful family and I thank God every day for you all.

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CHAPTER 1: STATEMENT OF THE PROBLEM

Implementing a reading instruction program that produces skilled readers who enjoy reading is part of the plan for most reading intervention strategies. To cultivate students who enjoy reading and who become successful in reading for comprehension, it is important that they develop fluency in reading (Tingstrom, Edwards, & Olmi, 1995). However, research has shown a number of students in general as well as students who receive special education services do not receive sufficient direct reading practice to become fluent readers and more practice is needed (Tingstrom et al).

Two commonly used strategies for improving reading fluency include repeated reading and previewing. Repeated reading has been shown to be effective for improving oral reading fluency and comprehension. (Dowhower, 1987) recommenced previewing for readers who read fewer than 45 words per minute and repeated reading for faster readers. More research is needed to establish additional information on utilizing repeated reading with previewing.

Frequently, students with disabilities leave secondary educational settings with few skills to prepare them for assuming adult roles (Wehman, Schall, Targett, West, & Cifu, 2014). In addition, youth with disabilities are less likely to enroll in postsecondary programs, less likely to have a checking account and less likely to have a credit card than their general population peers (Kellems & Moningstar, 2010). However, the rite of passage to adulthood often includes making choices for oneself, being financially competent, setting goals, and living independently in one's home community or community of choice, a core principle of the American's with Disability Act of 1990 (ADA P. L. 110-325) and the Supreme Court's Olmstead decisions (Olmstead v. L. C., 1999). Without the skills necessary to maintain the goal of living independently, many

individuals who struggle with reading are left with limited choices as they assume adult roles. The use of visual-based approaches may help to improve the student's ability to determine important cues and decrease the student's reliance on teacher prompts and increase independence (Ganz, Earles-Vollrath, & Cook, 2011).This research paper aimed to address the use of video modeling, a research-based intervention strategy, to assist individuals with specific learning disabilities and others who receive Tier III supports for decoding skills and word analysis in elementary school in improve self-efficacy to increase oral reading fluency with a descriptive measure of reading comprehension. Video self-modeling allows for the implementation of an intervention strategy that may be easily applied inside the classroom and can be used independently by the students to improve oral reading fluency in addition to increasing the students' intrinsic motivation to read. This study attempts to add to the research on using video self-modeling as a reading intervention strategy by examining its effectiveness in improving oral reading fluency of students with disabilities.

Background of Study

Video based instruction can be linked to Albert Bandura's research in social cognitive theory (Johnson, Blood, Freeman, & Simmons, 2013). Bandura's social cognitive theory addresses both the development of competencies and the regulation of action (Bandura, A social cognitive theory of personality, 1999). It views knowledge structures as the representation of models, rules, and strategies of effective action and how they motivate and regulate their behavior and create social systems that organize and structure their lives. These knowledge structures are developed from methods of thinking and behavior that are observed and from discovery activities, verbal instruction, and innovative cognitive combinations of obtained knowledge. This occurs due to the social structures that impose boundaries and provides

resources and opportunities for personal development and functioning (Bandura, 1999). As the title of social cognitive theory implies, the social portion affirms the social origin of much human thought and action; the cognitive portion recognizes the influential contribution of cognitive process to human motivation affect and action. By providing opportunities for personal development and functioning, it improves the likelihood of having the ability to perform functional skills that can contribute to a person's meaningful participation in society and overall quality of life (Gardner & Wolfe, 2013). Using video modeling or video self-modeling allows the individual the opportunity to gain competencies in academic and employment related skills by using technology to enhance one's perceived method of learning for persons with disabilities through visual observation.

Bandura's social cognitive theory depicts most behavior as being learned through modeling or observing another person performing a specific task or behavior, a concept he describes as observational learning (Bandura, 1999). Observational learning is also defined as a process in which an individual learns a new skill or acquires information by observing the actions of a model. Early accounts of social modeling view it as imitation and marginalized as mimicry of specific acts and as a special case of discrimination learning (VanLange, 2012). In both instances of observation learning and social modeling, the model provides a social cue, the observer performs a matching response. and its reinforcement strengthens the tendency to behave the action. Modeling influences have been shown to alter motivation, create and modify emotional predisposition, serve as social prompts that activate, channel and support given styles of behavior, and shape images of reality.

Video modeling (VM) can be considered a tactic under the definition of observational learning, as it is a research-based strategy that refers to an individual viewing another person or

one's self performing a skill or video then imitating or performing that behavior (Johnson, Blood, Freeman, & Simmons, 2013). Researchers also referred to video modeling as "video priming" or video rehearsal. Laarhoven, Kraus, Karpman, Nizzi, &Valentino, (2010) referred to video modeling as an instructional approach in which the learners view an entire video skill sequence before engaging in the target skill. Video modeling is also listed under the National Autism society as one of the thirteen evidenced-based practices accepted by its research. When it is paired with video prompting (VP), video modeling allows the skill being taught to be broken down into smaller segments. The use of video prompting requires that the user has access to a television, computer, or other handle device in the environment in which the skill is being practiced so that the individual can view a segment of the video, pausing the video, performing the skill, and restarting the video to continuing viewing and practicing the remaining steps. By using assistive technology, the use of video prompting provides the opportunity for more complex steps or processes to be presented in a series of steps. Evidence has shown that when persons with ASD learn using video based instructional strategies, they often maintain or generalize the newly acquired skills (Ganz, Earles-Vollrath, & Cook, 2011). With the advances of technology in communication, electronic media is changing the nature, reach, speed and center of human influence. In addition, video modeling provides the individual with the potential to learn about the target behavior and oneself as it allows the individual to think ahead to future events as well as to remember specific past events (Dowrick, 2012).

Although research supports the use of video modeling in providing instruction in functional, academic and social areas for students with developmental disabilities and autism, there remain several misconceptions on the concept of video modeling. Oftentimes, modeling is thought of in terms of imitation and is believed to only produce response mimicry (VanLange,

2012). However, the idea behind video modeling is that once the individual learns the guiding principle, he or she can use that principle to generate new visions of the behavior and possibly generalize the behavior to changing situations. Another misconception is that video modeling cannot build cognitive skills because the processes are covert and are not completely shown in modeled actions. By making adaptations, that include allowing the models to verbalize their reasoning strategies as they participate in problem solving activities, video modeling may increase the observer's ability to perform the target skill. In addition, cognitive modeling has been shown to be more powerful in enhancing perceived self-efficacy and building complex cognitive skills than the commonly used tutorial methods (VanLange, 2012).

In the review of the research on social cognitive theory conducted by VanLange (2012), Bandura stated that a model provides a social cue for the observer to perform and its reinforcement strengthens the tendency to behave imitatively. Research on modeling has shown that modeling involves abstracting the details conveyed by specific examples about the nature and the underlying principles governing the behavior instead of imitating the specific examples. Once the individual learns the overarching principle involved in the behavior, the individual may reenact the target skill in other areas and generalize the behavior to fit in other changing situations (Van Lange). Video modeling influences have also shown to alter motivation, create and modify emotional predispositions, serve as social prompts that activate, channel and support given styles of behavior, and shape images of reality. With the use of the Internet and global broadcasts, the use of video modeling may become a powerful tool for sociopolitical change (VanLange).

Video modeling has additional advantages in that it can be viewed many times, it can reach a large number of individuals, and it provides the opportunity for natural and socially

acceptable stimuli. Moreover, visually based approaches may help address widespread difficulties in students with low incidence disabilities such as autism (Ganz et al., 2011). Visually based approaches allow individuals to review cues, reduce dependence on teacher prompts, and improve overall independence. Visually based modeling procedures may build on the preference of individuals who enjoy learning with technology while increasing independence through learning new skills. Visually based approaches are often used with individuals with autism to understand the environments around them. For individuals with autism, video-based strategies have been proven effective in providing individuals visual supports to assist them in communicating, establish predictability in participating in daily routines, learn new skills, and in becoming more independent in and across various environments (Laarhoven, Kraus, Karpman, Nizzi, &Valentino, 2010).

Implementation of video modeling is a process that requires the consideration of several factors that result in an intervention process that is individualized to the student. Wilson (Wilson, 2013) outlined five overall procedural phases to developing a video model intervention. These phases included (a) preparation, (b) recording of the video model, (c) implementation of the video modeling intervention, (d) monitoring of the student's response to the intervention, and (e) planning of the next steps. The first phase, preparation, consists of a series of tasks aimed at determining which video modeling approach is appropriate intervention strategy for a particular student. During the preparation phase, the researcher made the determination of what the actual video will look like; the target skill, the model type, the setting, and the scripted features (Wilson). The target skill should be clearly defined and observable. The target skill may be taken from the student's individualized education plan or other documented need. The first phase also contains several sub-steps such as assessing related skills, defining the skill and collecting

baseline data. Documenting baseline data regarding the student's strengths and deficits may be helpful in determining what skills need to be addressed. Using the assessment results, teachers may develop a list of skills and prioritize them in order of importance (Ganz et al., 2011). Prior to phase two, recording the video, it is important to decide on the type of media, and equipment to be used. Recording of the media can be done by using USB-ready video cameras, smart phones, and other video cameras. When creating the video, researchers suggest creating three to five videos for each skill, providing a variety of samples, settings, models, and scripts or task analyses to assist with the generalization of the skill (Ganz et al., 2011). Scripts can be used for skills that need verbal prompts or indications, and task analysis can be used for more complex or multi-step tasks. Collecting information from the student's typically developing peers may assist in writing scripts that are more illustrative of age appropriate nonverbal communication and speech patterns.

During the third phase, the implementation of the video modeling intervention, it is important to make decisions on the details of the video model implementation including the setting, the frequency of use and the timing of the video viewing in addition to the person or person who will implement the intervention plan (Wilson, 2013). For best results, the video should be viewed in a consistent setting or the setting in which the student is expected to demonstrate the skill. The materials used within the video should be the same materials that the students will be expected to use when demonstrating the target skill. Research suggests repeated viewing for two or more times per session may increase the interventions effects for some individuals with ASD although. The length of the video segment and the attention span of an individual has strong bearing on determining the best frequency of viewing (Wilson, 2013).

Immediately following the video, the student should be provided with the opportunity to practice the skill in its natural setting when possible.

In phase four, monitoring of student's response to the video modeling intervention, the, researchers suggest collecting data and monitoring the student's progress in response to the intervention. Researchers suggest developing a plan for collecting data on the effectiveness of the video modeling intervention with the assessment of progress based on the outcomes that the video modeling is designed to impact (Ganz et al., 2011). Assessments can be collected using formal or informal assessments, pre-, mid-, and post- assessments, progress monitoring, behavioral observations, and Likert-scale rating profiles. In addition, by providing the student the opportunity to collect data on his or her own behavior, such as self-monitoring their use of the target skill, the data collection may become a reinforcer while also promoting the student's independence. In addition, generalization and maintenance can be promoted by using a student's similar classroom setting and materials in the intervention. Generalization may be incorporated by introducing video footage from a variety of materials and interaction partners. Maintenance may be implemented by segmenting target behaviors into smaller steps and reduction in prompt dependency (Wilson 2013).

During phase five, planning of next steps, the researcher will need to make decisions regarding the next steps for intervention. Ongoing evaluation is also needed to determine the scope and depth of the student's mastery of the targeted skills over time. After evaluating the effects of the video modeling intervention, it is important to assess problems that may arise when implementing video modeling. If the student shows success with using video modeling, expanding on the current target skills and creating a new video model with similar characteristics may be an option. However, if the student shows limited gains on obtaining the target skill, the

next step might include using variations of monitoring the student's response to the video modeling. (Wilson, 2013). In contrast, a lack of progress using video modeling may be attributed to a lack of reinforcement, poor video content, or lack prerequisites skills (Ganz, et al., 2011). To address a lack of reinforcement, it may be necessary to establish a reinforcing stimulus that can be delivered immediately and consistently following the demonstration of the target behavior. Poor video content can be addressed through refilling and/or rewriting the video while limiting the student's exposure to extraneous stimuli. Extraneous stimuli can be defined as excess noise or visual distractions within the video that detract from the viewer's ability to discern the target behavior. If the student does not have the prerequisite skills of imitation and observational learning, adding adult-directed instruction to the process may alleviate the problem.

In addition to prerequisite steps for implementing video modeling, there has been some debate on the effectiveness of the variations of video modeling, which include, in vivo, or live, modeling and video self-modeling and video prompting. For example, Charlop-Christy & Freeman (2000), found that both in vivo modeling and video modeling effective in teaching new behaviors to children with autism in addition to promoting generalization and maintenance of the behaviors. Charlop-Christy looked specifically at the effects of in vivo and video modeling across different tasks, generalization and time and cost efficiency. Within the study, Charlop-Christy et al. taught expressive labeling, independent play, spontaneous greetings, oral comprehension, conversational speech, cooperative and social play and self-help skills. The participants were five children with high functioning and low functioning autism between the ages of 7-11. The participants attended biweekly sessions at an after school-behavior therapy program. All of the participants in the study had nonverbal imitation repertoires. The

participants were in therapy for a wide range of difficult behaviors which included self-injurious behavior, stereotypical behavior such as staring at hands, gazing and tapping, pica, aggression, immediate echolia, inappropriate vocalizations the insistence on sameness or solitary play. The researchers chose the tasks in the study based on the specific needs of the participants. A psychologist trained therapists and 15 college students were unaware of the purpose of the study in the modeling procedures, and the experimenter made certain that each therapist performed the target behavior with fidelity prior to demonstrating the skill to the participant.

The researchers randomly assigned each of the tasks to either the video modeling condition or the in vivo modeling condition by drawing the names of the task from a covered container. They used identical procedures for both the video modeling and the in vivo modeling conditions. The researcher made a video model for each behavior. They used different models for each video to ensure that specific model characteristic did not impact the effects of the video model. In each of the video models, the target behavior played at a slower pace. Baseline and training sessions for this research study occurred in the therapy room at the participant's after school program. Charlop-Christy et al. (2000) used a multiple baseline design across participants in addition to a multiple baseline design within participant across the two modeling conditions and within each modeling condition across the two tasks. The researcher presented participants with one target behavior broken down into two tasks with one task being presented in the in vivo modeling condition and other task being presented in the video modeling condition. Identical procedures were used for both the video modeling and the in vivo modeling conditions except for presentation. In order to create a robust study that compares the in vivio model to the video modeling, researchers used a large variety of target behaviors for three out of five of the participants. In addition to implementing in vivo model and video modeling to the participants,

researchers used participants with different levels of functioning. Both models of in vivo and video modeling performed at a slow exaggerated pace and the researcher instructed the participants to pay attention or to reply when necessary. The researcher removed prompting and reinforcement when the participants supplied correct responses during the baseline phase but they presented the prompting and reinforcements during the actual modeling conditions.

During the modeling conditions, prompts used for on-task behaviors included only verbal praises for attending to the model or television screen. After watching the video model twice, the researcher instructed the participant to begin engaging in the target behavior by the experimenter saying, "Let's do the same, just like on TV." Testing happened over a few weeks to months depending on the participants; schedule and how quickly the participant learned the target behavior. The in vivio modeling occurred in the same place in the training setting of the video model with the participants watching live models performed twice and then the experimenter saying, "Let's do the same, just like they did." Testing again depended on the participant's schedule and the acquisition of the skill and occurred over the course of weeks to months. The researcher provided prompting to the participant to look at the model, and praise was provided when the participant was looking at the model.

The research found that overall, video modeling led to acquisition of the target behavior faster than the in vivo modeling. In addition, generalization of the skills occurred after the presentation of the video modeling and did not generalize after the in vivo modeling. The researchers suggested that video modeling was an effective and efficient teaching strategy for teaching children with autism various behaviors. The researchers found that video modeling led to quicker acquisition of skills than in vivo modeling. Within the study, Charlop-Christy et al. taught the skills of expressive labeling, independent play, spontaneous greetings, oral

comprehension, conversational speech, cooperative and social play and self-help to students with low and high functioning autism. The research found, that for some children, the use of videotape produced a variety of naturalistic settings that may be difficult to create in vivo in a classroom setting.

Advantages of Video Modeling

Video modeling has been noted as being an effective intervention because of its motivational value and association with recreation (Charlop-Chritsy et. al., 2000). Video modeling allows for a change from the normal environment and may in turn improve the environment for individuals with specific learning disabilities in the area of reading. For example, the reinforcement history of students with and without disabilities inside the general education classroom may hinder self-regulatory skills due to a modeling process that is inconsistent, varied according to teacher and/or subject, or prompt dependent or other unintentional but common practice. Students may become teacher dependent on his or her self-assessment of productivity and fail to implement self-regulatory skills. In addition, video modeling may help to alleviate some of the social anxieties related to asking questions because the individual watching the video model has a model of the target behavior that can be reviewed without any added pressure that may limit them from observing the important aspects of the model (Charlop-Christy et al.).

Video modeling can be implemented to teach target behaviors in which the individuals learn by observing, imitating, and modeling others. According to Bandura's theory of social learning, (1977) the four necessary elements needed for successful modeling, include attention, retention, reproduction, and motivation. Student attention refers to the various factors that contribute to a student's ability to pay attention. Retention refers to the process of remembering

the steps in a skill and performing those steps independently. Reproduction occurs when a student performs the skill and the student generalizes the skill to another setting, task or set of materials. Motivation refers to the individual's desire to perform the task. The model of the video is an important factor in imitation and most effective models are those that are similar to the students in terms of gender, age, and ability level (Domire & Wolfe, 2014).

Students will be more likely to attend to a video in which the model is similar to themselves or if the students themselves modeled the behavior which can also improve the students' sense of self-awareness. Video modeling helps the individual to see him or herself engage in the target skills and goals. This is a process described by Dowrick (2012) as mental time travel (MTT). Mental time travel refers to the ability to think ahead to future events and to remember specific past events. The ability to see oneself in the future can be used to predict, plan and show the specific future events which are all relevant components of becoming an autonomous individual. The use of video modeling provides concrete visual evidence of the capabilities of those with disabilities. By allowing the individual with and/or without disabilities to see his or her own capabilities, it is possible to improve the self-efficacy and, in turn improve educational outcomes.

Video modeling provides the opportunity for students to engage in student-controlled video instruction. Student-controlled video instruction occurs what the student starts and stops the video and can replay the video as necessary. Student-controlled instruction allows the teacher additional time to focus on other demands in the classroom while giving the student a sense of autonomy (Domire & Wolfe, 2014). In addition, this student-controlled video instruction encourages independence by shifting the intervention stimulus away from adult instruction and toward a medium that needs very little adult prompting (Wilson, 2013). Instead

of the adult or teacher becoming the focus of the student, the situation depicted in the video becomes the stimulus and produces the desired or modeled behavior from the student. In addition, over time of viewing the video, model can contribute to the student becoming more independent in completing the task that he or she initiates (Wilson). Video-based instruction is one plan that builds on the strengths and needs of the individuals and implements the use of adaptive technology which can increase access to and opportunities for work and recreation activities (Flexer, Baer, Luft, & Simmons, 2013).

In addition to supporting individuals with ASD and other developmental disabilities in increasing independence and obtaining job skills, video modeling and other types of video-based instruction provide many opportunities for both the teacher and the learner to learn inside the classroom. For example, video modeling allows the teacher to provide more consistent and more precise teaching methods (Domire & Wolfe, 2014). In addition, video-based instruction allows the teacher to provide direct instruction effectively and efficiently in terms of the instructional time required. Once the video model is created, it allows the teacher to provide instruction that can be viewed several times with no variations in the delivery of the instruction. Teachers can also use video modeling with instructional paraprofessionals and substitute teachers to ensure that the students are receiving the same model during instruction. This may improve the student's ability to assess his or her ability to set and achieve goals in turn becoming more independent. Furthermore, video-based instruction is easily portable. With the improvements in technology, video-based instruction allows learning to occur in the student's home, workplace, grocery stores, and other community locations.

Video modeling and reading intervention strategies

Video modeling and video self-modeling uses video technology to deliver interventions intended to increase skills and/or decrease challenging behaviors for individuals with disabilities (Mason, Davis, Ayres, Davis, & Mason, 2016). Technology advances have increased the ability to provide effective instruction and support without increasing personnel, in addition to increasing independent skill acquisition by placing the student in charge of his or her learning. Video modeling interventions capitalize on video technologies to improve the benefits of learning that occur with live teaching or modeling.

Video modeling can be implemented to teach target behaviors in which the individuals learn by observing, imitating, and modeling others. Video modeling is considered to promote learning through Watson's (1997) principles of behaviorism and Bandura's (1977) social cognitive theory. As an example of behaviorism, video modeling can be conceived as a controllable and measurable setting event in which the participant is shown a targeted behavior in order to change later reactions. Video modeling also integrates the antecedent behavioral strategy of priming since the participant becomes more aware of the target behavior by viewing the video model. The social cognitive aspect of video modeling is achieved by the reinforcement through observation of the participant completing the target skill successfully. Finally, video modeling depends on the social cognitive model of learning, or observational learning, in which the participant learns through observation and imitating the target skill. By seeing his or herself successfully complete the target skill, the participant may build intrinsic motivation and create more social valid intervention (Wilson, 2013).

Video modeling requires recording a video of a model engaged in target skills or tasks. Self-modeling, a form of observational learning, uses oneself as the model. It is defined as

learning that arises as a result of repeated observation of oneself on edited videotapes that portray only the desired behaviors (Dowrick, 1999). Creer and Miklich (1970) first introduced the use of self-modeling to improve a child's social behavior. Within their study, Creer and Miklich (1970) reported using a videotape of a hospitalized boy with asthma role playing effective social skills. The results from the study showed that role playing had no effect on behavior but viewing the videotape did impact the behavior. Video self-modeling builds on this early form of self-modeling by employing the learner as the model and providing an opportunity for the individual to view him or herself accurately performing the targeted behavior. As an antecedent-based intervention, the usefulness of VSM may be linked to improvements in perceived self-efficacy (Dowrick, 1999) in addition to the opportunity for the learner to view him or herself as competent (Axelrod, Bellini, & Markoff, 2016).

Video self-modeling can be characterized using the categories of positive self-review, (PSR) and feedforward, (FF) (Dowrick, 1999). Positive self-review is utilized for behaviors that the individuals are able to produce but do not produce on a consistent basis or as frequently as necessary. To create a video using positive self-review, an instructor captures video of the individual performing the targeted skill in the individual natural setting. Then, an instructor edits the footage to remove any non-examples and/or performance errors (Dowrick, 1999). The instructor utilizes feedforward for skills in the beginning or acquisition stage of learning during which the individual continues to need prompting and support in order to correctly perform the skill (Axelrod, Bellini, & Markoff, 2016). Video self-modeling using the feedforward approach involves recording the individual engaged in the targeted skill with necessary provision of supports, prompts or cues. Editing of the video footage removes all supports, leaving a model of the individual appearing to perform the targeted skill autonomously (Dowrick).

Bandura's self-efficacy and Dowrick's self-modeling and feedforward provide the foundation for research to address the problems of reading difficulties exhibited by children with disabilities. According to Bandura (1997), perceived self-efficacy can be defined as relating to a person's belief that he or she can perform an identified task, accounting for different levels of performance under similar teaching or learning conditions. Individuals can acquire self-efficacy through external support and encouragement and through the observation of their own success (Dowrick, Kim-Rupnow, & Power, 2006), which is the definition of self-modeling. Self-modeling is most effective when the successful self-image is selectively screened on a video or computer monitor which supports feedforward, the subcateorgory of self-modeling, in which the obseved success is somewhat higher than the current level of ability (Dowrick, 1999).

Statement of the Research Problem

Video modeling and video self-modeling have been shown to be effective tools when teaching students with disabilities occupational skills and is an identified, evidence-based practice for individuals with autism (National Autism Center 2009). However, there has been limited research demonstrating the effectiveness of video modeling or video self- modeling effectiveness in improving outcomes for students with developmental disabilities and other disabilities in academics. In conducting a review of the literature on video self-modeling involving students with disabilities, using the key words video modeling and reading, the results created 20 articles on using video modeling as an intervention strategy. When the inquiry list was narrowed to include only published studies relating to using video modeling or video self-modeling as a reading intervention strategy for students with disabilities, only four articles were directly related to using video modeling and reading intervention skill for students with

disabilities and one article utilized video modeling and teaching English as a second language student. The intervention strategies ranged from reading comprehension (Hitchcock, Prater, & Dowrick, 2004), to teaching English language learners, (Ortiz, Burlingame, Onuegbulem, Yoshikawa, & Rojas, 2012), decoding skills (Ayala & O'Connor, 2013), and reading fluency (Montgomerie, Little, & Akin-Little, 2014; Decker & Buggey, 2014).

Table 1. Characteristics of previous studies using VSM as a reading intervention strategy

Author(s)	Year	Intervention Components	Group size	Grade
Hitchock, Prater, & Dorwick	2004	CPT, VSM, ORF, COMP	4 students	1st
Ortiz, Burlingame, Onuebulem, Yoshikawa, & Rojas	2012	Literature review of VSM and ELL	5 studies	N/A
Ayala & O'Connor	2013	VSM, DS, NWF	10 students	2nd
Montgomerie, Little & Akin-Little	2014	VM, ORF	4 students	Primary
Decker & Buggey	2014	VPM, VSM, ORF	6 students	3rd-5th

Note: CPT (Community Partner Tutoring); VSM (Video Self Modeling); ORF (Oral Reading Fluency); COMP (Reading Comprehension); ELL (English Language Learner); DS (Decoding Skills); NWF (Nonsense Word Fluency).

Purpose of the Study

The purpose of this study is to determine the effectiveness of using video self-modeling as a reading intervention strategy for improving oral reading fluency for students who receive special education services for reading and for students who receive Tier III reading services. The study will also take a descriptive look at the effects of improved oral reading fluency on reading

comprehension. This study evaluated students' performance on timed oral reading fluency drills in relation to baseline data and maze probes in the descriptive evaluation of reading comprehension.

Significance of the Study

Reading has received national attention for many years; however only about 36 percent of students in grade four perform at or above the proficiency level on standardized reading tests (The Nation's Reprot Card, 2015) This level is predominately lower in students with disabilities with up to 68 percent of students with disabilities reading below the basic level (NCES, 2015). According to research conducted by (Kim, Bryant, Bryant, & Park, 2017), the most prevalent instructional interventions for improving oral reading fluency as determined by the National Reading Panel (NPR), include guided repeated reading and independent silent reading. Guided repeated reading is defined as orally and repeatedly reading passages with systematic and explicit feedback. Independent silent reading is defined as reading passages silently on one's own. In a review of literature involving reading fluency and students with specific learning disabilities, Kim et al. (2017) found that repeated reading with a model was considered to be the among the most effective strategy for increasing oral reading fluency. According to Kim et al. (2017), the most recent study to focus on fluency interventions using repeated reading with a model was conducted by Chard, Vaughn, and Tyler in 2002, and it focused mainly on fluency interventions targeted to elementary students with LD.

Many advancements in our understanding of the reading process has occurred over the years but little has changed in the type of instruction provided to students today. Reading is generally taught during reading or language arts instruction very similar to how it was taught to students 30 years ago (Lange, McC arty, Norman, & Upchurch, 1999). However, today's

students are very different from the classrooms of decades ago. Many students are not motivated to read or write. Without this intrinsic motivation to read, some students seldom develop the skills needed to reach their academic potential. Students need strategies that motivate them to be successful and more skilled readers.

Consistency is vital in implementing effective reading strategies. As stated by Baumann and Duffy (1997), "reading skills and strategies can be taught effectively and efficiently when instruction is systematic and integrated with quality children's literature." The use of technology as a learning tool is a strategy that has the potential to improve how we view and teach reading. Technology can be motivating for students and can be used in a variety of ways to address the different needs of the student. Technology can be used to read multiple items, research information for comparison, evaluate and analyze information, build background knowledge, and to set purpose for reading (Lange, McC arty, Norman, & Upchurch, 1999). With fewer students reading with proficiency, new reading strategies that utilize technology to address this deficit need to be considered.

Researchers have used video based instruction to teach individuals with ASD and developmental disabilities a wide range of functional daily living skills including hand washing (Rosenberg, Schwartz, & Davis, 2010), food preparation skills, (Johnson, et al, 2013) as well as using video modeling and video prompting as vocational supports (Allen, Burke, Howard, Wallace, & Bowen, 2012; Gentry, Wallace, Kvarfordt, & Lynch, 2010). The use of self-management treatment programs in educational contexts have been limited (Coyle & Cole, 2004; (Gentry, Lau, Monlinelli, Fallen, & Kriner, 2012). However, when using video-based instruction to increase oral reading fluency for individuals with reading disabilities, it is important to select an intervention plan that fits the needs of the individual. Video model provides a model that is

similar to the individual and may help to build intrinsic motivation skills in students with difficulties in oral reading fluency. The purpose of this study is to add to the list of reading intervention strategies, such as repeated reading, by determining the effectiveness of video-self modeling as a reading intervention strategy to improve oral reading fluency in students with disabilities.

Research Question

With limited previous research focusing on the use of video modeling to improve oral reading fluency and comprehension, the purpose of this study is to focus on the use of video modeling as an intervention for oral reading fluency and its descriptive effect on reading comprehension. This study seeks to extend the findings of Dowrick to the relation between video self-modeling as a form of technology-based intervention for improving oral reading fluency skills in students with and without disabilities. In this study, the following research question will be addressed:

1. What are the effects of video self-modeling as a reading intervention for improving oral reading fluency of students with disabilities?

The research design used in this study to test this hypothesis was a multiple probe design across participants, (Horner & Baer, 1978). This researcher hypothesized that video self-modeling would also be effective in improving the oral reading fluency rate of students who had a disability in reading.

Limitations

The first limitation is that the study was conducted by the students' special education teacher. This allowed for the principle researcher to interact with the participants throughout the school day in ways that may have impacted the students' and/or teacher's expectations during the

study. Two of the participants, Nate and Jack, were on the researcher's caseload the previous school term. Because the students and teacher were familiar with each other, this or the influence of the researcher may have had an impact on the study and the students' willingness to participate in the study. A second limitation is that this study was conducted in a one-to-one setting with each student receiving individual instruction. As a result, it cannot be assumed that it would be effective if implemented in a group setting. The students who participated in this study had met the qualifications for having a disability as described by the Alabama Administrative Code for receiving the label of specific learning disability. Therefore, a generalization to other disabilities or those without disabilities cannot be assumed. The students in this study were nine or eleven years of age; therefore, generalization to other age groups cannot be made. The researcher provided the entirety of instruction; therefore, one cannot assume instruction by another classroom teacher would produce the same outcome.

Summary

The use of video-based instruction has shown promising results in helping transitioning students with autism learn and practice job-related skills in addition to life skills and academic skills. Video based instruction is grounded in Bandura's research in social cognitive theory and his agentic outlook for human development and change (Bandura, 2002). Most current research has been limited in terms of postsecondary outcomes for the specific higher functioning subgroup of ASD and other developmental disabilities (Wehman, et al, 2014). A large number of researches have provided information on the use of video modeling to assist students with low incidence disabilities in the area of functional daily living skills including hand washing (Rosenberg, Schwartz, & Davis, 2010), food preparation skills, (Johnson, et al, 2013) as well as using video modeling and video prompting as vocational supports (Allen, Burke, Howard,

Wallace, & Bowen, 2012; Gentry, Wallace, Kvarfordt, & Lynch, 2000). However, there has been limited research in the use of video modeling or video self-modeling as an intervention strategy for academic skills and, in specific, oral reading fluency skills. There is a need for more information and research on the practice of video modeling in improving oral reading fluency skills. When applying video self-modeling in conjunction with reading intervention strategies, more appropriate outcomes may be established for improving oral reading fluency and comprehension for student with specific learning disabilities.

CHAPTER 2: REVIEW OF THE LITERATURE

In a study conducted by Hitchock, Prater, & Dorwick (2004), researchers examined the effects of community partner tutoring and video self-modeling (VSM) on reading fluency and comprehension skills on four first grade students. The study took place in rural Hawaii in which community partners trained in order to provide tutoring service for the students using the twenty-five step Accelerated Community Empowerment, ACE, reading protocol. The study used a single-subject-multiple-baseline design to review the effects of the two independent variables of the use of community partner tutoring and VSM on the two dependent variables of reading fluency and comprehension skills. The researchers also collected data on teacher ratings of student behavior.

The researchers conducted student assessments both before and after the intervention phase. The researchers used standardized tests including the Woodcock Reading Mastery Test Revised (Woodcock, 1998) which provided information on the students' performance in word identification, word attack, basic skills, and passage comprehension. Hitchock, Prater, & Dorwick (2004) included the Achenbach Teacher Rating Form (TRF) that provided *T* scores based on the teachers' identification of problem behaviors (Achenbach, 1991). In addition, information gathered on the students' ability to read sight words from a list of the 45 most commonly used words and the classroom teacher determined the students' instructional reading level and recommended an appropriated series of books.

The equipment used in the study included a Sony DVD-TRV20 digital camcorder with a tripod to record the reading session, and a Sony WCS-999 wireless microphones to improve sound quality during the recordings. The researcher downloaded video footage to an iMac computer and edited the video footage using iMovie computer software. The ten books used by

the participants during the study were at the first grade reading level. Each book was a content appropriate level book that included a story with colorful pictures and about 100 words. The book series increased in difficulty level from sentence books to paragraph books. The participants also read two passages without pictures at the students' instructional level each week for the weekly independent measures.

The researchers collected data on reading fluency and comprehension biweekly on nonconsecutive days. The researchers measured oral reading fluency in words read correctly per minute (cwpm) on a short passage of approximately 100 words each based on a basal reading series. Each passage was novel to the students and on the students' instructional level. Omissions, substitutions, hesitations of 3 seconds or longer, and mispronunciations were counted as errors. The researchers measured reading comprehensions by the number of correct answers out of 15 comprehension questions. The participants read a passage with pictures and responded to the questions as defined in the tutoring protocol for reading comprehension. The researchers used a point system for the type of questions used in the study. The point system included rewarding the participate with 3 points for predictions, 3 points for main idea and supporting details, and matching words/pictures, 1 point for the setting, 3 points for sequencing the story into beginning, middle, and ending, and 5 points for retelling the story in the students own words (Hitchcock, Prater, & Dowrick, 2004). The researcher established the criterion for success at 13 out of 15 correct responses with the scores being averaged for the two probes.

To increase reading fluency, the student participated in a 30-minute session with the tutor following the ACE reading protocol. The student selected a book in which the student and the tutor would read the book using unison reading, echo reading, and independent reading. Following reading the book, the tutor and the student reviewed the sight words using a memory

game. The rules of the memory game included matching the sight words and correctly saying the sight words to keep the matched pair. The completed game occurred when all pairs of words were correctly matched. Once data appeared stable, the videotape of reading fluency was added. The researcher showed the video to students and the tutor immediately before the daily tutoring session. The tutoring and VSM phase continued until the participant reached his or her criterion level for reading fluency or until the rate stabilized. When the rate became stable, the video was faded to being viewed biweekly (Hitchcock, Prater, & Dowrick, 2004).

The researchers implemented the reading comprehension intervention when the tutoring with the VSM became stable. The tutors used a graphic organizer and direct instruction on story structure to help the students to organize and remember important information. The researchers also implemented a phase in which they used VSM in conjunction with tutoring to increase reading comprehension. VSM for reading comprehension involved the tutor and student viewing the videotape immediately before the daily tutoring session similar to VSM for reading fluency. This phase continued until the participant reached the individual criterion for reading comprehension. The researchers' focus during the VSM with tutoring to improve reading comprehension was on story structure to help students organize and recall vital information such as the setting, characters, theme, and temporal sequence of events, and the story ending. The student viewed the video immediately before the daily tutoring sessions and this phase also continued until the participant reached his or her individual criterion for reading comprehension.

The results of the study found that tutoring by a community partner and VSM increased both reading fluency and reading comprehension skills. Researchers also found that the greatest gains in oral reading fluency occurred when they added the video self-modeling for fluency to the intervention. In addition, adding the video of the participant correctly applying the story map

and answering comprehension questions confirmed the gains and reduced variability. The pre- and post-standardized assessments indicated that the students made improvements in their age-equivalent scores. However, these scores did not indicate the increase in the students' CBM in reading nor the initial alarms articulated by the Achenbach Teacher Rating Form (TRF) *T*-scores based on the teachers' identification of problem behaviors (Achenbach, 1991) . For example, all internalizing and externalizing behavior ratings improved with the exception of one participant whose internalizing score remained the same. On the attention scale, the teachers rated fewer problems in three out of four participants on the post-assessment. (Hitchcock, Prater, & Dowrick, 2004). Follow up data collected at the 1 month and 6-month interval demonstrated that the participants maintained the skills in both reading fluency and comprehension. One follow-up measure collected in the general education classroom indicated that reading skills generalized.

Hitchock, Prater, & Dowrick (2004) indicated a need to expand research on the effectiveness of video self-modeling and tutoring in increasing reading skills. The researchers also discussed the need to expand research to include additional how and why comprehension questions to promote higher order teaching to address the ceiling effect exhibited by the data, Another suggestion made by the researchers was extending the number and types of participants to include students with low incidence disabilities, such as students with autism or intellectual disabilities. Hitchock et al. also suggested developing profiles of students with high incidence disabilities to indicate who would benefit most from these interventions. Finally, the researchers suggested creating videos of more complex skills as an investigation option for assessing benchmark in an individual educational program.

In a literature review conducted by Ortiz, Burlingame, Onuebulem, Yoshikawa, & Rojas (2012), researchers found five studies of using video-self modeling with English language

learners (ELL) and reading. The review focused on reading fluency and reading comprehension. All studies occurred in the school setting with students ranging from first to the eleventh grades. The findings in each study indicated that VSM improved students' reading fluency and reading comprehension. However, the authors indicated that some of the improvements could be due to the individual attention the students received (Ortiz et al.). The researchers determined that there was little research on the use of VSM with culturally and linguistically diverse populations. It also sighted that until the students completed Stage I of second language acquisition (preproduction) there would be limited responses due to a lack of language proficiency.

The research conducted by Ayala & O'Connor (2013) found similar results in the success of video self-modeling to improve reading skills. The researchers investigated the effects of video self-modeling on decoding skills for students who were at risk for reading disabilities. The researchers used VSM with second grade students who received response to intervention (RTI) Tier two reading instruction and demonstrated limited progress in reading words. The researchers focused on the use of VSM as an instructional tool for decoding and sight word recognition using a single subject multiple baseline design.

The students attended a Title I elementary school in southern California. The study included ten students who had failing scores on the Basic Phonics Skills Test. The students received Tier 2 instruction 4 days per week using the Systematic Instruction in Phoneme Awareness, Phonics, and Sight Words program (SIPPS). The program consisted of oral blending, segmenting of syllables and consonant-vowel-consonant (CVC) words, and sight word recognition. The Tier 2 program implemented by the reading specialist and teaching assistant and SIPPS was evaluated in a comparison across schools in California (Ayala & O'Connor, 2013).

The researchers collected baseline data using the Nonsense Word Fluency (NWF) probes from the Dynamic Indicators of Basic Early Literacy Skills (DIBELS), and two curriculum-based measures (CBM) made up of decodable and sight word card sets from the SIPPS reading instruction program from lessons 11-41 (Ayala & O'Connor, 2013). The first author was the researcher responsible for of managing all of the video recording and editing.. The researchers recorded students while participating in a reading intervention session that included oral blending of the letter sounds, segmenting, and sight word recognition slightly above the present level of the student to utilize the feed forward technique as mentioned by Dowrick (1999). The participants worked with an adult tutor and video recording occurred in a separate classroom to reduce noise and interruption. Researchers videotaped participants decoding and reading words in a manner that mimicked their daily Tier two sessions using a Flip Video Camera on a tripod. Researchers placed the Flip camera away from the participant in the best position to capture the student's face and materials.

During progress monitoring, students viewed their videos twice a week following participation in their Tier 2 SIPPS reading instruction. Monitoring of the students included NWF and two sets of index cards (sight words and decodable words) to determine the number of correctly decoded words and sight words recognized. The researchers staggered the VSM intervention across a multiple baseline phases as determined by the RTI schedule. There were three groups. Once meeting the criteria for change, two data points above baseline or the passage of four intervention sessions, for at least two students, the researcher introduced a video to the next group of students. This continued until all students viewed videos before their Tier 2 instruction.

Each video lasted fewer than five minutes and included five decodable words and five sight words. The first group of students read five decodable words and five sight words during the baseline phase. After the VSM intervention began for these participants, and an increase of two data points in decoding kills was noted, the second group of students recorded their first video as the first group recorded their second video. This process continued with the third group of students allowing each group to record new videos throughout the study.

During the intervention, the students viewed their own video four times per week at the computer before beginning their small group Tier 2 instruction. The students viewed the videos throughout the school day upon their request in addition to having a copy of the video to share with other teachers or take home to share with their parents. The researchers also collected data on the number of times the video was viewed outside of the study boundaries for social validity. Once the student had several videos, the students could choose between the videos that they wanted to view. The results of the student indicated that all students improved in reading and decoding skills. The teachers also noted changes in the decoding and reading self-efficacy of the students involved in the study (Ayala & O'Connor, 2013).

Montgomerie, Little & Akin-Little (2014) also used video modeling to improve oral reading fluency. The students within the study where in elementary school and were not previously classified as students with a disability. The students were considered "delayed readers." The intent of the study was to improve their reading fluency rate by providing the students with the opportunity to watch themselves reading fluently and improving their sense of self-efficacy (Montgomerie et al.) The participants were three boys and one girl between the ages of seven years old and eight years in age in the same school in New Zealand who had been identified by their teachers as being behind their peers in reading. The researchers assessed Oral

reading fluency regularly with pairs of 1-minute probes selected from the existing school curriculum. The researchers randomly selected passages that were two levels above the students' reading level with no illustrations in order to ensure that the students had not seen the text they read. The researcher recorded the participants as they read a passage that was slightly more difficult than their reading level. The researchers edited the film to demonstrate the student reading fluently. The researchers used a multiple baseline across subjects design for the study. The dependent variable was oral reading fluency and researchers defined it as the number of correct words per minute. After five to eight sessions during the baseline phase, the researchers showed students the finished DVD before school for 2 weeks in a distraction-free room. No comments were made while the student was watching the video. At the end of the intervention phase, the researchers removed the video and the students returned to baseline conditions. Following one week of intervention, the researchers recorded each student's oral reading fluency for five consecutive days. The researchers used the same procedure throughout all phases of the intervention. Data were analyzed using visual analysis and percentage of non-overlapping data points (PND).

The researchers found that all participants made gains in their reading fluency with an increase between the range of 3.5 and 10 words per minute. Three out of four of the participants' mean scores increased between 8.5 and 10 words per minute. However, in each case, there were short-term gains that tended to diminish over time. Montgomerie, Little, & Akin-Little (2004) found that motivation to attend to the video did impact the results of one participant in the study. However, when an individual sees him or herself completing the task, it improves the possibility that the individual will perform the behavior which improves their success rate. The researchers discussed whether combining VSM with other forms of fluency instruction would provide

maintenance of fluency gains. In addition, Montgomerie et al. discussed looking at the frequency and duration of VSM and examining if repeated showings of the same DVD or a variation of the DVD with similar or increasing difficulty would influence the results of the study. The researchers introduced the need address the question of adding a prosodic element, patterns of rhythm and sound used in oral expression, to the DVD and if that element would improve and maintain the gains made in oral reading fluency. Montgomerie et al. also discussed the need to include an assessment of reading comprehension to illustrate the benefits of fluent reading.

In similar research conducted by Decker & Buggey (2014), researchers investigated whether peer and/or self-modeling was more effective, and if VSM could improve reading fluency in the absence of other intervention strategies. Six elementary students in grades three through five with a specific learning disability participated in the study. The students attended a school in a rural mountain setting that received Title I funds.

The researchers used a multiple-baseline design across participants design to assess the effects of video self-modeling and video peer modeling on the students' reading fluency (Decker & Buggey, 2014). The study included a control/comparison group to provide for compatibility between research and instructional practices. The independent variables were the intervention of VSM, video peer modeling (VPM) and the regular instruction used within the classroom. The dependent variable was the reading fluency. The study used three phases that included a baseline, intervention and follow-up/maintenance. Progress monitoring occurred biweekly on non-consecutive days during the study. The students read a passage on their reading level for three minutes. The students retold the story using story details and main ideas to demonstrate comprehension of characters, events and setting. A running record checked each response to the

questions and scored based on being complete, adequate, or limited. Participants received four comprehension questions on story details for the passages.

The researchers used a process of echo reading to make videos and VSM. During the echo reading, the researcher read sentences and the student echoed the expression and accuracy of the reading. Removal of all errors made by the students and the voice of the researcher resulted in an accurate and fluent reading conducted by the student. The researchers used iMovie to edit the video. The students viewed their own video, or one completed by a peer depending on the group they were assigned in the study once daily in a one on one setting inside the resource classroom.

The results of the study by Decker and Buggey (2014) found that there was an increase in reading fluency between the baseline and intervention using both video self-modeling and video peer modeling. The students maintained or increased gains throughout the maintenance phases. There was a leveling off the gains seen when the video was removed. Decker and Buggey did not find a clear link between the use of VSM and the positive effects of improved self-efficacy, or some continuum of completing new skills.

Chapter 3 Methodology

Participants

In order to participate, students met the following criteria. First, parents provided consent and students assented for participation in this study. Second, students received tier III instruction in reading, or were eligible for special education services under one of the disability categories as indicated by the Alabama Administrative Code and received service in reading. The participants included two fourth grade and one fifth grade African American students ranging in age from eight to 11 years who received special education services. The use of five participants is preferred to help to alleviate the effects of selective attrition of participants (Kennedy, 2005). Selective attrition of participants refers to the participants in the study dropping out or being removed from the study for some reason beyond the control of the researcher. Within this study, ten students who met prescribed criteria were given assent and permission letters; however, only three students returned letters granting permission.

The students were below grade level in oral reading fluency as indicated by standardized testing with scores of 25% below grade level standards. The researcher collected additional information regarding students' reading performance. This included students' present level of performance on timed oral reading fluency drills on their instructional reading level, a scaled standardized testing score that indicated the need of urgent intervention level or a scaled score below average on the Global Scholar Scantron Assessment state testing taken in spring 2018. The researcher collected demographic data such as cultural background, gender, eligibility category, and hours or level of service to meet the standards for participant description recommended by Rosenberg et al. (1994).

The researcher chose students for participation from the pool of students who had signed consent letters according to the criteria above. The researcher obtained assent from students by reading an assent letter to them and asking them for voluntary participation. There were three participants, Oscar, Jack and Nate each named with pseudonym.

Oscar. Oscar was an African American male in the fourth grade. At the time of the study, he was a ten-year-old student and received special education services under the category of specific learning disabilities as defined by the Alabama Administrative Code. Based on standardized testing using Dynamic Indicators of Basic Early Literacy Skills, or DIBELS, Oscar received a score of 42. This score placed him on the intensive need for support according to DIBELS 6th Edition benchmark goals. He also had an individualized education program, or IEP, goal for increasing his oral reading fluency to thirty words per minute on a third grade reading passage and with 85% accuracy. He met all additional requirements for participation in this study.

Oscar was identified with specific learning disability in 2014 when he was in the second grade. Using a Wechsler Intelligence Scale for Children-Fifth Edition, an overall full-scale IQ standard score of 80 was obtained. In Alabama, a Predictive Achievement chart is used to determine eligibility for services within the category of Learning Disability. These calculations assume a .65 level or correlation. According to this chart, an IQ score of 80 renders a Predictive Achievement score of 87. In the state of Alabama, in order to qualify for having a disability using the Severe Discrepancy model, a student must have a discrepancy of 16 points between their Predicative Achievement score, and their overall achievement score on a separate measure. Oscar qualified using the Discrepancy Model. His overall achievement score on the Woodcock-

Johnson Tests of Achievement, Fourth Edition produced a total standard score of 70. This indicated a 17-point difference between his IQ and his achievement.

Oscar received support in both his general education classroom by the resource teacher and pull-out services located in the resource classroom,. Throughout his 4th grade school year, he attempted his classroom assignments with minimal assistance, and he received assistance for many of the assignments he struggled with in addition to assignments he needed to redo. He tried hard to complete many of his assignments independently and he became frustrated with himself when asked to redo his work. When he did not do well or did not understand what was being asked of him, his frustration was noted as negative self-talk or putting head down on the desk. During his periods of frustration, the resource teacher gave him a cooling off period of five minutes, talked with him on how to better address the issue, and redirected him to the task.

Jack. Jack was an African American male in the fourth grade. At the time of the study, he was a nine-year-old student and had previously received special education services for related services for speech and language. During his three-year re-evaluation process, Jack met the criteria for receiving special education services under the category of specific learning disability as defined by the Alabama Administrative Code. Based on DIBELS testing conducted in spring of 2016, he received a score of 25 words per minute on a timed fluency passage and 66% accuracy rating for reading a first-grade level test. This score places him below grade level benchmark for reading fluency reading. He received Tier III services for reading fluency and comprehension and was referred for special education services in winter of 2017 for having a specific learning disability in addition to speech articulation difficulties. Upon qualifying for special education services, Jack's IEP was rewritten to include an IEP goal for increasing oral

reading fluency to ninety words per minute on a third-grade reading text progressing to ninety words per minute on a grade level text with an accuracy rate of 90%. He met all additional requirements for participation in this study.

Jack was a 9-year-old student in the fourth grade. According to his most recent eligibility report, Jack obtained an IQ standard score of 93. This is equivalent to a Predictive Achievement of 95. When compared with his overall achievement score of 85, this produced a ten-point difference between his IQ and his achievement therefore not meeting the requirement for the Discrepancy Model. However, using the Patterns of Strengths and Weakness, Jack meet the criterion as established by the Alabama Administrative Code. To meet the criteria for having a specific learning disability based on a Pattern of Strengths and Weakness Model, the state of Alabama recommends the following guidelines: the student should have an area of strength in at least one SLD area (area of strength defined as three strengths across four categories) and an area of weakness in at least one SLD area (area of weakness defined as three weaknesses across the four categories). Strengths are defined as greater that the 25th percentile (90 scaled score), grades that are a D or F, and scoring below average when compared to peers. After reviewing the information, he met the requirements for having a specific Learning Disability using the Patterns of Strengths and Weakness Model due to having a documented strength in math calculation and a weakness in reading comprehension. Similar to Oscar, Jack received support inside the resource room with pull-out and small group services.

Jack was known by the researcher as being a very polite and quiet young boy. He rarely asked for assistance from the general education teacher or resource teacher but went to the resource room to compete or rework missed assignments. He did not initiate questions when he did not understand something, Often, the resource teacher conducted a question, answer,

response strategy to check his understanding of the material. The resource teacher worked with him on increasing his ability to ask questions when he did not understand, previewing the text, and applying his background knowledge to assist with comprehension strategies.

Nate. Nate was an African American male in the fifth grade. At the time of the study, he was a twelve-year-old student who had begun receiving special education services during the 2018-2019 school year. He had previously received special education services in another State. Based on curriculum-based measures in oral reading fluency, his current reading score was 40 words per minute on a third-grade reading passage. A DIBELS report was not available for this student due to his being an out of state transfer. Global Scholar scores taken in spring of 2018 were used and indicated that the student was below average in the area of reading and his predicted oral reading fluency rate was below grade level. Similar to the previous students, he also had an IEP goal of increasing his reading fluency to ninety words per minute on a third-grade reading text. He met all additional requirements for participation in this study. All further information can be located in table 1.

Nate received comparable special education services since transferring to the school in spring of 2018. He qualified for services at the end of the 2017-2018 school term and his IEP was implemented during at the beginning of the 2018-2019 school term. He obtained an IQ score of 78 and a Predicted Achievement Score of 86. The IEP team used the Woodcock Johnson Test of Achievement, fourth Edition overall achievement score of 63. Using this score, he met the requirements for having a disability under the Learning Disability category using the Predicted Achievement and one achievement test.

Nate was described by the resource teacher as a very sweet young man. He completed work and asked for assistance when needed. He did well on classroom assignments when he had extra time and scaffolding by the teacher. He was often out of school and on average, he missed one to two days per week. Because he missed so many days, much of his resource time involved completion of missed lessons and assignments.

Table 2

Participants Demographic Information

Student	Age	Ethnicity	Grade Level	Disability	Free Lunch	Years in Special Education	IQ
Oscar	10	B*	4	SLD**	Yes****	4	***
Jack	9	B*	4	SLD**	Yes****	4	93***
Nate	12	B*	5	SLD**	Yes****	1	78***

*Black/African American
**Specific Learning Disability
***As stated in student's eligibility report
****Per office records, all three students qualified for free lunch at the time of this study

Table 3

Standard Score for IQ and Achievement Scores in the area of Reading

Student	Disability	FS IQ*	Predicted Achievement	Achievement Overall
Oscar	SLD	80	87	70
Jack	SLD	93	95	85
Nate	SLD	78	86	63

*Full Scale IQ

Each student participated in the Global Scholar Performance Series Test given by the school district and their scores are described in the table below (Table 3). Additionally, each student participated in STAR Reading testing, a computer adaptive test multiple choice test, conducted schoolwide on all students monthly offered though Renaissance Place during the school term for additional progress monitoring of reading skills. Scores from STAR reading indicated whether the student performed at or above grade level, on watch, intervention, or urgent intervention levels. Students who did not receive scores at or above grade level were progress monitored more frequently as a component of schoolwide Response to Intervention. The Global Scholar Performance Series Assessment was a computer adaptive multiple-choice assessment with questions that automatically adjust to each student's instructional level independently of his or her enrolled grade level. The Global Scholar Performance Series Assessment was a formative assessment measure purchased and issued by the state and local school district that assessed each student's progress at three intervals during each school year beginning in grade three (fall, winter, and spring). The math and reading assessments are aligned to College and Career Readiness Standards (CCRS) and ACT College Readiness Standards. The purpose of this assessment was for diagnostic information provided by the reports from these assessments used to plan for individualized instruction, set goals for students, and measure progress over time and determine Alabama Proficiency Levels.

Table 4

Global Scholar Performance Series in the Area of Reading

Student	Global Scholar Test Date	Scaled Score	National Percentile Ranking	Grade level Equivalent	Alabama Proficiency Level
Oscar	Spring 2018	1848	7%	Less than 2.0	Level 1 (Emergent learner)
Jack	Spring 2018	1972	8%	Less than 2.0	Level 1 (Emergent Learner)
Nate	Spring 2018	2228	12%	2.7	Level 1 (Emergent Learner)

Table 5 *STAR reading test results*

Student	Test date	Scaled score	Grade Equivalent	Percentile ranking	NCE	Instructional reading level	Estimated oral reading fluency
Oscar	August 2018	249	2.5	8	20.4	2.0	57
	March 2019	172	1.9	2	6.7	1.1	44
Jack	August 2018	290	2.8	13	28.3	2.4	67
	March 2019	409	3.7	28	37.7	3.5	70
Nate	August 2019	280	2.7	5	15.4	2.3	*NA
	March 2019	333	3.1	6	17.3	2.8	*NA

*NA-Information was not available for students in grade 5

Setting

The study took place in the resource classroom in a school located in rural Alabama school that receives Title I resources due to the high poverty enrollment at the school. The intervention occurred in a resource classroom as a part of the students' special education services or tier III instruction. The resource room was located near the students' general education classroom and contained two kidney shaped tables, chairs, shelves, Smart Board, and teaching materials. Students received instruction in a small group setting during the morning for 30-minute sessions. The researcher, a certified special education teacher and the students' teacher, provided the intervention with a special education paraprofessional. The researcher collected all baseline data during small-group instruction in the resource classroom setting. Sessions for recording each student's reading lasted ten minutes. After the recording sessions, each child returned to the general education classroom. Training sessions lasted between five to ten minutes. During the training sessions, the researcher recorded students reading the selection. The researcher edited the video to remove errors and added a menu screen for future viewing of all corrected video. Intervention sessions lasted five minutes per session. The student reviewed the video in a one on one setting.

Independent variable

The independent variable was video self-modeling. Video self-modeling (VSM) is a research-based strategy that refers to an individual viewing one's self performing a skill in which one views a video of one's self imitating or performing a target behavior (Johnson, Blood, Freeman, & Simmons, 2013).The researcher recorded each student reading a passage during the recording sessions. The researcher recorded two videos of the student reading two different

passages during the recording sessions. Upon completion of recording sessions, the researcher downloaded the video to the iMovie software and performed the editing process. During the editing process, the researcher removed all errors, corrections by the teacher, and pauses to produce a video that demonstrated the student reading fluently without errors. The finished video included a menu in which the student may select one of the three finished videos of himself reading the passage fluently.

Dependent variables

The dependent variable was oral reading fluency as measured by curriculum-based measures (CBM). Reading fluency was defined as the number of correct words read per minute when given a passage written at the student's instructional reading level. The researcher used curriculum-based measurement because it was: (a) easy and time efficient to administer and score and (b) it provided information that can be used to direct and inform instruction (Hosp, Hops, & Howell, 2007). The researcher also collected a descriptive review of the student's reading comprehension during the intervention. Reading comprehension was defined as completing maze passages and the researcher defined sufficient reading comprehension as the completion of a maze passage with 80% accuracy or above.

Assessments and Assessment Procedures

The researcher regularly assessed oral reading fluency with pairs of one-minute reading passages or probes selected directly from curriculum-based measures that were parts of the students' current instructional program. Passages without illustrations were randomly selected from the progress monitoring, PM, benchmark series currently used in the students' current reading program. Each reading passage was on the student's instructional level throughout the study. This ensured that the students in the study had not seen the text they were reading before

the intervention. This ensured a close connection between the materials used for instruction and the measures used to evaluate the independent variable. There were multiple versions of each fluency measure written at the same level to ensure that students do not learn the assessment and prevent practice effects. Passages without illustrations were used to keep the students from being able to use the illustrations as context clues for unfamiliar words while reading. The researcher defined oral reading fluency as the correct number of words read per minute. Accuracy was calculated based on the number of words read divided by the number of words read correctly.

The researcher collected reading comprehension data with maze reading passages found in appendix B for descriptive purposes. A cloze reading passage is a form of a curriculum-based measure (CBM) that requires the students to read passages with missing words and a selection of word choices in the place of the missing words. A cloze passage is developed by deleting every seventh word of a reading passage and replacing it with three response choices. One of the choices is correct and the other two are distractors (Yeo, 2010). The researcher gave each student three minutes in which to read and make selections. The research measured accuracy by noting the percentage of correct words chosen.

During baseline, intervention, and follow-up phases, the researcher asked each participant to read aloud for one minute. If the participant hesitated for more than three seconds, the researcher gave the word and allowed the student to continue reading. The researcher marked the word as wrong on the researcher copy. If the student said a word incorrectly, the researcher did not correct unless the student repeated the word in attempt to self-correct on two or more trials and allowed the student to continue as time permitted. At the end of the minute, the researcher counted the number of correct words. To reduce variability of performance, the researcher gave

each student two passages to read per session and recorded the mean of the two as a single data point. The researcher assessed oral reading fluency multiple times before, during, and after the video self-modeling intervention.

The researcher collected data on oral reading fluency twice a week on nonconsecutive days and reading comprehension once a week. The researcher gave students a short story passage of approximately 150 words each based on a basal reading series and did not average the scores on the bi-weekly data collection during the intervention phase. The passages were novel to the student and at the student's instructional level as determined by standardized testing. The researcher timed the student for one minute, and oral reading rate was calculated on the average of two passages to increase reliability. The researcher counted omissions, substitutions and words that took longer than three seconds to read as errors, in addition to mispronunciations.

Instructional Materials

An iPad 4 camera recorder recorded the participants reading. The researcher uploaded Video footages to an Apple Macintosh laptop and edited with iMovie software. To create the videos, the researcher recorded each participant reading a passage that was slightly more difficult than passages presented during the baseline and intervention phases of the study. The researcher showed the edited video to the student reading the passage fluently using the feedforward aspect of video self-modeling (Dowrick, Kim-Rupnow, & Power, 2006). Each finished video was between one minute, fifty-five seconds and two minutes, fifteen seconds long. The edited images of each student reading fluently created by the researcher captured the child's fluent reading and deleted parts where the researcher helped the student with a word. When the student's reading was slow or halting, the researcher cut pauses from the edited copy to show the student reading at a fluent pace. The finished video included a menu screen that played scene

music and had images of the student reading with the student's name on it. From the menu, the students accessed the actual "movie" of their reading.

Instructional Procedures

The researcher collected data during baseline phase prior to implementing the video self-modeling. Once a stable baseline was established as defined as data points that varied no more than 20% from the baseline's mean, the teacher introduced video self-modeling. During the intervention, the researcher showed each student the finished recording until the student reached mastery as defined as an average of 92% of treatment data that exceeded baseline mean (Scruggs & Mastropieri, 2013) . The intervention occurred in the resource classroom during the morning when there were little to no distractions. The researcher gave each student headphones to use while watching the video. The teacher did not comment about the video while the student viewed it. The teacher remained in the room with the student to monitor the student's attention to the video. Attention to the video was defined as eyes focused on the video screen, sitting quietly and listening to the video. The intervention continued until five data points were collected. This varied from the original criteria for mastery because the researcher discontinued the viewing of the video following five data points. The researcher found that the original criteria of 92% increase was difficult for the first student to obtain and would result in only one student entering the intervention phase. Once the researcher noted the change from baseline following the five data points, the researcher introduced the intervention to the second student. The first student was given the option to continue viewing the video prior to data collection, but on following occasions, each participant chose not to view their perspective video after viewing the video on five data days. The refusal of viewing the video by the participants following the collection of five data points and permitted the students to enter the maintenance phase of the study. One

week following the intervention, the researcher recorded each participant's oral reading fluency and reading comprehension again for four days to assess maintenance. The researcher followed the same procedures throughout baseline and intervention procedures for each student.

Treatment fidelity

The researcher measured procedural fidelity of administration of probes through use of accuracy of implementation checklist (Figure 1). The researcher trained another individual paraprofessional to serve as an observer. Training included individual training sessions that occurred two to three times per week prior to baseline testing. Sessions lasted approximately 10 to 15 minutes and reviewed the implementation checklist and scoring on the implementation checklist. The observers reviewed the testing procedures for a minimum of five different observations with the observers alternating roles as the student as the examiner implemented the reading fluency and cloze reading passages. The researcher calculated the criteria for successful implementation as the percentage correct by dividing the number of steps completed correctly by the total number of steps in the implementation checklist. The researcher considered the observers trained once they achieved 92% or greater accuracy on four out of five observations. The researcher conducted procedural reliability based on the number of behaviors correctly performed by the teacher, divided by the number of planned teacher behaviors, multiplied by 100 (Billingsley, White, & Munson, 1980).

The researcher measured the integrity of the process for viewing the video through the use of an implementation checklist. Another person was present and recorded 25% of probe administrations and video viewing sessions. This observer completed a checklist of teacher behaviors. Another person viewed the videos and completed the fidelity checklist. The checklists

were compared for reliability. These items on the fidelity checklist are included in Figure 2. Treatment fidelity was 100% across the three students.

Inter-rater Reliability

The researcher collected inter-observer reliability data for reading probes and cloze sessions by two independent observers. For 30% of fluency and cloze probes across conditions, the research teacher and the second observer scored the probes. An observer reviewed the unedited video of the student reading. The observer recorded student errors and the number of words read correctly. The observer also scored cloze probes. The researcher calculated inter-observer reliability using the point-by-point method, in which the number of agreements were divided by the number of agreements plus disagreements, and then multiplied by 100. Minimum acceptable reliability levels were 90%. Inter-rater reliability was 100% across the three students.

Design

The study employed a multiple probe across students' design (Horner & Baer, 1978). The independent variable was video self-modeling. The dependent variable was oral reading fluency as measured by the number of correct words per minute. The researcher collected additional descriptive data regarding reading comprehension as measured by completion of cloze passages. The researcher collected baseline data for at least five sessions and stability was reached. Stability was defined as the last three data points varying no more than 20% from the mean of the baseline. After the first student demonstrated a stable baseline, he or she began the intervention. When the first student made progress as defined as an increase over baseline mean, the next student began the intervention. When the second student demonstrated an increase over

baseline mean, the third student moved from baseline to intervention. The researcher designed the study so that students entered maintenance after reaching mastery, defined as an average of 92% of treatment data that exceeded baseline, they entered maintenance. During the maintenance condition, no intervention occurred. After one week, students completed a reading fluency probe. Students completed weekly fluency probes for four weeks after intervention.

The researcher graphed student performance. The researcher analyzed the data using visual analysis which included immediacy of effect, level of data paths in each phase, the range of data points in each phase, the number of data points to criteria for mastery, and the trend of each data path. In addition, the researcher noted effect size by using the percentage of non-overlapping data points (PND), a common metric used in the analyzing of single subject research (Mastropieri & Scruggs, 2013) and a calculation of Tau-U (Parker, Vannest, Davis, & Sauber, 2011).

Chapter IV: Outcome of Study

Oscar's fluency. Oscar's baseline level was 51.6 correct words per minute (wpm) with a range from 41 to 60 on a fourth-grade level reading passage. There was not an immediate change from baseline to intervention. His intervention level was higher than baseline at 70.4 correct wpm, ranging from 48 to 103. There was one overlapping data point; therefore, the percentage of nonoverlapping data points (PND) was 80%. After the intervention, Oscar maintained his performance with most data points at or above the same level as intervention.

Jack's fluency. Jack's baseline for words read correctly on a one-minute timed reading had a level of 72.2 with a range of 55 to 89 wpm on a third-grade level reading passage. There was an immediate change in performance from baseline (73 wpm) to intervention (88 wpm). Jacks' intervention level was 89.2 with a range from 80 to 101 wpm. There were three overlapping data points, so PND was 40%. Jack did not maintain his intervention performance with all but one data point within the range of baseline.

Nate's fluency. Nate's baseline had a level of 56.8 wpm with a range from 48 to 64 wpm on a fourth-grade level reading passage. There was not an immediate change from baseline to intervention. His intervention level of 59.3 wpm with a range from 49-69. Nate had three overlapping data point and PND of 25%. After the intervention, Nate's wpm increased with data points above baseline and intervention.

Oscar's accuracy. During baseline, Oscar's accuracy had a level of 93% with a range from 89%-98%. During intervention, his accuracy had a level of 91.2% and a range from 86% to 95%. PND was 0%.

Jack's accuracy. During baseline, Jack's accuracy had a level of 94.2% with a range from 87%-99%. During intervention, his accuracy had a level of 95.6% and a range from 94% to 98%. PND was 0%.

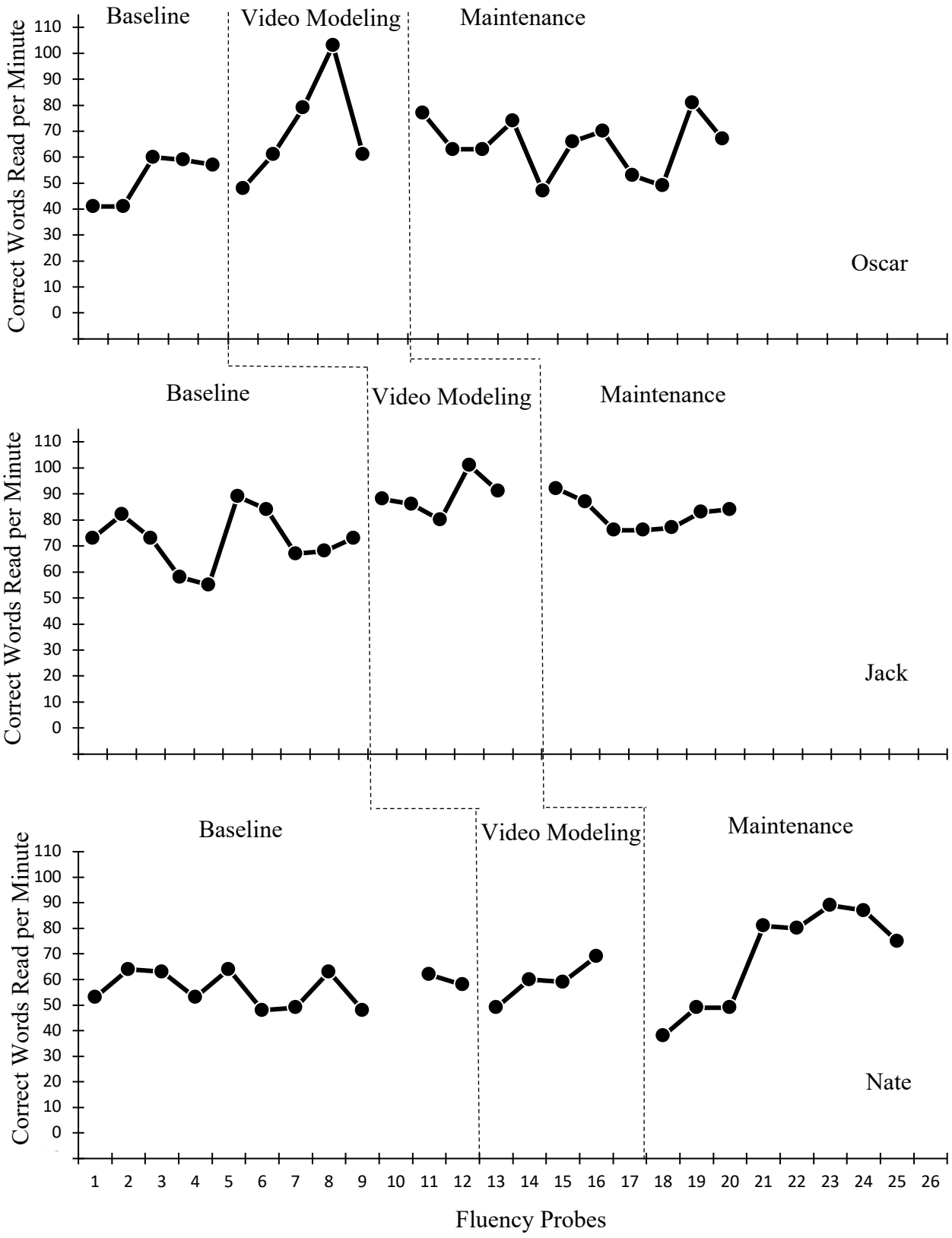
Nate's accuracy. During baseline, Nate's accuracy had a level of 92.6% with a range from 88%-97%. During intervention, his accuracy had a level of 97.3% and a range from 95% to 100%. PND was 33.3%.

Descriptive comprehension performance. Oscar's average Maze performance during baseline was 44% correct with a range from 33%-60%. This increased to an average performance of 65.6% percent correct during intervention with a range from 33% to 94%. Jack's average Maze performance during baseline was 74.6% correct with a range from 55%-100%and 73.5% correct during intervention. Nate's average Maze performance during baseline was 67.8% with a range from 0% to 100%. He had one Maze assessment during intervention, and it was 81% correct.

Table 6 Mean ORF and PND for each participant

	Baseline Mean	Intervention Mean	PND
Oscar	51.6	70.4	75%
Jack	72.1	89.2	40%
Nate	56.8	59.3	25%

Figure 3
Fluency Data


Baseline
Video Modeling
Maintenance
Correct Words Read per Minute
Oscar
Jack
Nate
Fluency Probes

Chapter V: Discussion

The purpose of the study was to investigate the usage of video self-modeling as a stand-alone reading intervention strategy for improving oral reading fluency for students with learning disabilities. Results did not support the functional relation between video-self modeling as a stand-alone intervention for oral reading fluency. One participant showed improvements in oral reading fluency.

There were environmental influences on the subjects, other than the treatment which should be considered. There were frequent absences throughout the length of the study for one of the students. Nate was absent three of the data collection days in addition to consecutive non-data days during the week. This led to much of his resource time being dedicated to making up missed classwork. Parents were informed of the need for their child to regularly attend school with little improved attendance results. Due to this weakness, the value of participation to this project was jeopardized.

Although the results did not suggest a functional relation between using video-self modeling as an intervention strategy for students with disabilities who have difficulties in oral reading fluency, one student did make gains in oral reading fluency. The gains had a positive impact on the self-concept and motivation. . For example, the researcher noted that Oscar began the study with a reluctance to read and participate in oral reading. Prior to the study, he would often ask the researcher if he had to read. Other times, he would ask to read last or volunteer to read when the selection was very short. During the implementation of the study, Oscar became more willing to volunteer to read orally inside the resource classroom during small group instruction regardless of the size of the selection and this extended to reading inside the general

education classroom. He raised his hand inside the general education classroom and asked the teacher if he could read. Similar behaviors were noted in Jack and Nate. During small group instruction inside the resource room, the researcher noted that both students volunteered to read orally when the teacher presented the task. Jack asked if he could read first when in a small group setting. Nate asked the researcher if he could read and continued reading until the researcher made him stop reading in order to allow other students to read.

Most of the research involving video self-modeling included teaching students with autism spectrum disorders employment skills, (Gentry, Lau, Monlinelli, Fallen, & Kriner, 2012) (Bennett, Ramasamy, & Hornsberger, 2013), reducing behaviors such as tantrums (Buggey, 2005), and work skills (Burke, et al., 2013) with limited research on the academic skill of oral reading fluency. In a literature review of articles published specifically concerning video self-modeling and oral reading fluency, the results list produced only three studies related specifically to oral reading fluency and video self-modeling (Montgomerie, Little, Akin-Little, 2014; Wu, Gadke, & Stratton, 2018; Decker & Buggey, 2014). In each study, the researchers found that the students made gains in oral reading fluency using video self-modeling as a component of reading intervention. Montgomerie et al (2014) discussed the effects of video self-modeling as a supplementary reading intervention component in a group setting and found immediate short-term effects. Similar to the results found in this study, as time passed further away from the intervention, the effects on students' performance seemed to level off. Montgomerie et al. noted that the gains made by video self-modeling may be time limited. Similarly, Decker & Buggey, (2014) also found that the effects of video self-modeling seemed to diminish when the video modeling ceased.

Similar to literature conducted by Decker and Buggey (2014), the students in the current study did show some positive gains in fluency and self-efficacy of reading skills as demonstrated in fluency level and increased motivation to participate in oral reading. There was a leveling off of gains when the video modeling was removed after five data points were collected and teacher reported improved motivation in the student desire to read orally during the intervention. It is not clear if the improved motivation to read orally was from video self-modeling, from viewing new skills, improved self-efficacy, or a combination of both. Decker and Buggey (2014) stated that students may have learned pragmatic aspects of reading during the creation of the video. However, the duration of creating the initial videos were very short sessions. They further stated that the improved confidence and attitude were especially noted within their video self-modeling group. Being presented with images of personal success may have provided evidence that success was possible for individuals when using video self-modeling. Within the present study, a comparison of the students' motivation for reading prior to the beginning of the study to their motivation following the introduction of the study appeared to increase and the students appeared more confident in their reading skills. All students volunteered to read more and increased their participation in discussions about the story read during class.

The students' performance may also have been affected by the number of exposures to the videos. The original design changed, and students moved to maintenance after five data points rather than after achieving 92% of data points over the baseline mean. It is not known whether extended exposure to the videos would have changed Jack's and Nate's performance.

The characteristics of the students within this study were very similar in reading abilities but different in personalities and this may have influenced how they watched the videos. For example, both Oscar and Jack seemed to enjoy watching the video of themselves reading. Oscar

demonstrated his enjoyment with a smile on his face as he viewed the video. Then he participated in the timed reading drill with a strong motivation for improving his past scores of words correct per minute per minute. When he finished his timed drill, he asked how many words he read and how many words had he missed. Jack was more motivated during the making of the videos. He reviewed the text prior to reading and then he read the passage. When he mispronounced several words, he asked to start over and try the passage again. In contrast, Nate did not appear to enjoy the making of the video or the watching of the edited video. For example, during the making of the video, Nate would stop reading and asked to start again when he made several errors. In addition, he would skip words that he did not know and continue reading the passage. The researcher would provide Nate with the correct word and Nate would continue reading without saying the corrected word. When this occurred, the researcher stopped videoing and reminded Nate that in order to make a fluent video of him reading, she needed him to read each word. Nate nodded in agreement and the video sessions was resumed. During the viewing of the video, the researcher noted that Nate would look away from the video and shifted his weight in his seat. On two occasions the researcher redirected Nate's attention to his video. In addition, Nate also demonstrated a sense of being uncomfortable when the video was made. This was noted by the researcher that Nate would not look at the camera before the taping began nor once he finished reading the passage. When he was instructed to watch the video during the intervention phase, Nate took more time attempting to pronounce each word than he did during the baseline when reading the probe for data collection. This resulted in fewer than 50 words read per minute on five occasion as compared to three occasions prior to the intervention.

The characteristics of the students in the present study were very similar in that each student received special education services under the disability category of specific learning

disability category. In similar studies, the students had a variety of abilities including those with autism, some with developmental delays, and others with learning disabilities in reading. The present study cannot be generalized to a larger population of students due to its limited samples size. More research should be done to include a more robust sample of students.

The length of the present study continued for a period of until five data points were collected to present a change in the present level of functioning for each student. The length of the intervention phase lasted until the researcher collected five data points to ensure that any gains were constant. In similar studies, the intervention phase continued for any average of six to eight weeks. For example, Decker et. al, introduced the video to the second group of participants after the first group received the intervention for two weeks of viewing of their videos and four data points from probes. In the present study, once change was indicated, the second individual participated in the intervention phase of the study. Similarly, in a study conducted by Ayala & O'Conner (2013), the intervention lasted for eight weeks with a break in the middle of the study for spring break. The briefness of the present study may have contributed in fewer overall gains than what was expected in relation to other studies.

The researcher collected comprehension data for each participant using Maze reading probes on the participant's instructional reading level. Oscar showed an increase from baseline mean during the intervention phase of 22 points. Jack's baseline means decreased slightly during his intervention phase (1.5 points). Nate illustrated an increase in baseline during the intervention phase with an increase of 13 points.

Implications

The anticipation of developing a technology-based intervention program for assisting teachers on improving their students' oral reading fluency and motivation to read was not supported by the data in this study. Further research should be conducted to include providing a pretest to assess attentional deficiencies which may prevent the participants from obtaining information from video-self modeling. The ability to attend to environmental information and the important aspects of the video model and to maintain attention for the duration of the video is necessary for any amount of learning to occur (Bandura, 1986). Because each student was able to function in a class environment, the ability to attend was not considered to be an issue. However, the researcher did note that Nate appeared reluctant to view his video and did not react when first shown the movie. In contrast, Oscar was visibly excited watching himself in the movie. When it was his turn to view his movie, he watched intently and became more focused when it was time to read as evidenced by the increase in his words read per minute. Oscar's mean scores increased by an average of 14 words per minute during the intervention. Jack was also enthusiastic about his video and his mean scores increased by an average of 12 words per minute.

The results of missing data due to absences from school might help account for some of the differences in the oral reading fluency rate of the students. Nate was absent for a total of four of the data collection days. According to The Educational Resources Information Center (1999), truancy has been labeled as one of the top ten major problems in this country's school with a negative impact on the future of today's youth. Being absent from school can have a negative impact on the students' achievement, promotion, graduation, self-esteem, and employment potential Students who miss school fall behind their peers in the classroom which may lead to

low self-esteem and increase the possibility that at-risk students will drop out of school when older. Although truancy polices were in place at the school and consequences were implemented, such as telephone calls and letters to the parent, a solution to the truancy problems was not reached.

The question of whether video-self modeling has significant effect on the students oral reading fluency rate cannot be easily answered. During the intervention period, students continued to receive specialized instruction on word analysis that was not a part of the intervention the students received. A number of factors might have affected the students' development of oral reading fluency. For example, during the period in which the intervention was initiated, students were still attending classes and thus learning decoding skills as a part of whole group reading instruction. Moreover, a general improvement in decoding might also have occurred naturally throughout the school term. There might have been several factors during the intervention phase which could have affected the participants development of phonemic awareness and word analysis, and given the sample measurements, it is not possible to isolate the effects of these factors.

There are other implications for educators. The researcher implemented the VSM intervention using an iPad video camera and grade level reading fluency passages. The researcher created two edited videos to be viewed during the intervention phase. The creation of the edited video was done using iMovie software,. The use of VSM based intervention in the classroom was easy to make and implement. In the beginning of the study, each student seemed excited about improving their ability to read more fluently and watching themselves on video. However, as the intervention progressed, the students became less interested in watching their video as noted by the students' refusal to watch the video prior to data collection. Providing the

students with the option to create additional videos as they progressed through the intervention may have increased the participants interest in watching the video. In addition, the researcher may have allowed the students to bring in their own spin to the video creation. This may have allowed the students to take more ownership into the process. Overall, there were some redeeming effects of using VSM in the class. It allowed the intervention to be uniquely individualized and allowed the students to see their future possible selves as fluent readers..

Limitations

A number of factors may have limited the effectiveness of the single-subject design. One might be the researcher's limitations in providing instructions to the students. Beyond data collection days and viewing the video, the students did not receive any other instruction from the researcher on reading strategies. Another factor might have been limited time to focus on solely on reading fluency or word analysis skills with video self-modeling. The intervention sessions lasted from five to ten minutes in length and did not include any comment on the video or questions on how the students felt about the video or his oral reading.. Still another factor might have been the scheduling of intervention services. Interventions sessions occurred first thing each morning following breakfast. The time would vary according to when the students received breakfast. Depending on the teacher's arrival to the classroom, the distribution of breakfast and the arrival of the student, mornings were often more challenging to gain access to the student at a regularly prescribed time. When the students arrived at the classroom, they were instructed to unpack their belongings and begin morning work that was on their desk. It was during this time that the students would find ways to avoid the preassigned task and visited with their friends inside the classroom. Because the students were aware that the researcher was coming to collect data, the students waited on attempting his morning work and brought it with him to the resource

room. Since the researcher was also the student's special education teacher, the researcher collected data and assisted the student with morning work following the session.

The number of participants diminished as the intervention phase was initiated. One student, Nate, transferred following the intervention phase to a rural school in Georgia. In addition to transferring following the intervention phase, the student was absent many of the data collections days. This may have led to a conflict of interest because the researcher was also his special education teacher and was responsible for maintaining his progress inside the general education classroom. Therefore, time set aside for data collection was often used to make-up missing assignments and test to fulfill classroom progression obligations.

This study was limited by its relatively small sample size, which consisted of 3 students with disabilities. Thus, the results from this test are not applicable to students to the population of students who received Tier III services for oral reading fluency. Students who were identified as in need of intensive intervention and were served according to their academic needs by the schools or Individualized Plan for Education, IEP goals, demonstrated a need of positive encouragement and success. In summary, the findings and conclusions reached in this study were limited in their application. The findings will apply only to students in fourth and fifth grade similar to those in this study and who are taught under similar procedures.

Recommendations for Further Research

The following recommendations for further research are made based on the results of this study. Some recommendations include obtaining a larger sample size. This could be accomplished by sending out flyers in local papers for participants in reading intervention. Social media platforms such Facebook or Instagram may be used to advertise participation in

research for reading intervention. In addition, the researcher may utilize school platforms such as Remind, Bloom, or Google Classroom to send emails to alert parts for participation in the study. Contacting local libraries and or posting flyers inside local libraries may also increase the sample size.

Another recommendation for future research may include expanding the research to include participants of children attending third, fourth, and fifth grade who are performing at grade level and below grade level, rather than only from those with a disability who receive special education services. This might reveal that video-self modeling may increase oral fluency skills irrespective of whether they have a specific learning disability in reading. . This may extend the research to include a comparison study of the outcomes of the different groups. Limited VSM research has been conducted on students in grades 3-5 specifically addressing oral reading fluency. More research needs to be done to broaden the use of video self-modeling to include reading intervention for these grades.

Another possible recommendation may include an investigation of the kinds of word analysis skills the students already have in conjunction with using video self-modeling as a reading intervention strategy. Pinpointing where the difficulties lie in the student's word analysis skills and providing instruction for word analysis of multisyllabic words and vocabulary practice in addition to providing video-self modeling as an intervention strategy may allow for a more robust reading intervention strategy. Creating a multiple component reading intervention strategy that uses video self-modeling may also increase the student's potential for success in becoming a fluent reader. Within the study used by Montgomerie et al, (2014) researchers recommend looking into other ways of improving reading fluency in combination with other forms of fluency instruction to provide maintenance of gains. As seen in the present study, gains seemed to taper

off as viewing the video was removed. More research should be done to compare whether the repeated viewing of the video has any effect on improving overall gains in reading fluency.

A final recommendation may include employing alternatives to the treatment used in this study. For example, future investigations might include alternating video-self modeling with video self- assessment of reading. The treatment of this study had two edited videos the participants could watch during the intervention phase. Adding a video self-assessment that is reviewed with the teacher may provide time for feedback on the intervention and increase student motivations for oral reading. Including a video self-assessment that is reviewed by both teacher and student may create an opportunity for the student's self-reflection of reading skills. According to Afflerbach (2018), self-assessment provides readers a sense of control and contributes to reading achievement, in addition to fostering high self-efficacy. Students who participate in self-assessment may become more aware of the mistakes they are making, address and fix the mistakes, and set goals to measure their continual progress (Afflerbach 2018) to making the necessary changes needed to increase their ability to become successful readers. Self-assessment helps students value their efforts and achievements. Assessing student's perceived ability through self-assessment has the potential of assisting students to foster positive attitudes toward learning (Paris & Paris, 2001).

Conclusions

The difference between oral reading fluency during the intervention phase and the baseline data supports the findings of this study that video self-modeling provides tangible gains. Based on this research, students who receive video self-modeling appear to make moderate gains

in oral reading fluency with some improvements in reading comprehension. Although a functional relation could not be established, the students made gains in oral reading fluency.

Future research should be directed toward investigating the use of video self-modeling as a reading intervention strategy in order to establish a functional relation for improving oral reading in students with and without disabilities.

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Appendices

Appendix A

Tables and Figures

Table 1.

Characteristics of previous studies using VSM as a reading intervention strategy

Author(s)	Year	Intervention Components	Group size	Grade
Hitchock, Prater, & Dowrick	2004	CPT, VSM, ORF, COMP	4 students	1st
Ortiz, Burlingame, Onuebulem, Yoshikawa, & Rojas	2012	Literature review of VSM and ELL	5 studies	N/A
Ayala & O'Connor	2013	VSM, DS, NWF	10 students	2nd
Montgomerie, Little & Akin-Little	2014	VM, ORF	4 students	Primary
Decker & Buggey	2014	VPM, VSM, ORF	6 students	3rd-5th

Table 2

Participants Demographic Information

Student	Age	Ethnicity	Grade Level	Disability	Free Lunch	Years in Special Education	IQ
Oscar	10	B*	4	SLD**	Yes****	4	80***
Jack	9	B*	4	SLD**	Yes****	4	93***
Nate	12	B*	5	SLD**	Yes****	5	78***

*Black/African American
**Specific Learning Disability
***As stated in student's eligibility report
****Per office records, all three students qualified for free lunch at the time of this study

Table 3

Standard Score for IQ and Achievement Scores in the area of Reading

Student	Disability	FS IQ*	Predicted Achievement	Achievement Overall
Oscar	SLD	80	87	70
Jack	SLD	93	95	85
Nate	SLD	78	86	63

*Full Scale IQ

Table 4

Global Scholar Performance Series in the Area of Reading

Student	Global Scholar Test Date	Scaled Score	National Percentile Ranking	Grade level Equivalent	Alabama Proficiency Level
Oscar	Spring 2018	1848	7%	Less than 2.0	Level 1 (Emergent learner)
Jack	Spring 2018	1972	8%	Less than 2.0	Level 1 (Emergent Learner)
Nate	Spring 2018	2228	12%	2.7	Level 1 (Emergent Learner)

Table 5

STAR reading test results

Student	Test date	Scaled score	Grade Equivalent	Percentile ranking	NCE	Instructional reading level	Estimated oral reading fluency
Oscar	August 2018	249	2.5	8	20.4	2.0	57
	March 2019	172	1.9	2	6.7	1.1	44
Jack	August 2018	290	2.8	13	28.3	2.4	67
	March 2019	409	3.7	28	37.7	3.5	70
Nate	August 2019	280	2.7	5	15.4	2.3	*NA
	March 2019	333	3.1	6	17.3	2.8	*NA

*NA -information not available for students in grade 5

Table 6

Mean ORF and PND for each Participant

	Baseline Mean	Intervention Mean	PND
Oscar	51.6	73	75%
Jack	72.1	82	23%
Nate	57	57	25%

Figure 1
Accuracy of Implementation Checklist

Examiner: _____

Observer: _____

X = completed correctly O = incorrect

Testing Procedures	Observations				
	1	2	3	4	5
Places student copy in front of reader					
Places examiners copy out of view of reader					
Seated appropriate distance from reader					
Says "Begin"					
Starts stopwatch at correct time (after student says first word)					
Marks errors on examiner's copy					
Times accurately for 1 minute					
Says "Stop"					
Stops stopwatch					
Marks last word read with a bracket					
Turns off recorder					
Determines words correct (WRC) and errors					
Records score as Words correct/Errors					

Figure 2
Interrater Agreement Checklist

Examiner 1 Score: _____

Examiner 2 Score: _____

Agreements: _____

Disagreements: _____

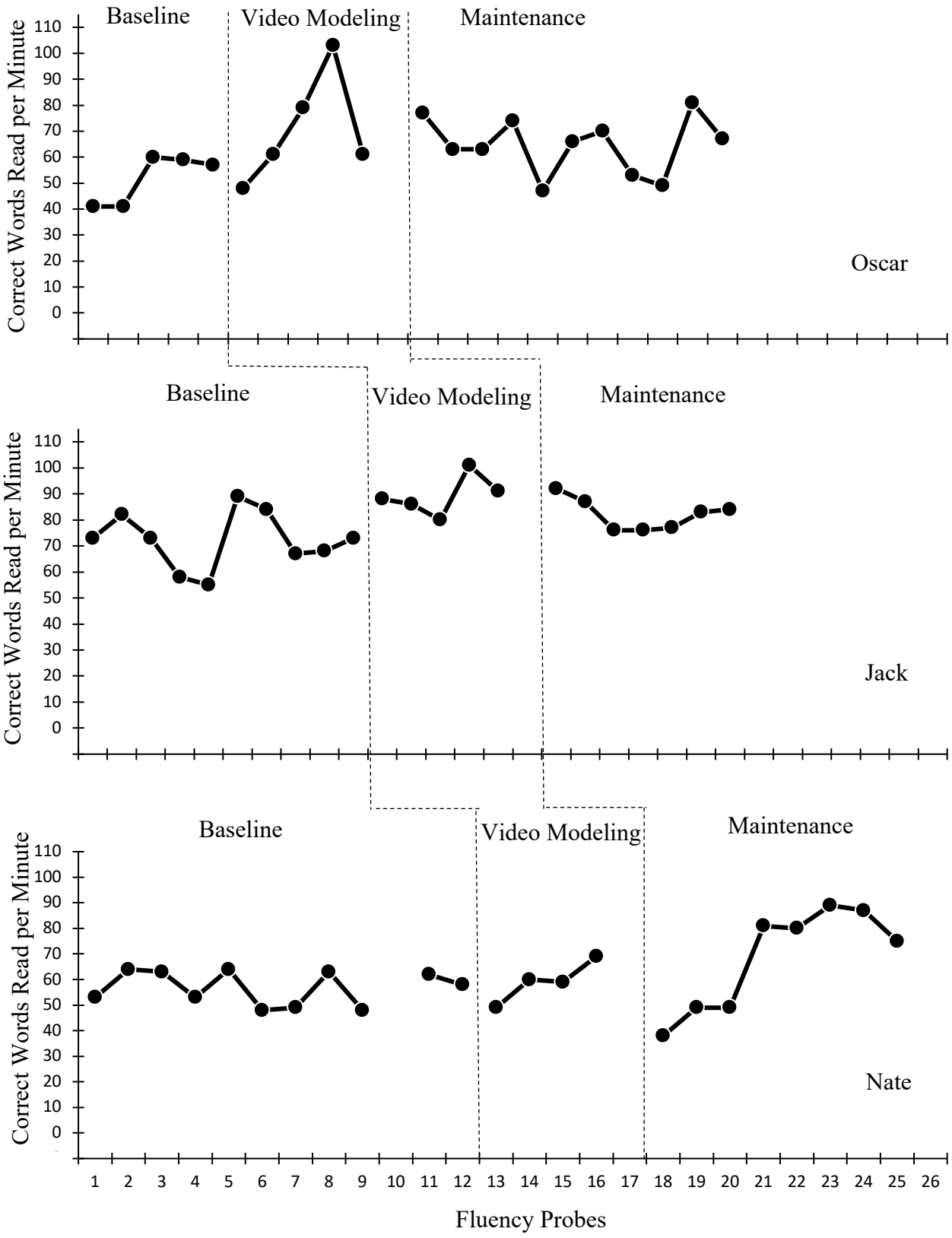
Agreements + Disagreements: _____

Calculations

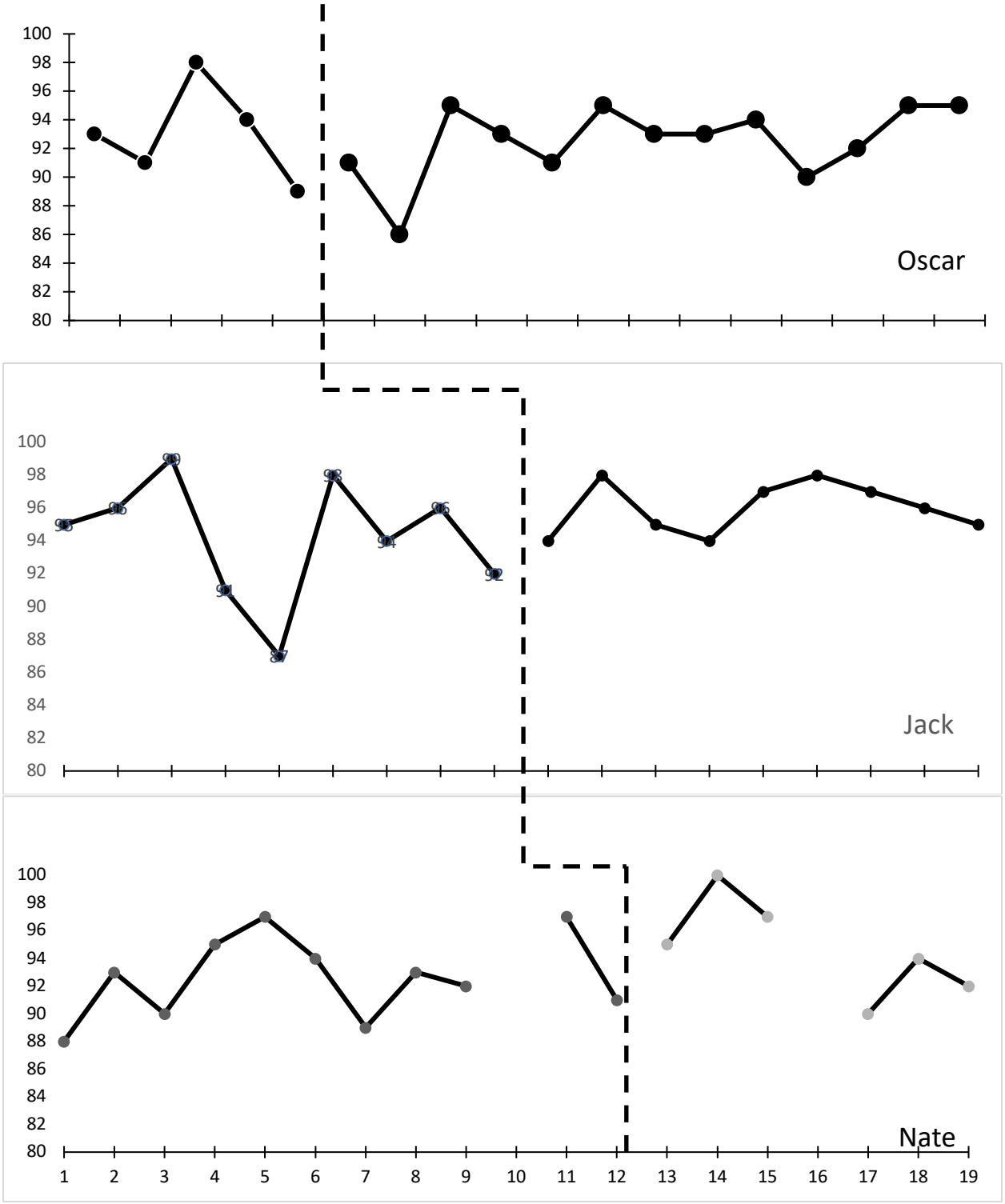
Agreements (_____) / Agreements + Disagreements_____ = Agreement Value (_____)

Agreement Value (_____) x 100 = Interrater Scorer Agreement (_____)%

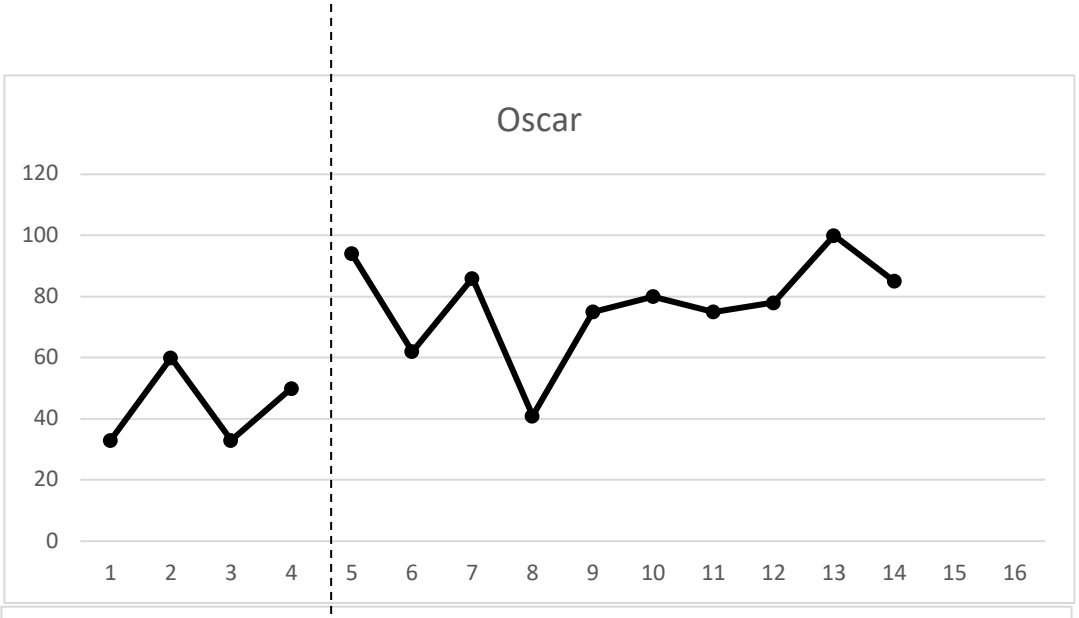
Figure 3
Fluency Data

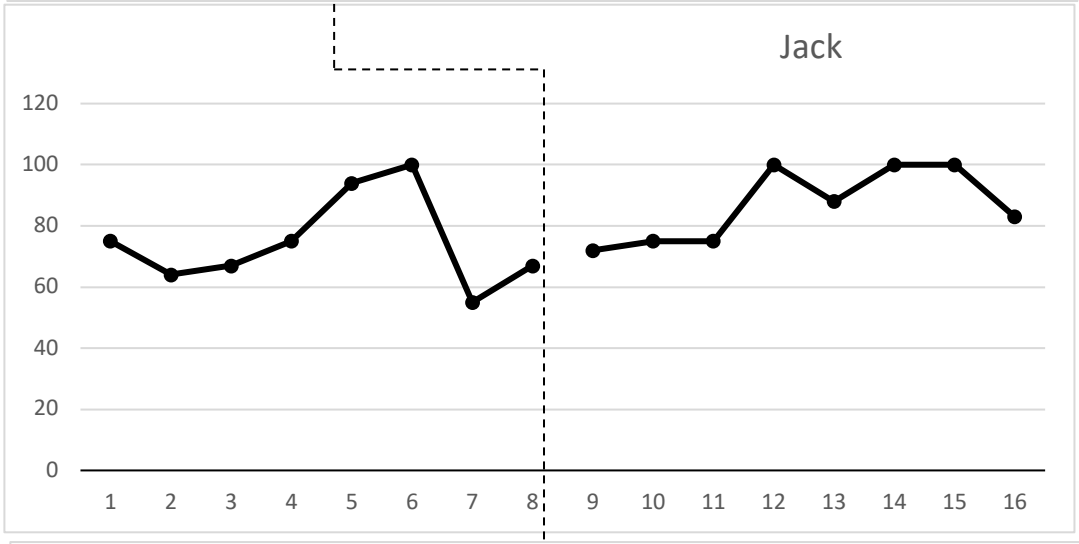

Baseline
Video Modeling
Maintenance
Correct Words Read per Minute
Oscar
Jack
Nate
Fluency Probes

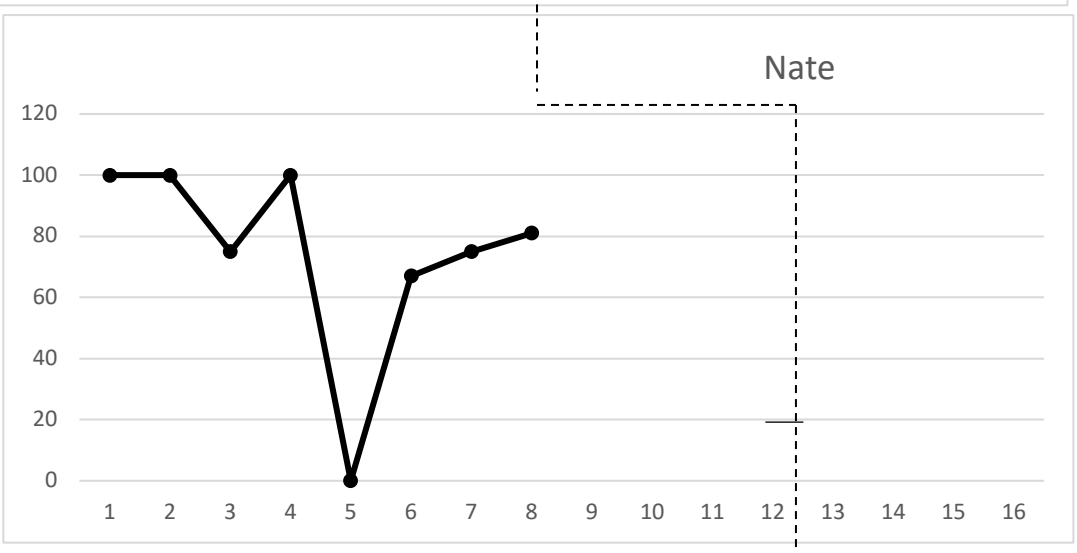
Fluency Accuracy Data



Maze Accuracy Data







Appendix B
Data Collection Charts

Fluency Frequency Data

Quarter 1 2 3 4

Student Name	W1	W2	W3	W4	W5	W6	W7	W8	W9

Fluency Accuracy Data

Quarter 1 2 3 4

Student Name	W1	W2	W3	W4	W5	W6	W7	W8	W9

Cloze Comprehension Data

Quarter 1 2 3 4

Student Name	W1	W2	W3	W4	W5	W6	W7	W8	W9

Appendix C

Parental Permission Child Assent Form

(Approved by Auburn's IRB)

AUBURN
UNIVERSITY

DEPARTMENT OF
SPECIAL EDUCATION, REHABILITATION, AND COUNSELING

PARENTAL PERMISSION/CONSENT
for a Research Study entitled
"*Video Self Modeling as a Reading Intervention Strategy*"

Your son or daughter is invited to participate in a research study to help us understand how video self-modeling can help improve oral reading fluency. The study is being conducted by Yolandria Rachel, a teacher at Lafayette-Lanier Elementary and a graduate student at Auburn University, under the direction of Dr. Margaret Flores, professor in the Auburn University Department of Special Education, Rehabilitation and Counseling. Your child is invited to participate because he/she is a student who receives reading intervention services in Mrs. Rachel's resource classroom. Since he/she is age 19 or younger we must have your permission to include him/her in the study.

What will be involved if he or she participates? If you decide to allow him or her to participate in this research study, he or she will be asked to be recorded reading a passage on their instructional level. Instruction will take place in the resource room during your child's regularly scheduled resource reading time. Instruction will be provided by Mrs. Rachel and will involve your child viewing themselves as they read fluently prior to participating in a timed reading drill to improve fluency. Your child's total time commitment will be approximately eight weeks with 2 sessions per week.

Are there any risks or discomforts? The risks associated with participating in this study are minimal. To minimize these risks, we will look for signs of increased anxiety or discomfort and the student will be removed from the activity is such signs are observed. Students will also be informed they can ask to leave the study at any time without penalty. To maintain your child's confidentiality, your student will be referred to by a number on all data and it will be securely stored.

Are there any benefits to your son/daughter or others? If your child participates in this study, your child can expect to increase in his/her oral reading fluency and gain confidence in reading. We cannot promise you that your child will receive any or all of the benefits described.

Will you or your son/daughter receive compensation for participating? You and your child will not receive any compensation for participation.

Are there any costs? If you decide to allow your child to participate, there will be no cost to you or your child. The service is free.

If you (or your son/daughter) change your mind about his/her participation, your child can be withdrawn from the study at any time. Your child's participation is completely voluntary. If you choose to withdraw your child's data can be withdrawn as long as it is identifiable. If you or your child chooses not to participate or withdraw from the study, the relationship between the school and the teacher will not be impacted.

Your son's/daughter's privacy will be protected. Any information obtained in connection with this study will remain confidential. The data collected will be protected by Mrs. Rachel. Results from this study will be used in a project and may be published in an educational journal or presented at a conference, but your child will not be identified by name or other identifying factors.

If you have questions about your son's/daughter's rights as a research participant, you may contact Mrs. Rachel by phone at (334)756-3623 or by email at rachelyc@chambersk12.org, the Auburn University Office of Research Compliance or the Institutional Review Board by phone (334)-844-5966 or e-mail at IRBadmin@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH FOR YOUR SON OR DAUGHTER TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR SIGNATURE INDICATES YOUR WILLINGNESS TO ALLOW HIM OR HER TO PARTICIPATE. A COPY OF YOUR SIGNED CONSENT WILL BE PROVIDED TO YOU.

_____ _____

Parent/Guardian Signature Investigator obtaining consent Date

_____ _____

Printed Name Printed Name

Date:
Minor's name _____

_____

Co-Investigator Date

_____

Printed Name

AUBURN
UNIVERSITY

DEPARTMENT OF
SPECIAL EDUCATION, REHABILITATION, AND COUNSELING

MINOR ASSENT
for a research study entitled
"Video Self-Modeling as a Reading Intervention Strategy"

You are invited to be in a research study to help us understand how watching a video of yourself reading may help you to read faster.

If you decide you want to be in this study, we will work together on improving your ability to read faster for about eight weeks. During this time, you will be recorded reading a story. You will watch the video of you reading daily and then participate in a timed reading drill twice a week. In the beginning, we will record a video of you reading and show you how to view it.

Some of the time that you are in my classroom during resource reading, I will have a movie camera on, taking a video of you. I need the video to study later, and to create the video of you reading faster. I can only make the video if you and your parent(s) or guardian give me permission to do that.

You can stop at any time. Just tell your parents or me if you don't want to work with the video-self modeling anymore. No one will be angry with you if you stop participating in the study. Stopping your participation in this study will not affect your grade in your class. Participation in this study is a voluntary choice you can make.

If you have any questions about what you will do or what will happen, please ask your parents or guardian or ask Mrs. Rachel now. If you have questions while you are working, I want you to ask me.

If you have decided to help me, please sign or print your name on the line below.

_____ _____

Child's Signature Printed Name Date

_____ _____.

Investigator obtaining consent Printed Name Date

Appendix D

Oral Reading Fluency Passages Examples

"Where are you going, Dad?" I ask excitedly. I wonder if something interesting is happening.

"I'm going to search for some deer. Would you like to come along? We'll take a trek in the woods," replies Dad.

"I love going for walks. Wait for me!" I reply.

"I want to go too!" yells Mike, my younger brother. "Please help me tie my shoes!"

"Don't worry, Mike. I will help you. Dad always waits for both of us," I explain calmly.

We live in the country with huge trees behind our house. During the different seasons of the year, my brother and I like to walk along the paths that go through the trees. Dad usually goes with us and teaches us things about nature.

It's a fall afternoon and our shuffling feet make quite a racket through the dry leaves. Dad tells us to try to be quiet. He doesn't want us to scare the deer away.

"Shhhh!" says Dad. "Stop and listen!" My little brother and I stop, but we don't hear anything. "I hear something!" whispers Mike. "Over there!" he points. I look to where he's pointing and see a big, brown deer looking right at us! She isn't moving, but her head is up high. She's listening just like we are! The deer puts her head down, grunts, and stomps her front hoofs on the ground. We wait while Dad smiles and lifts his camera to his face. Click! ... whirr ... Click! Dad takes two pictures.

Two smaller deer stand behind the doe! They are her baby fawns, born last spring. They are eating acorns off the ground. The fawns don't even see us! The doe snorts again and turns to jump away. The two-little deer follow her.

"That was really cool, Dad. Thanks for taking us with you," we say.

Toby and Milo were two dogs that loved to play. Toby was a young puppy with soft golden hair and big paws. He was a light-colored golden retriever who was really curious about all things. He sniffed at everything. Milo, a Jack Russell terrier, was a bit older than Toby. Jack Russell terriers are very happy dogs. Sometimes Milo got so happy that his whole body shook with excitement. You would think he was chilled to the bone rather than just plain happy. He loved playing with his buddy, Toby.

Milo was quick and agile, while Toby was still a little clumsy. This combination often led to great games between the two friends. Sometimes they would run and chase each other around the backyard all day long. Milo chasing Toby, and then Toby chasing Milo.

They would play keep-away with a stick or a dog toy. One of their favorite things to do was to crawl under the deck in their backyard. They could dig holes or play hide-and-seek under there. They had a lot of fun playing games together.

Sometimes they would pretend to fight like the older dogs. Toby was not very swift, and he would lose his footing. He would do somersaults while trying to get Milo. He had a lot of fun, and his tail never stopped wagging.

Toby and Milo liked to smell things inside and outside the house. Their favorite smell was canned dog food. They thought it was a real treat. They could smell it from anywhere.

The dogs played so hard together that they would get very tired. They both liked to sleep in the warm sun after a good day of playing. Playing together and resting together are what good pals do.

Once there was a little bumblebee named Buzz. He would zip through the air going this way and that way. He loved to fly around looking for pretty flowers to smell.

Red roses were very nice to smell. Buzz would sometimes see his bumblebee friends when stopping by his favorite rose bush. Every bee seemed to like roses.

Buzz liked his friends, but sometimes he wished he could be alone. “It would be great if I could find a flower that was just for me,” Buzz quietly thought to himself. Buzz decided right then and there to find just such a flower.

First, he smelled the daisies that grew along the old farmer’s road.

“Wow! These daisies smell pretty good, but I will keep looking. I bet my bee buddies already know about these daisies,” he said.

From the roadside daisies, he spied a grove of lilac bushes. They sure were fragrant. Buzz raced over to them to get a closer look. When he arrived at the lavender flowers, he saw that his brother Buzzter was already there.

“Nice smelling flowers,” Buzzter said to his younger brother.

“I have to agree with you,” Buzz said. “These lilacs sure do smell good.” Buzz hovered around his brother Buzzter and said, “I will see you at the hive later. I am off to find a flower that is just for me.”

With that, Buzz flew off. He went over the trees and under the bushes in hopes that he would find the perfect flower. He almost turned around to head back to the hive, when he smelled a wondrous scent. Buzz spotted a white and pink flower growing next to the old farmer’s barn. The flower was beautiful and smelled terrific. At last, he had found a flower that was just for him.

Appendix E

Cloze Reading Example Passages

Albert was a goldfish in a bowl. He ate a breakfast of green **(and, but, from)** brown flakes each morning. Then he **(finished, fishbowl, watched)** the children go off to school. **(Which, Albert, Himself)** hated being stuck in his bowl **(because, children, finally)** he could only swim around in **(circles, children, flakes)**. He'd rather go to school. Poor **(loved, Albert, Alone)** couldn't even read a book. The **(night, pages, flakes)** would get soaked!

Albert was quite **(a, an, if)** smart fish. He could do flips **(under, mean, rock)** water. He could spell his name **(in, one, ate)** the pebbles on the bottom of **(he, they, his)** bowl. No matter how brilliant Albert **(are, was, when)** though, he still had a problem. **(Mean, Only, And)** the cat spoke to him. And **(a, the, on)** cat was not particularly nice to **(him, his, day)**.

"I'll eat you up one day," **(home, an, the)** cat would tell Albert when they **(was, were, and)** all alone in the house. "I'll **(Albert, would, gobble)** you right up. You will be **(surprised, fishbowl, brilliant)** to discover that no one will **(sent, miss, off)** you."

It seemed to Albert that **(everyone, problem, breakfast)** loved the cat. No one seemed **(in, to, for)** notice the cat was mean. No **(they, by, one)** seemed to care that the cat **(brown, seemed, hated)** books and wasn't smart. The cat **(couldn't, hiding, school)** even spell his own name, but **(us, the, to)** children played with him every day.

(One, At, You) day the cat dipped his paw **(up, to, in)** Albert's fishbowl. To save himself, Albert **(under, found, swam)** to the very bottom of his **(breakfast, fishbowl, soaking)**. He hid behind some rocks. When **(the, go, can)** children came home from school that **(bowl, day, paw)**, they saw the cat was wet. **(Have, They, House)** didn't see Albert hiding behind the **(flakes, happy, rocks)** in the bottom of his fishbowl, **(and, if, his)** that scared them.

"You are a **(such, each, very)** naughty cat!" they shouted.

Finally, one (**a, of, it**) the children found Albert hiding in (**the, was, it**) bottom of the bowl. "I found (**cat, his, him**)! I found our wonderful fish!" Albert (**ate, felt, day)** happy that his family loved him (**after, could, under**) all.

Now the cat gets locked (**for, you, in**) the basement every day, and the (**someone, children, wonderful**) read books to Albert every night.

Andy was one of the many ants who worked daily in the anthill. Everyday Andy and the other (**top, ants, hills)** would wake up and go off (**to, are, of)** work. Andy's job was to carry (**queens, pieces, about**) of sand up the side of (**took, when, the**) anthill to build it higher. Andy (**thought, stepped, wanted**) his job was really boring. Who (**ants, would, where)** find carrying pieces of sand interesting? (**Said, Next, All)** Andy did day after day was (**stack, long, spoke)** tiny pieces of sand on top (**for, was, of)** other tiny pieces of sand. Where (**she, was, him)** the challenge in that?

All Andy (**pretty, really, modern**) wanted was to create a daring (**so, new, for)** kind of anthill. He wanted to (**inside, would, build)** a modern castle. He could see (**if, the, an)** castle in his mind, and that (**goal, down, after)** made him continue his daily grind.

(**One, Top, At**) day Andy spoke to his friend, (**Sally, ants, bigger**). He took a chance and told (**she, her, was**) about his dream. "I don't want (**up, big, to)** build anthills, Sally. I want to (**daily**, **build**, **wake**) a modern castle."

"I don't know, (**queen**, **Andy**, **him**)," said Sally. "Ants have lived in (**anthills**, **pictures**, **someone**) for a very long time."

"I (**long**, **sand**, **need**) to tell someone who will understand," (**Andy**, **his**, **ants**) thought. The next day Andy went (**to, of**, **for)** see Queen Ant. He shook with (**low**, **fear**, **start**) as he knocked on her door.

"(**Andy**, **Come**, **Took**) in," said a low, pretty voice.

(**His**, **One**, **Andy**) stepped inside the queen's chambers. There (**were**, **you**, **was**) beautiful pictures on the walls and (**an, a, is**) bright carpet underfoot. The queen wore (I, to, a) golden crown. She was much bigger (**than, for**, **said**) Andy.

"Who are you, and what (**did, do, by**) you want?" she said to Andy.

(**Sally**, **Want**, **Andy**) showed her his plans for building (an, a, is) castle. "You are a lovely queen," (**low**, **Andy**, **Sally**) told her. "Lovely queens should live (in, the, up) castles. I'm the ant who knows (**for, sit, how**) to build them."

"You are right," (**see, the, low**) queen said. "You may start building (**my, his, who**) castle tomorrow.

Andy was one of the many ants who worked daily in the anthill. Everyday Andy and the other (**top, ants, hills**) would wake up and go off (**to, are, of**) work. Andy's job was to carry (queens, pieces, about) of sand up the side of (**took, when, the**) anthill to build it higher. Andy (**thought, stepped, wanted**) his job was really boring. Who (**ants, would, where**) find carrying pieces of sand interesting? (**Said, Next, All**) Andy did day after day was (**stack, long, spoke**) tiny pieces of sand on top (**for, was, of**) other tiny pieces of sand. Where (**she, was, him**) the challenge in that?

All Andy (**pretty, really, modern**) wanted was to create a daring (**so, new, for**) kind of anthill. He wanted to (**inside, would, build**) a modern castle. He could see (**if, the, an**) castle in his mind, and that (**goal, down, after**) made him continue his daily grind.

(**One, Top, At**) day Andy spoke to his friend, (**Sally, ants, bigger**). He took a chance and told (**she, her, was**) about his dream. "I don't want (**up, big, to**) build anthills, Sally. I want to (**daily, build, wake**) a modern castle."

"I don't know, (**queen, Andy, him**)," said Sally. "Ants have lived in (**anthills, pictures, someone**) for a very long time."

"I (**long, sand, need**) to tell someone who will understand," (**Andy, his, ants**) thought. The next day Andy went (**to, of, for**) see Queen Ant. He shook with (**low, fear, start**) as he knocked on her door.

"(**Andy, Come, Took**) in," said a low, pretty voice.

(**His, One, Andy**) stepped inside the queen's chambers. There (**were, you, was**) beautiful pictures on the walls and (**an, a, is**) bright carpet underfoot. The queen wore (**I, to, a**) golden crown. She was much bigger (**than, for, said**) Andy.

"Who are you, and what (**did, do, by**) you want?" she said to Andy.

(**Sally, Want, Andy**) showed her his plans for building (**an, a, is**) castle. "You are a lovely queen," (**low, Andy, Sally**) told her. "Lovely queens should live (**in, the, up**) castles. I'm the ant who knows (**for, sit, how**) to build them."

"You are right," (**see, the, low**) queen said. "You may start building (**my, his, who**) castle tomorrow."