I, Julia DeGreg, hereby submit this original work as part of the requirements for the degree of Doctor of Philosophy in School Psychology.

It is entitled:
Video Modeling as a Classwide Intervention for Promoting Positive Behavior in Art Class

Student’s name: Julia DeGreg

This work and its defense approved by:

Committee chair: Julie Morrison, Ph.D.

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Video Modeling as a Classwide Intervention for Promoting Positive Behavior in Art Class

A dissertation submitted to the:
Graduate School of the University of Cincinnati

In Partial Fulfillment of the Requirements for the Degree of Doctorate of Philosophy (Ph.D.).

In the School Psychology Program of the School of Human Services of the College of Education, Criminal Justice, and Human Services

By

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Teachers often face the arduous task of managing disruptive behaviors within their classrooms and keeping their students engaged. Implementing Positive Behavioral Interventions and Supports (PBIS), a widely adopted series of preventative strategies, can help teachers proactively address problem behaviors. One of the first steps of PBIS is to instruct and model expected behaviors for the classroom. Traditionally, educators use in vivo or live modeling of the behavioral expectations. Another approach to teaching these expectations is through video modeling (VM), whereas teachers use the same video displaying the behaviors instead of having to live model them repeatedly. VM is an evidence-based intervention that many educators use to instruct and improve students’ behaviors. However, VM has mostly been used with individual students or small groups of students and often with students with disabilities. This study examines the use of VM with a whole class of regular education students. Using a multiple baseline across settings ABB’ design, baseline levels of student disruptive behaviors and engagement were compared to VM intervention levels across intervention phases. Social acceptability and future areas of research are discussed.
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Introduction

Educators today are under an increasing amount of pressure to ensure that their students are academically, socially, and emotionally successful. Federal legislation (i.e., No Child Left Behind [NCLB], 2003) has intensified these demands by requiring higher accountability in an era of larger class sizes and reduced budgets. Before addressing academic concerns, teachers must first ensure that their classrooms are designed to minimize disruptive behaviors and support academic engagement. One such way that educators can achieve this optimal learning environment is through implementing strong proactive behavioral strategies.

Positive behavior interventions and supports (PBIS) are a wide set of research-based strategies designed to both support and promote appropriate behaviors for all students and staff (Bradshaw, Mitchell, & Leaf, 2010; Horner et al., 2009; McKeveit & Braaksma, 2008; OSEP, 2004; Sugai, Horner, Lewis-Palmer, & Todd, 2005; Wacker & Berg, 2002). Within a PBIS framework, schools can incorporate a tiered continuum approach to behavior management. By implementing strong evidence-based strategies at a primary (schoolwide or classwide) level, less individualized intensive costly interventions are needed. Evidence-based classwide interventions are warranted in classrooms that have high rates of misbehavior in order to reduce the need for higher intensity, individualized interventions (Crone & Horner, 2003).

PBIS is grounded within a theory of prevention (Carr et al., 2002; Fox, Dunlap, & Powell, 2002). By teaching expected behaviors prior to the occurrence of a disruption, educators can proactively minimize the likelihood of future episodes of problem behaviors (Cooper et al., 2007). Behavioral expectations need to be customized to the unique learning environment (Reinke, Herman, & Stormont, 2013), such as an individual classroom. Expectations should be (a) developmentally appropriate both in terms of language and content; (b) easily comprehensible; (c) observable and specific; (d) positively stated; and (e) enforceable (Burden,
Teachers may choose to adopt broad school-wide expectations to use in their classrooms or develop rules unique to their class needs that are aligned with the school-wide expectations.

Different locations within a school represent a continuum of expectations, ranging from restrictive and explicit within the regular education classroom (i.e., sit quietly, raise hand to talk) to the most unstructured such as on the playground (i.e., take turns, use equipment correctly). Within this continuum of highly structured to less structured are classes such as art, music, and gym. Although these are considered essential classes, the expectations for such ‘specials’ are often not explicitly taught as they are for regular classes. Given the unique nature of these ‘specials’, it is important for students to have a clear understanding of the expected behaviors in these semi-structured classroom ecologies.

A primary facet of PBIS is direct instruction, or the systematic explicit presentation of information (Adams & Engelmann, 1996). After individual class expectations are established, they must be explicitly taught to students (Sailor, Dunlap, Horner, & Sugai, 2009). Instructors should first directly identify the expectation being taught (i.e. “Today we are going to learn how to be safe in the cafeteria”). Next, instruction should include modeling of the expected behaviors (Sugai et al., 2005). Models can incorporate self-talk to help make the thinking strategy behind the expectations more overt for students. Students should then have the opportunity to practice the skills with acknowledgement of demonstrating the expected behaviors and corrective feedback for misbehaviors. How the explicit instruction is delivered can vary. In this study, instruction of expected behaviors for a particular class is delivered through video modeling.
Modeling

One of the most successful and efficient ways of teaching a new social behavior is modeling (Cooper et al., 2007; Elliott & Gresham, 1992; Schneider, 1992). Modeling is a social learning procedure where a person learns a behavior by observing another person perform the behavior (Bandura, 1977). In education, modeling generally involves the use of a teacher or peers who demonstrate the desired behaviors, often accompanied by a verbal explanation, to promote acquisition of the behaviors in the target student or students (McConnell, Missall, Silberglitt, & McEvoy, 2002). Modeling can be provided indirectly, such as when young children imitate the play tactics of peers during an unstructured time (Ingersoll & Schreibman, 2006). Modeling can also be used as an instructional technique more directly, such as an adult demonstrating a series of specific steps to promote similar behaviors in the target child (Haring, Kennedy, Adams, & Pitts-Conway, 1987). No matter how a skill is modeled, the ultimate goal of modeling is to provide the target participants with real-world examples of the desired behavior.

Identifying the functional goal of a modeled performance is a crucial component of modeling behaviors (Bandura, 1986). Modeling can be used to introduce some novel educational skills such as how to solve long-division problems (Harniss, Stein, & Carnine, 2002). Through observational learning, teacher models can exhibit novel patterns of thought which the students did not already possess but which, following observation, they can produce in similar form (Greer, Dudek-Singer, & Gautreaux, 2006). A second function of modeling, which is emphasized in this study, is to strengthen (or weaken) behavior that has previously been learned (Bandura, 1986). Students may already be able to behavior appropriately within a classroom (i.e., sitting quietly), but their perception of these behaviors as producing rewarding consequences may be strengthened through modeling. Such disinhibitory effects are evident when students
increase their performance of formerly inhibited behavior after seeing others engage in the activities and receiving positive reinforcement for the behaviors.

Observational learning is an information-processing activity, where information about a behavior or an environmental event is transformed into symbolic representations that function as guides for future action (Bandura, 1986). Such processes include: attention processes whereby modeled activities are first perceived; retention processes, where experiences are converted into symbolic models for response production; production processes which require the organization of subskills into a new response pattern; and motivation processes, which determine whether or not the observed behaviors will actually be reproduced. By understanding modeling at each of these governing phases, educators can best apply modeling techniques within their classrooms to achieve optimal observational learning.

**Attentional processes.** When considering using a modeling procedure to promote learning, educators are often faced with the difficult task of first attaining the attention of their students before commencing with instruction. That is, students cannot learn to imitate a skill if they are not first attending to the presentation of the model (Cooper et al., 2007). Attention is therefore a prerequisite for any modeling intervention (Buggey, 2007).

There are certain characteristics of modeling procedures that can increase the likelihood that students will pay attention (Bandura, 1986). First, modeled behaviors that result in positive outcomes are more likely to be attended to than those that have no noticeable effect. So it may be beneficial to include a positive reinforcement component within the modeled behaviors. In a meta-analysis of 182 studies using various methods of video modeling, Mason et al. (2013) found that procedures that incorporated a reinforcement component yielded greater effects than a video modeling procedure alone.
Second, in a review of 29 studies examining model attributes (i.e. age, sex, competence of, numbers of, and background experience of models) Schunk (1987) found that certain model characteristics were more likely to be attended to than others. For instance, models who are attractive to the observers are more likely to be attended to than unattractive models (Richards, Heathfield, & Jenson, 2010). Using models that the observers recognize, such as peers or current teachers, can increase the likelihood of attention to the intervention (Hosford, 1980). Finally, multiple peer models, instead of only one peer, may increase the social saliency of the behaviors by showing that the behavior can be demonstrated by a variety of different students (Schunk, 1987).

Next, using narration to steer attention to the important parts of the modeling and to divide the activities into substeps can aid in enhancing attention. Vladescu, Carroll, Paden, and Kodak (2012) found that using voice-over narration in a video modeling procedure with two young children with autism was effective in increasing desired behaviors. The researchers highlighted important components of the modeled sessions through a script recorded script over the video.

In a literature review of 18 video-modeling studies Hitchcock, Dowrick, and Prater (2003) found that modeling performances that are brief generally result in increased attention. They hypothesized that this may occur because the observer is not burdened with too much information. The researchers as well as others (i.e. Bellini & McConnell, 2010; Collier-Meek, Fallon, Johnson, Sanetti, & Delcampo, 2012) also found that repeated exposures to the modeled interventions yielded positive results. Because attention is not just a matter of absorbing information, the observers must have the opportunity to apply the new material in their environment to develop meaningful conceptions of the skills (Bandura, 1986).
The use of a novel stimulus has long been established to increase attention (Cantor & Cantor, 1964; Daehler & Bukatko, 1977; Dunlap & Koege, 1980). Video modeling has been described as more stimulating than in vivo procedures for instruction because it provides a change from the usual work environment (Dowrick, 1986, 1991). Teachers can capitalize on the influence of stimulus novelty by using video as a visual aid to enhance their students’ attention to instruction.

**Retention processes.** After an observer has attended to a modeled set of behaviors, they must remember the new skills (Bandura, 1986). When learning a new skill, the rate of acquisition is relatively slow, and new information must be retained and accessible for future production. Davis and Yi (2004) found that adding a mental rehearsal component (where the observer visualizes actually performing the behaviors) to a modeling procedure resulted in increase in computer skills demonstrated. Applied to education, students who either practice displaying the expected behaviors or visualize themselves practicing new behaviors may better retain the information presented in a modeling procedure.

The temporal relation between observing the modeled behavior and demonstrating the skill is also important. In a review of best practice procedures for creating and presenting videos, Collier-Meek et al. (2012) recommend that shortening the timespan between observation of the behavior and expected production may increase the likelihood that the behavior will be reproduced.

**Production processes.** A common problem in learning a new behavior is that individuals cannot fully observe their own actions (Bandura, 1986). Providing a model performance with as direct and succinct steps as possible sets the foundation for ideal production. Then, having students view their own behaviors through videorecording can be an effective tool for aiding in
production (Collier-Meek et al., 2012). Video recorded approximations of the expected behavior provide opportunities for behavior-specific corrective feedback to shape newly acquired behaviors (Duchaine et al., 2011; Sutherland et al., 2000).

**Motivational processes.** When a new behavior is observed, presuming that the optimal modeling procedures were implemented, it is possible that the observer has learned the skill but does not produce it. This discrepancy between learning and production is most likely to result from the expected behavior having little functional value or if the observer perceives that performing the behavior may result in punishment (Bandura, 1986). Direct, vicarious, or self-produced incentives have long been used to shape behavior in various forms (Cooper et al., 2007). In the classroom, when considering the use of a modeling procedure to help with the instruction of a new skill, teachers can add an incentive component to the intervention to reinforce the modeled skills and increase the likelihood that students will produce the desired behaviors. Verbal praise, contingent to displaying the expected behaviors, is one such evidence-based practice to positively modify students’ behaviors (Brophy, 1981; Kern & Clemens, 2007). For example, Chalk and Bizo (2004) found that students were more likely to display on-task behaviors after receiving behavior-specific praise (i.e. “Good job staying in your seat”) than simply positive praise (i.e. “Good job!”).

**Video Modeling**

Video modeling incorporates social cognitive theory’s conceptualization of modeling. In an applied setting, such as a classroom, a video recording of models engaging in a specific series of actions or verbalizations is presented. The target student attends to the video model and is provided with an opportunity to perform the selected behaviors observed on the video. With video modeling, desired skills can be demonstrated in their relevant context with a standardized
form of delivery to support skills acquisition and fluency (Morgan & Salzberg, 1992). Incorporating multiple stimulus and response exemplars within the videos increases the likelihood of generalization (Haring et al., 1987; Morgan & Salzberg, 1992).

Video modeling has a compelling research base (Ayres & Langone, 2005; Bellini & Akullian, 2007; Delano, 2007; Hitchcock et al., 2003; Mechling, Pridgen, & Cronin, 2005). Although video modeling has an solid evidence base for use with learners with a wide range of abilities, previous research predominantly focuses on applications for teaching a variety of skills to children with autism (Charlop-Christy, Le, & Freeman, 2000; Haring et al., 1987; LeBlanc et al., 2003; Reeve, Reeve, Townsend, & Poulson, 2007; Sherer et al., 2001; Shipley-Benamou, Lutzker, & Taubman, 2002). Most recently, video modeling has been shown to be effective in promoting skill acquisition and fluency among adult learners seeking to implement instructional techniques (e.g., discrete trial) and conduct functional analyses with fidelity (Catania, Almeida, Liu-Constant & DiGennaro-Reed, 2009; DiGennaro-Reed, Codding, Catania, & Maguire, 2010; Moore & Fisher, 2007).

Video modeling offers several advantages over in vivo modeling. Videos can be produced in a naturalistic setting without disruptions to the natural setting (Thelen, Fry, Fehrenbach, & Frautschi, 1986). The video producer also has greater control over the modeling procedures than with in vivo modeling as the scenes can be recreated until the desired procedure is obtained (Bellini & Ehlers, 2009). Greater control over the modeling procedures ensures a greater degree of consistency with the model that is not present with live modeling. Videos can be reused at different times or with different viewers, without requiring additional resources necessary for in vivo modeling (Charlop-Christy et al., 2000). Research indicates that more learning occurs when an intervention or treatment (e.g. video modeling) is spaced across time as
opposed to being shown only once (Dempster, 1988). Showing a video once or twice per week is beneficial when promoting the display of an existing skill (Bellini & McConnell, 2010).

Video modeling procedures have been shown to be effective in producing more rapid acquisition and greater generalization than in vivo modeling (Charlop-Christy et al., 2000). Furthermore, studies have shown that prompting (other than the video) and reinforcement were not necessary for acquisition to occur (D’Ateno, Mangiapanello, & Taylor, 2003; MacDonald, Clark, Garrigan, & Vangala, 2005).

As technological advances have occurred, video modeling has become more and more feasible for educators to use in an applied setting (Buggey & Ogle, 2012). Digital recorders and editing software have become more mainstream, and guidelines for creating videos have become more accessible (i.e., Collier-Meek et al., 2012; Bellini & Ehlers, 2009). Consequently obstacles such as time and resources for video-creation are increasingly less burdensome for educators (Bellini & McConnell, 2010).

**VM classwide.** Previous research examining the effectiveness of classwide video modeling interventions is very limited. Shwan and Holzworth (2003) recorded videos of a whole class of students in grades k-5. From these videos, 26 students displaying disruptive behaviors were identified. Thirteen students then created individual self-videos targeting specific behaviors, while the other half of the students remained in a control group. Results indicated that students who created and viewed videos of themselves displaying appropriate behaviors displayed less disruptive behavior following the intervention than the control group. The researchers concluded that video self-modeling procedures were effective in reducing inappropriate classroom behaviors. These results are also supported by other studies (i.e. Bilias-Lolis, Chafouleas, Kehle, & Bray, 2012; Possell, Kehle, McLoughlin, & Bray, 1999). In Shawn
and Holzworth’s study however, videos were shown individually to students pulled out of a classroom and not to the entire class.

To date, Richards et al. (2010) has provided the only study examining a video peer modeling intervention package designed to increase student on-task behaviors on a classwide basis. The participants in this study were three classes of third through sixth grade students (47 students total) in a western city charter school. The researchers created 14 four-minute video segments were depicting novel peers demonstrating on-task behaviors in a classroom. The peers selected to be videorecorded were approximately the same age as the target students, yet from a different school. A different video segment was shown to each class during each intervention session and the videos were combined with a coaching element, where the principal investigator provided comments during video-viewing and asked the target students to make a commitment to model the behavior after viewing the video. Students were also reinforced with tangibles (i.e. pencils, candy) for making this verbal commitment. The researchers found that this video peer modeling intervention package was effective as a low-intensity, naturalistic intervention to increase on-task behavior on a classwide basis (Richards et al., 2010). The positive outcomes observed were attributed in part to the novelty of each of the different video segments presented, in contrast to a typical video modeling intervention where the same video is shown repeatedly.

**Applying VM to instruction and PBIS.** Video instruction has become an increasingly popular tool for teacher training to assist in understanding teaching and learning (Beck, King, & Marshall, 2002; Richardson & Kile, 1999). When working with students, presenting classroom video exemplars (versus reading about scenarios) conveys a high sense of authenticity and realism, likely resulting in increased synthesis of the material (Valmont, 1995; Wetzel, Radtke, & Stern, 1994). Research supports this experiential theory of learning where presentations of
visual exemplars via video format helps students apply their learned concepts compared to learning without an exemplar (Moreno & Ortegano-Layne, 2008). The learning process can be expedited by combing the visual experience of a new concept with modeling of the skill. These theoretical principles are the foundation of video modeling.

Lang et al. (2009) applied the idea of visual exemplars to teach classroom rules (an essential component of PBIS) to students with Asperger’s Syndrome using video modeling. A kindergarten teacher had established three classroom rules, taught it to the class (consisting of 5 students with disabilities), modeled it for the class, and reinforced it within the room. The researchers measured whether or not two of the students with Asperger’s were able to state the expectations during baseline. A video modeling procedure was then introduced for each student where students watched clips of themselves violating the rule in the classroom and then reflected on the expectation they had broken. Using a multiple-baseline across participants design, results indicated that students were able to more accurately state the classroom rules following the video modeling intervention. This study provided evidence that video modeling can be used to increase a student’s ability to state classroom rules, yet there was no direct observations conducted within the classroom to assess actual behavior change. Further research is needed to evaluate the effectiveness of video modeling with teaching classroom expectations that lead to measurable behavior changes.

**Social Acceptability and the Use of VM in the Classroom Setting**

Interventions for classroom behaviors are more likely to be effective if they are implemented in the natural setting rather than in isolated, decontextualized settings (Gresham, Sugai, & Horner, 2001). Yet, most of the studies of VM have been conducted by researchers in nonschool settings (Bellini & McConnell, 2010; Dowrick, 1999). To date, only a few studies of
VM have been conducted in classroom settings (see Hitchcock et al., 2003) and among these studies, students typically viewed videos in a setting external to the classroom (e.g., Clare, Jenson, Kehle, & Bray, 2000; Hartley, Bray, & Kehle, 1998). The perceived difficulty involved in editing and producing videos coupled with potentially limited access to video equipment have been identified as obstacles to educator’s use of video modeling interventions in the classroom setting (Bellini & McConnell, 2010). Thus, social validity, or the acceptability of the goals, procedures, and outcomes of an intervention from the perspective of the consumer (Schwartz & Baer, 1991) is critically important to evaluate in any study of VSM in the classroom setting.

**Typical Procedures and Target Variables for VM**

Bellini and Ehlers (2009) outline a step-by-step approach for creating a VM intervention in a classroom. First, target behaviors must be determined. Common behaviors that have been targeted with video modeling procedures include decreasing disruptive classroom behaviors (Bilias-Lolis et al., 2012), increasing classroom engagement (Clare et al., 2000; Hartley et al., 1998; McCoy, Morrison, Barnett, Denue, & Kimener, 2013), and improving transition behaviors (Schreibman, Whalen, & Stahmer, 2000). Operational definitions of such target variables are crucial for observations when assessing intervention efficacy (Chafouleas, Riley-Tillman, & Sugai, 2007).

After target behaviors are determined, actors must be identified. As previously noted, effective models are those who are familiar and similar in age to the target students (Hosford, 1980; Richards et al., 2010; Schunk, 1987). Next, the production must be planned. At this point, considerations such the length of the video should be decided. Approximately 2-3 minutes should be the goal to capture the modeling and attain optimal observer attention (Hitchcock et
al., 2003). After the planning, filming and editing occur. This process has become easier with technological advances (Bellini & McConnell, 2010).

The final step in a VM intervention procedure is the actual presentation of the video to the target students. For VM to be effective, the students must be able to attend to the video as viewing the video appears to be what promotes changes in behaviors (e.g., Clare et al., 2000). When considering showing a video to an entire class, Belilini and McConnell (2010) recommend providing minimal verbal interactions with the students before, during, and after the presentation of the video so that students can focus entirely on viewing the video itself.

**Current Study**

Although there is an abundance of research to support VM as an effective strategy to improve classroom behaviors (Bilias-Lolis et al., 2012; Clare et al., 2000), almost all of this research has been conducted with individual or small groups of students (Hitchcock et al., 2003). There is a critical need for interventions that are preventative and that target whole groups of students (Horner et al., 2009; Sugai, et al., 2005) for maximum efficacy. One previous study has shown that video modeling can be effective as a low intensity, naturalistic classwide intervention for a regular education classroom (e.g., Richards et al., 2010). The purpose of the current study is to explore the effects of a video modeling intervention on classwide behaviors. To this end, the following research questions were posed:

1. To what degree is video modeling an effective classwide intervention to increase student engagement and decrease disruptive behaviors?

2. To what degree are the effects of the intervention maintained across time without further video showings?
This study will examine the effectiveness of classwide video modeling as a positive behavioral support to teach and reinforce expected behaviors in art class.

Method

Setting and Participants

Setting. The study was conducted in a private elementary school serving students in grades kindergarten through Grade 8 in the Midwestern United States. The school is affiliated with a religious organization and consists of primarily middle class Caucasian students, with around 400 students enrolled. Each grade level had two classes with one teacher per room. This research study took place primarily in an art classroom. The art classroom was set up with 6 long tables seating 4-5 students per table.

Classwide participants. The participants in this study were students from two first grade classrooms and one second grade classroom. In class 1, a second grade classroom, there were 12 female students and 11 male students. In class 2, first grade, there were 11 female students and 13 male students. One student in this class was identified with having Autism, and two students were identified as having Specific Learning Disabilities. In class 3, first grade, there were 8 female students and 17 male students. The number of classrooms was chose in order to increase the internal validity of the research using single case research design (Kennedy, 2005). Confidence in the internal validity of the study increases if similar results are found across multiple classes.

Classroom teachers. The three teachers, whose classes received the intervention, were also participants in this study in that their role was to show the video to their class before they went to art. These teachers ranged in teaching experience (1 – 10 years) and had not previously implemented interventions similar to the video modeling used in this study.
**Model teacher participant.** An art teacher was the primary adult participant in this study. The art teacher had been teaching full time at the school for her entire career, with 12 years of experience. She held a masters degree in education.

**Model participants.** Three third grade students from a classroom in the same school, but not participating in the study, were selected as models to be in the video. The number of models was selected based on previous research that indicated a benefit of using multiple familiar models increase the likelihood of attending to the video (Richards et al., 2010). The model students were selected based on third grade teacher recommendations of students who were generally well-behaved and likely to be cooperative during filming.

**Participant selection and consent.** Prior to the study, the primary researcher observed six classes in art (two kindergarten classes, two 1st grade classes, and two 2nd grade classes) as part of her regular responsibilities as a school psychologist in the building. These observations were informal and no formal data was collected. If a class showed general rates of disruptive behavior as judged by the primary researcher and the art teacher, the classroom teacher was then be approached to request if he or she was interested in having his or her class participate in the study. Once a teacher indicated interest, the researcher conducted a preliminary eligibility screening using the Observation Form (Appendix B). During this preliminary observation, to be selected for the study disruptions had to occur during at least 20% of intervals. In addition, the Council for Exceptional Children’s (1987) 90% criterion for engagement was used for selection. Classroom engagement had to occur during or less than 80% of intervals during preliminary observations to be included in the study. Based on this preliminary data, one 2nd grade classroom (Class 1) and two 1st grade classrooms (Class 2 and Class 3) were selected to participate in the study.
The primary researcher obtained written consent from the art teacher, the classroom teacher, and the model students’ parents allowing them to participate in the study. Oral assent was obtained from the model students themselves. A parent information letter (Appendix C) was sent home to all of the classroom participants providing detail about the study and the expectations for their students. Passive parental consent was then obtained, as parents were informed that if they did not want their student being observed within this study that they could return a portion of this letter and their student would still observe the PBIS video in their regular classroom with their peers, but no data would be collected on him or her. One parent returned this form and therefore that individual student was not observed during the classroom observations.

**Materials**

The primary researcher acquired all of the materials needed to create the video, including a video recording device (i.e., a FlipCam) and a computer/software program to edit the film (Windows 7 Movie Maker ©). The researcher also acquired a shareable flashdrive, which contained the digital movie mp4 file to provide to the classroom teachers. The classroom teachers used this flashdrive with their classroom laptops, which were connected to interactive whiteboards for displaying the video to the whole class.

**Procedures**

The art teacher, the model participants, and the primary researcher created a video, filmed in the art classroom. This video was then shown to the classroom participants in their classes on interactive whiteboards. Then, the primary researcher and research assistant observed the classes in the art room to assess behavior changes.
**Video creation.** The primary researcher and the art teacher developed a loosely structured script incorporating 3-5 positively stated behavioral expectations and examples of each based on evidence-based principles for behavior management in the art class (Susi, 1995) (Appendix D). The art teacher and the model students acted out these expectations. The video used in this study was taken from a third-person perspective as filmed by the primary researcher. The format of the video was very naturalistic, as if it were a regular class without specific acting. During the video, the art teacher stated the expectations explicitly as the students acted them out (i.e., sitting quietly). The art teacher then verbally reinforced the model students. Multiple clips were created depicting various activities of the class (i.e. transition into the room, instruction expectations, work time expectations). The total time to create the video (including consultation, creating the script, and filming) was less than one hour.

The primary researcher edited the clips together into one two and a half-minute video and added written text of the expectations over the movie. For example, when the art teacher stated “When you come into the classroom, you are to go directly to your seat and sit quietly” the words ‘Sit quietly at seat’ appeared over the video. The editing process for the video took approximately 1 hour.

**Showing the video.** The primary researcher provided the flashdrive containing the video to the classroom teachers and instructed them to show the video according to the scheduled determined by the research design. Classroom teachers were provided with instructions on how to show the video on their classroom interactive whiteboards. The goal of having the classroom teachers show the video in their classrooms was to incorporate the intervention into the natural routine as much as possible.
**Observations and data collection.** Student behaviors were observed using an Observation Code (Appendix A) throughout the targeted art class periods every day. Art class occurred at least once a week, though sometimes classes had art twice a week. Observations occurred through the first half (23 minutes) of every art class for each class across 10 weeks. The art class was divided into three time periods for observation: transition, instruction, and work time with different variables being measured during each time period (Appendix B).

**Dependent Measures**

**Transition variables.** Transition time was defined as the time from when the last student entered the art classroom to the time when the art teacher started providing instructions. Disruptions were defined as talking loudly to or touching another student, and touching materials on the art table without art teacher permission. Disruptions were coded using a momentary time sampling frequency count. That is, at the beginning of a 15 second interval, the observers scanned the room from left to right and counted how many students were displaying disruptive behaviors. For each session, percent of students displaying disruptive behaviors was calculated using the following formula:

\[
\frac{\text{total number of students displaying disruptive behaviors}}{\text{total number of intervals} \times \text{total students in class}} \times 100
\]

**Instruction variables.** Instruction time was operationally defined in this study as the time when the art teacher was actively providing directions for the daily art task. Engagement and disruptions during instruction were measured. Engagement was defined as being oriented to the teacher while she was providing instruction, as operationally defined by Shapiro (2004). Examples of engagement included looking at the teacher, raising a hand, or talking to the teacher about the assigned material.
Using a classroom seating chart, the observers observed and coded the behavior of the first student and moved to the next student at the end of the interval. The observers continued this pattern until all students were observed and repeated this sequence until the end of the observation session. Engagement behaviors were measured using momentary time sampling where engagement was coded if a student was displaying the engaged behaviors at the beginning of the 15 second interval.

Disruptions were defined as any time the students displayed off-task behaviors that interfered with their ability to maintain engagement to instruction, as adopted from Musser, Bray, & Kehle (2001). Examples of disruptive behaviors during the instruction period included making any audible sound, such as whistling, humming, or forced burping, talking to another student about issues unrelated to an assigned task, engaging in any out-of-seat behavior (defined as buttocks not in contact with floor or chair), or touching materials on the tables. Disruptions were measured using partial interval time sampling, where disruption was coded if a student displayed disruptive behaviors at any point during the interval. Detailed coding definitions and examples of all variables are provided in Appendix B.

**Work time variables.** Work time was defined as the portion of the class time when students were provided an opportunity to work on the assigned art task without having to be oriented to the teacher. Engagement and disruptions were measured during work time. Engagement was defined as actively or passively attending to as assigned task. Examples of active engagement included raising a hand, talking to a peer about the assigned task, or manipulating the art materials. Examples of passive engagement included looking at the teacher or a peer’s work (see Appendix B). Engagement variables during work time were coded using the same procedures as during instruction time.
Disruptions were defined as any time the students displayed off-task behaviors that interfered with their ability to attend to the art task. Examples of disruptive behavior during work time included making any audible sound, such as whistling, humming, or forced burping, talking to another student about issues unrelated to an assigned task, or using art materials inappropriately. Disruptions during work time were coded using the same procedures as during instruction time.

**Research Design**

This investigation utilized single-case methodology to examine changes in disruptive behaviors and student engagement. Single case designs are advantageous in that they have historically “yielded easier-to-implement interventions, more accurate and usable measurement systems, and greater benefits for students” (Kennedy, 2005, p.12). Such designs demonstrate experimental control using one person or group as both the control and experimental participant(s). The single-case design selected for this study was a multiple baseline across classes ABB’ design. In this design, following achieving a steady baseline (A), the intervention was introduced across time across classes (B). Then the intervention was removed (B’) to measure generalization. Baseline data were collected simultaneously across all three participating classes.

Class 1 started the intervention after three observation sessions of baseline (A), received the video intervention for four sessions (B), and a maintenance data point was collected 6 weeks after the last intervention point (B’). Class 2 started the intervention after five observation sessions of baseline (A), received the video intervention for four sessions (B), and had a maintenance point collected 4 weeks after the last intervention point (B’). Class 3 started the intervention after seven observation sessions of baseline (A), received the video intervention for
three sessions (B), and a maintenance data point was collected 2 weeks after the last intervention point (B’).

Decision rules for phase changes were primarily driven by time and teacher request. Class 1 displayed the highest rates of disruptive behaviors, so they received the intervention first after a stable baseline was established. For instance, the art teacher noticed positive changes in Class 1’s behaviors and requested that Class 2 receive the intervention as soon as possible, therefore the intervention was implemented quickly. At least three intervention points were collected for each class, but the classroom teachers indicated that the students were getting bored with the video after three viewings (confirmed in the student acceptability questionnaire) so the intervention was removed.

**Intervention**

**Baseline (A).** During baseline, observations were conducted according to the observations procedures and definitions described above. No planned video intervention was in effect and the art teacher was asked to conduct class using typical management strategies.

**Intervention (B).** The classroom teacher introduced the video as an instructional tool for expected behaviors in art class on days the class had art. The classroom teacher instructed the students to pay attention to the video and display the same behaviors when they went to art class. The classroom teachers were told to show the video right before their class went to art, or as close as possible as there were some scheduling conflicts such as recess right before art class. If there was a conflict, the teachers were instructed to remind the students of the video as they lined up for art class. Observers were stationed in the art class to observe the transition and student variables once the class arrived.
**Maintenance (B').** After the intervention had been in place for at least three sessions, it was removed. A maintenance data point was collected 2-6 weeks after the intervention to observe whether or not the behavior changes were maintained.

**Goals**

Goals were established based on a combination of consultation with the art teacher for her expectations within the classroom, suggestions from the Council for Exceptional Children (1987), as well as the preliminary observations (e.g., reasonable expectations for behaviors based on the baseline performance level). During transition time, the goal was for disruptions to occur less than 5% of the observation sessions. During instruction and work time, the goal was for disruptions to occur less than 25% of the observation sessions. For engagement, the goal was for engaged behaviors to occur greater than 75% of the observation sessions.

**Data Analysis**

Visual analysis of data is the standard method for single case designs data (Kennedy, 2005). Visual analysis is used to compare data and monitor changes in behavior. Disruption and engagement data are calculated, graphed and visually analyzed by examining the progression of data, and trend and level. Means, standard deviation and effect sizes are calculated across the progression of data. Graphs showing trend, mean, and standard deviation, as well as effect sizes of dependent measures are appropriate to determine the effects of a single case design study given inter-observer and adherence data.

Graphs showing level, trend, variability, and percent non-overlapping data points, and descriptive statistics for the mean, standard deviation, and effect sizes of dependent measures are usually sufficient to determine the effects of single case designs.
Technical Adequacy Measures

**Inter-observer agreement.** Graduate students in school psychology, including the primary researcher served as data collectors. Prior to the implementation of baseline, observers were trained in data collection. The primary researcher reviewed the definitions as well as the sampling methods for each variable. Each observer co-observed with the PI until an inter-observer agreement (IOA) of at least 90% was reached.

IOA was calculated to ensure proper use of the behavioral observation protocol by research team members. IOA data were collected through 20% of data collection sessions sampled across all classes to ensure technical adequacy (i.e., 80% agreement) (Kennedy, 2005). Percentage agreement was calculated for co-observed sessions using interval-by-interval method by dividing the number of agreements by the number of agreements plus disagreements and multiplying by 100. This calculation was used for each variable on the behavioral observation protocol. Results are displayed in Table 1.

**Intervention adherence.** Intervention adherence data were collected by the observers in the regular education classroom prior to observing the student behaviors in the art class. Observers noted on the observation form whether or not the teacher showed the video to the class prior to the art class. These data were collected for every observation session.

**Intervention acceptability.** At the end of the study, the art teacher and students completed an individual, independent evaluation of social validity (i.e., intervention acceptability) of the intervention by completing a rating scale, adapted from Erhardt, Barnett, Lentz, Stollar, and Reifin (1996). The teacher and student of these scales were used to assess the acceptability and perceived success of the intervention. The teacher version was structured using a 5-point Likert rating scale where 1 represented “strongly disagree,” 2 equaled “disagree,” 3
equaled “not sure,” 4 represented “agree,” and 5 represented “strongly agree.” The art teacher was asked to rate items regarding the ease of creating the videos, perceived efficacy of the intervention, and willingness to use a similar intervention in the future (see Appendix E). Because of the age of the students, an abbreviated developmentally appropriate rating scale was used to examine students’ satisfaction with the intervention and their perception of its effectiveness (see Appendix F). This rating scale was administered orally by the primary researcher to each class and students were asked to circle “yes” or “no”.

Results

Results indicated that overall disruptions decreased and classroom engagement increased following implementation of the video modeling intervention in the art class. Visual analysis was used as the primary method of analysis for all dependent variables. That is, the observation results were graphed depicting the changes in behaviors for each variable over the observation sessions. These graphs were critically examined for changes in level and trend between baseline and intervention as well as relative to the established goals.

In addition to visual analysis, summary statistics were calculated for each variable. While visual analysis is the primary method of analysis for single-case design research, statistical analyses, such as effect size (ES) can be beneficial as a supplement (Brossart, Parker, Olson, & Mahadevan, 2006; Busk & Serlin, 1992) That is, mean and standard deviation were calculated for each variable for each phase (i.e., baseline and intervention). Then using these data statistics, effect size was calculated between intervention and baseline for each data. Effect size was calculated using the formula for Cohen’s $d$. Research suggests that when interpreting effect size data, an effect size of .2 may be considered a small effect, .5 is considered a medium effect, and .8 is considered a large effect (Cohen, 1988). All of the summary statistics are reported in Table
1. Table 2 displays the average number of intervals observed for each time period of the observation session (i.e. transition, instruction, work time), including the range of intervals and standard deviation for each time period.

Percent of non-overlapping data points (PND) was used as a final measure of data analysis in order to better identify the relative effects of the video modeling intervention. Research suggests that when interpreting PND data, PND greater than 90% indicates a highly effective intervention, 70-90% indicates moderate effectiveness, 50-70% suggests mild or questionable effectiveness, and less than 50% indicates that the intervention was ineffective (Scruggs & Mastropieri, 1998). PND data were calculated by comparing data from baseline (A) and the video modeling intervention phase (B). For disruption variables, when the desired effect of the intervention was a decrease in disruptive behaviors, the following formula was used: number of intervention points below the lowest baseline point divided by the total number of intervention points and multiplied by 100. For engagement variables, where an increase in engagement was desired, the following formula was used: number of intervention points above the highest baseline point divided by the total number of intervention points and multiplied by 100.

Figure 1 displays the results for behaviors measured during transition time. There was a consistent decrease in disruptions during this time across all three classes with an average effect size of .68 between baseline and intervention. The goal for this time period was for disruptions to occur less than 5% of the observation sessions. Class 1 was able to achieve this goal consistently, but Class 2 and Class 3 displayed disruptive behaviors during transition on average 5% and 7% of the time, respectively. The follow-up maintenance check indicated that the results achieved during the intervention were maintained weeks later. During one of the observation sessions
during baseline, Class 3 reached the goal of behaviors occurring at or less than 5% of the observation sessions, therefore PND was not calculated for this variable.

These results should be interpreted with caution. First, for Class 1 and Class 2, there was a decreasing trend in baseline data prior to when the intervention was implemented. Because the disruptions were already decreasing, it is possible that the behaviors would have decreased to the goal level naturally without implementing the intervention. Next, transition time occurred very quickly during each observation session. The average length of observed intervals during transition time was 3.47 intervals (52.05 seconds). Because the observation sessions were so brief, coding was extremely sensitive to even slight changes in behaviors. This may have resulted in inflated changes, with each data point weighted highly.

Figure 2 displays the results for behaviors measured during instruction time. The average length of observed intervals during instruction time was 46.17 (around 12 minutes). There was a consistent increase in engagement (average $ES = .87$) and decrease in disruptions (average $ES = .88$) across all three classes. During instruction, the goal was for students to display disruptive behaviors during less than 25% of the observed intervals. All three classes met this goal consistently and maintained it during the follow-up maintenance check. The goal for engagement was for students to be engaged greater than 75% of the observed intervals. All three classes met this goal as well and the results were maintained.

Figure 3 displays the results for behaviors measured during work time. The average length of observed intervals during work time was 37.28 (around 9½ minutes). There was a general increase in engagement (average $ES = .77$) and decrease in disruptions (average $ES = .87$) across all three classes. During work time, Class 2 displayed inconsistent and unstable disruptive and engaged behaviors during baseline ($SD = 14.50; SD = 20.02$). Because of this,
PND between baseline and intervention was 0% for disruptions and 50% for engagement. For this particular class, it is important to interpret the results with caution as the behaviors were so variable.

As was observed with transition behaviors, during instruction and work time Class 2 and Class 3 demonstrated a decreasing trend in baseline for disruptions and an increasing trend in engagement prior to the intervention. It is possible that these behaviors would have improved naturally without implementing the intervention.
Figure 1. Graph of average number of disruptive students observed during transition
Figure 2. Graph of percentage of disruptions and engagement variables observed during instruction time.
Figure 3. Graph of percentage of disruptions and engagement variables observed during work time
Table 1

Result Summary Statistics

<table>
<thead>
<tr>
<th>Class</th>
<th>Class Time</th>
<th>Baseline M(SD)</th>
<th>Video Modeling Intervention M(SD)</th>
<th>ES</th>
<th>PND</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1</td>
<td>Transition Time Disruptions</td>
<td>10.33(5.51)</td>
<td>2.75(2.22)</td>
<td>0.67</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td>Instruction Time Disruptions</td>
<td>35.33(0.58)</td>
<td>10.75(7.04)</td>
<td>0.93</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Engagement Work Time Disruptions</td>
<td>57.33(1.52)</td>
<td>79.75(6.75)</td>
<td>0.92</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Engagement Work Time Engagement</td>
<td>29.33(4.04)</td>
<td>9.75(4.43)</td>
<td>0.92</td>
<td>100%</td>
</tr>
<tr>
<td>Class 2</td>
<td>Transition Time Disruptions</td>
<td>13.60(5.32)</td>
<td>5.00(3.83)</td>
<td>0.68</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>Instruction Time Disruptions</td>
<td>24.00(8.09)</td>
<td>6.25(6.50)</td>
<td>0.77</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Engagement Work Time Disruptions</td>
<td>64.60(11.52)</td>
<td>89.50(5.69)</td>
<td>0.81</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td>Engagement Work Time Engagement</td>
<td>14.60(14.50)</td>
<td>8.50(8.35)</td>
<td>.25</td>
<td>Not calculated</td>
</tr>
<tr>
<td>Class 3</td>
<td>Transition Time Disruptions</td>
<td>17.14(7.15)</td>
<td>7.00(1.00)</td>
<td>0.70</td>
<td>Not calculated</td>
</tr>
<tr>
<td></td>
<td>Instruction Time Disruptions</td>
<td>33.00(5.97)</td>
<td>10.00(1.73)</td>
<td>0.93</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Engagement Work Time Disruptions</td>
<td>60.43(8.54)</td>
<td>85.33(3.21)</td>
<td>0.87</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Engagement Work Time Engagement</td>
<td>22.43(8.40)</td>
<td>4.67(4.16)</td>
<td>0.80</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Engagement Work Time Engagement</td>
<td>65.57(7.08)</td>
<td>91.00(7.21)</td>
<td>0.97</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2

Average Intervals Observed for Each Period

<table>
<thead>
<tr>
<th>Period of Time</th>
<th>Average # of Intervals Observed</th>
<th>Range # of Intervals Observed</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transition</td>
<td>3.74</td>
<td>3 – 5</td>
<td>.81</td>
</tr>
<tr>
<td>Instruction</td>
<td>46.17</td>
<td>12 – 88</td>
<td>20.06</td>
</tr>
<tr>
<td>Work Time</td>
<td>37.28</td>
<td>11 – 100</td>
<td>20.96</td>
</tr>
</tbody>
</table>
Inter-Observer Agreement Results

A total of 30 classroom observation sessions were conducted during the course of the study. Six (20%) of these observation sessions were coded separately by two different researchers. Inter-rater agreement was calculated for each variable using interval-by-interval methodology. The overall mean inter-observer agreement for all variables was high at 93.5% (range 25%-100%). Table 3 displays the results for IOA. On the first co-observation where the IOA for disruptions during transition time was only 25%, there were only 4 intervals observed as the transition time was very quick (1 minute) and the observers disagreed in their frequency count by only one student during three of the intervals. For example, during the second interval observer 1 counted three students displaying disruptive behaviors while observer 2 counted two students. So while the IOA may seem low, the actual variance in observations was not very significant.
### Table 3

**Inter-Observer Agreement Results**

<table>
<thead>
<tr>
<th>Session # (Class)</th>
<th>Variable</th>
<th>% Agreement</th>
<th>Session # (Class)</th>
<th>Variable</th>
<th>% Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 1 (Class 2)</td>
<td>Transition Time Disruptions</td>
<td>100%</td>
<td>Session 9 (Class 2)</td>
<td>Transition Time Disruptions</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>Instruction Time Disruptions</td>
<td>100%</td>
<td></td>
<td>Instruction Time Disruptions</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Engagement</td>
<td>97%</td>
<td></td>
<td>Engagement</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Work Time Disruptions</td>
<td>100%</td>
<td></td>
<td>Work Time Disruptions</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Engagement</td>
<td>100%</td>
<td></td>
<td>Engagement</td>
<td>100%</td>
</tr>
<tr>
<td>Session 2 (Class 3)</td>
<td>Transition Time Disruptions</td>
<td>100%</td>
<td>Session 9 (Class 3)</td>
<td>Transition Time Disruptions</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Instruction Time Disruptions</td>
<td>99%</td>
<td></td>
<td>Instruction Time Disruptions</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Engagement</td>
<td>100%</td>
<td></td>
<td>Engagement</td>
<td>97%</td>
</tr>
<tr>
<td></td>
<td>Work Time Disruptions</td>
<td>100%</td>
<td></td>
<td>Work Time Disruptions</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Engagement</td>
<td>100%</td>
<td></td>
<td>Engagement</td>
<td>97%</td>
</tr>
<tr>
<td>Session 8 (Class 3)</td>
<td>Transition Time Disruptions</td>
<td>100%</td>
<td>Session 10 (Class 3)</td>
<td>Transition Time Disruptions</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Instruction Time Disruptions</td>
<td>100%</td>
<td></td>
<td>Instruction Time Disruptions</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Engagement</td>
<td>98%</td>
<td></td>
<td>Engagement</td>
<td>96%</td>
</tr>
<tr>
<td></td>
<td>Work Time Disruptions</td>
<td>100%</td>
<td></td>
<td>Work Time Disruptions</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Engagement</td>
<td>96%</td>
<td></td>
<td>Engagement</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Social Acceptability Results

Table 4 displays the results from the surveys administered to the students where the number indicates the percentage of students who answered “yes.” Overall, students responded favorably to the video modeling intervention. Students consistently reported that they understood the expectations for art class and that it helped them behave in class. However, the students did not report liking the video as much as was expected. In particular, in Class 2 only 30% of the
students reported that they liked watching the video. Possible reasons for these results are explored further in the discussion.

Table 4

Results of Student Intervention Acceptability Survey – Percent of Students Who Answered ‘Yes’

<table>
<thead>
<tr>
<th>Items</th>
<th>Class 1 (n=23)</th>
<th>Class 2 (n=25)</th>
<th>Class 3 (n=23)</th>
<th>Total (n=71)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I understood what I was supposed to do during art class</td>
<td>100%</td>
<td>96%</td>
<td>96%</td>
<td>97%</td>
</tr>
<tr>
<td>I liked watching the video</td>
<td>30%</td>
<td>80%</td>
<td>83%</td>
<td>65%</td>
</tr>
<tr>
<td>I would like to use a similar video for other classes (i.e. gym, music)</td>
<td>74%</td>
<td>84%</td>
<td>91%</td>
<td>83%</td>
</tr>
<tr>
<td>I think the video helped me behave in class</td>
<td>96%</td>
<td>96%</td>
<td>96%</td>
<td>96%</td>
</tr>
</tbody>
</table>

Table 5 displays the results from the survey administered to the art teacher. The response scores are correlated with a 1-5 rating scale, where 1 = strongly disagree and 5 = strongly agree. Overall, the art teacher responded very positively to the video modeling intervention agreeing that the video was easy to create, that students displayed better behaviors when they watched the video, and that the intervention was generally beneficial to her and her students. She strongly agreed with the statement that she would be willing to use the intervention in the future. Through conversation, she asked if she could have other teachers show the video to their classes and suggested that a similar video could be used for other areas of the school (i.e. cafeteria, bus drop-off, hallways). These results indicate high levels of social validity and acceptability of the video modeling intervention.
Table 5

**Results of Art Teacher Intervention Acceptability Survey**

<table>
<thead>
<tr>
<th>Items</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>The video was easy to create</td>
<td>4</td>
</tr>
<tr>
<td>When the students watched the video, they had better behaviors during my class</td>
<td>4</td>
</tr>
<tr>
<td>I would be willing to use this intervention in the future</td>
<td>5</td>
</tr>
<tr>
<td>Overall, this intervention was beneficial for the students and myself</td>
<td>4</td>
</tr>
</tbody>
</table>

**Discussion**

The purpose of this study was to explore the effects of a video modeling intervention on classwide behaviors. Two main research questions were investigated in the present study. These included: (a) to what degree is video modeling an effective classwide intervention to increase student engagement and decrease disruptive behaviors? and (b) to what degree are the effects of the intervention be maintained across time without further video showings? The results of this study indicated that following the implementation of a video modeling intervention in an art class, disruptive behaviors decreased during transition time, instruction time, and work time and engaged behaviors increased during work time and instruction. These positive outcomes were maintained during a follow-up maintenance check weeks later. These results provide evidence that video modeling can possibly be an effective intervention to result in desired behavior changes with a whole class of students in a non-academic classroom setting.

However, these conclusions must be tempered because of trend limitations in the data. As mentioned earlier in the results, during transition, Class 1 and Class 2 demonstrated decreasing rates of disruptions prior to the implementation of the video intervention. Additionally, during
work time and transition time, Class 2 and Class 3 demonstrated decreasing rates of disruptions and increasing rates of engagement during baseline. These data trends indicate that behaviors were improving already, and it is possible that they would have improved without intervention. Because of these data trends, great caution must be used in generalizing the results of this study.

The current study extends the video modeling literature in several ways. First, previous research was primarily conducted with individual students or groups of students (i.e., Hitchcock et al., 2003). However in this study, the video was shown to an entire class and behavior changes were observed across entire classes of students. To date, only one study has investigated using video modeling procedures with a whole class (Richards et al., 2010). However Richards et al. (2010) used 14 different video segments, filmed peers from a separate school, and combined a coaching and reinforcement element to their intervention package. This study used only one video, used peers from the same school, and did not include any other intervention components. The findings from the current study may indicate that video modeling procedures can be used as a preventative intervention with large groups of students. In an era where educators are challenged with finding effective and efficient methods of targeting all students (Sugai et al., 2005), this study provides potential support to the literature that video modeling can be used as a Tier 1 intervention.

The social validity, or feasibility and acceptability, of this study is important to examine. Although research indicates that educators are often hesitant to use video modeling procedures because of the perceived barriers such as time and resources (Bellini & McConnell, 2010), this study provides evidence of the increasing ease of creating and using videos in an applied real-world setting. The art teacher indicated that the video was easy to create and it was beneficial for her students. Additionally, the art teacher noted that she would use the video with other classes
and at the beginning of future years to help teach all of her students the expectations for art class. Fawcett (1991) suggested that intervention adoption demonstrates the appropriateness of the procedures as a high standard for social validity. Despite the time involved to create the video, that the art teacher expressed a desired to use it in the future also indicates that using video modeling for a whole class can be an acceptable intervention in schools.

Finally, this study provides potential support to the immediate and continuous effectiveness of a video modeling intervention given that the observed behaviors changed immediately after the intervention, continued to stay level during the intervention, and were maintained weeks later. However the data trends indicated that behaviors were improving prior to the intervention, so this conclusion must be interpreted with caution. For teachers who are seeking to increase student engagement behaviors and decrease disruptive behaviors, this study indicates that showing a video with models displaying the expected behaviors may result in immediate decreases in disruptive behaviors and increases in engagement. As the goal of the video was to teach the expectations to the students, the results can be interpreted indicating learning after one viewing. Showing the video multiple times may have helped to remind students of the expectations, but may not have been necessary to teach them. The results were maintained even after not viewing the video, suggesting that the students learned the expectations and then were able to continue producing the behaviors over time.

**Observational Learning and this Study**

The features of this video use in this study also provide real-world support to the underlying theory of observational learning. Each of Bandura’s (1986) four processes for observational learning were evident in the video modeling procedures and potentially contributed to the success of this intervention. It is important to understand the role of these governing
phases when developing an intervention because these processes can guide future modifications of the intervention (i.e., changing the length of the video). That is, as long as the processes are understood and present within the intervention, superfluous changes may not decrease the intervention’s effectiveness.

The first processes that were considered in the development and presentation of the video were attaining and maximizing the student observer’s attention. Research suggests that modeled behaviors that result in positive outcomes are more likely to be attended to than those that have no noticeable effect (Mason et al., 2013). In the video, the art teacher continuously praised the students for displaying appropriate behaviors. Second, using multiple models who are recognizable and similar in age to the target observers can result in greater attention (Schunk, 1987). There were three model students, only 1-2 grades older than the observing students, in the video who attended the same school. It is possible that viewing these older models as being credible and authoritative led to higher rates of attention. Next, using narration to steer attention to the important parts of the modeling can aid in enhancing attention (Vladescu et al., 2012). The art teacher provided step-by-step guidance for the behavioral expectations, and these steps were also visually written over the video when they occurred. Third, modeling performances that are brief generally result in increased attention (Hitchcock et al., 2003). The video was only two and a half minutes long, which was brief enough that the students did not lose focus during the video. Finally, novel stimuli can elicit increased attention (Dowrick, 1986, 1991). As the students had likely never seen a video like this before to teach them behavioral expectations, the novelty of the video itself may have contributed to the positive behavior changes.

Retention is the second process that Bandura (1986) discussed as a crucial to observational learning. When learning a new skill, multiple presentation opportunities and
mental rehearsal can aid in retaining the information (Davis & Yi, 2004; Bellini & McConnell, 2010). In this study the video was presented numerous times to the students with the theory that the more opportunities the students had to view the video, the more they would retain what they had learned. However, the data indicated that one time viewing the video was enough to result in behavior changes, and there was no change after multiple viewings. In fact, the results of the student social validity survey indicated that the students got bored with having to watch the video multiple times. Future research may be beneficial to assess whether or not showing the video one time can be as effective as showing it multiple times, as research suggests.

The third operational learning process to consider when developing an intervention is the actual production of the observed behaviors (Bandura, 1986). To increase the likelihood of successful production of the desired behaviors, the modeling process should be direct and succinct. In the video, the art teacher clearly articulated expectations (accompanied by the overwriting on the movie) and expectations were broken down into explicit easy steps. For example, during transition the expectations were: ‘1. Come in quietly; 2. Go to your assigned seat; 3. Check your pencil case; 4. Wait for instruction.’ Research suggests that young students should be expected to easily produce these behaviors as they are succinct and direct (Reinke et al., 2013).

The final component of observational learning involves motivation to produce the desired behaviors. Reinforcement has long been used to shape behaviors (Cooper et al., 2007). Behavior-specific contingent verbal praise is one such evidence-based method used to help shape behaviors in a classroom (Chalk & Bizo, 2004). In the art video, the art teacher continuously praised the model students using behavior-specific praise such as “Thank you Jessica for cleaning up your crayons on the floor” to reinforce the expected behaviors. During the
observations, the art teacher also provided positive praise to the observed students when they displayed the expected behaviors, though this was not a variable measured in the intervention. It is important to note, however, that this verbal praise may have had an impact on the results as an unintentional confounding variable.

**Limitations**

Though this study expands the knowledge base of classwide PBIS strategies, there are, however, several limitations. First, Class 2 and Class 3 had scheduling conflicts where they had recess immediately prior to art class. The teachers showed the students the video in the classroom, then the students went outside to recess, and then the class went to art. Because research suggests showing the modeled behaviors as close to the time when the desired behaviors are expected to be displayed (Bandura, 1986) it is possible that the time between showing the video and art class affected the results. However, the classroom teachers reminded the students about the video using statements such as “Make sure you remember the video that we watched in class before recess” as the students were transitioning from recess to art class. It is possible that if the video had been shown immediately prior to art class the positive behavior change would have been even more pronounced. But because the results for Class 2 and Class 3 were similar to Class 1 (who viewed the video immediately before art class), it is unlikely that the time in between was a large factor in the results.

Second, behaviors displayed during baseline of all classes were not that problematic to begin with. For instance, in Class 2 during work time, engaged behaviors were displayed on average 75% of the observed intervals ($M = 75.60, SD = 20.02$). Given that the goal was for engaged behaviors to be observed during 90% of the intervals, there was not a lot of change that needed to occur. It is possible that if the baseline engagement behaviors were significantly lower
and baseline disruptive behaviors were significantly higher that the goals may not have been attained. That is, if a class displayed severe disruptive behaviors, the video modeling intervention might not be as effective for behavior change.

Another limitation of the study is the confounding variable of art teacher change in behaviors. The primary researcher and the art teacher collaborated and created the video while baseline data were being collected. It is possible that as the primary researcher helped guide the art teacher in clearly establishing and defining the expectations for her classroom that her daily practices may have changed. While this was not intentional (i.e., the art teacher was not instructed to change her behaviors during art class), it was informally observed that the art teacher mentioned some of the expectations (e.g., reminding students to sit quietly without talking during instruction) following the creation of the video. However, because the baseline level for all three classes was fairly stable, it is unlikely that the art teacher’s behavior changes strongly affected the results.

Along with the development of the video potentially impacting the art teacher’s instructional behaviors, having observers in the classroom may have impacted her behaviors as well. Additionally, the observers’ presence in the classroom may have impacted the student’s behaviors if they were aware they were being observed. Reactivity is a challenge in any study using direct observations. However, because the same observers were present throughout the entire data collection process, any changes that may have resulted from observers being in the classroom would have been present throughout all of the observation sessions. Potentially the art teacher and students may have adjusted to having observers in the classroom and been less affected by their presence, though this likely would have resulted in behavior changes that were not observed.
Fourth, maturation, or the general growth of student’s over time, may be a limitation of this study. That is, as with many classrooms, students often learn expected behaviors and display improvements in behaviors over time as they are continuously reinforced for displaying appropriate behaviors. Data collection occurred over 10 weeks in this study so it is possible that behavior changes were a result of time and not necessarily the video modeling intervention. However, the first baseline points were not collected until the fourth week of school (end of September) to help control for problem behaviors typically displayed at the beginning of the year. It was expected that after 4 weeks of classes, the students would have settled into the routine of art class, indicating that baseline data were truly reflective of student’s behaviors, and not just beginning of the year behaviors.

Next, due to limitations of the current observational procedures, changes in the data collection methods may strengthen the validity of the study. For instance, transition behaviors were observed once the final student entered the classroom as it was not feasible to scan the room for disruptive behaviors and count the number of students present in the room at the same time. Some disruptive behaviors occurred between the time when the first student entered the room and when the last student entered the room, but this was not captured in the data. Additionally, initially the observers tried to time how long it took for transition to occur, but this was difficult because it often occurred so quickly (under 45 seconds) that timing was not thought to be a reliable measure. Developing better observation procedures for this time may strengthen the study.

In addition to observation procedure concerns for the transition time, during work time and instruction the observers switched students every interval for data coding. It was observed that while the target student during a particular interval may have been displaying engaged, a
student in another part of the classroom may not have been engaged during that interval or even displaying disruptive behaviors. This was not captured in the data. Video recording observation sessions and coding the videos may provide a different level of analysis and strengthen the results of the study. Video recording may also have reduced the effect of having observers in the classroom. This was not possible with this study, however, due to limited resources. 

A final limitation with this study was the actual research design. Having a control group to compare behavior changes may have strengthened the study. The primary researcher informally asked the art teacher if she had noticed a change in behaviors once the video was not being shown to the classes, but she did not report any major behavior changes. A maintenance point was obtained weeks later, but collecting more maintenance data would have strengthened the study. As the goal of the video modeling intervention was to teach the students the expected behaviors, once the behaviors were learned, it is unlikely that they would “unlearn” the expectations. It is possible that the students could have benefited from viewing the video as a reminder of the expected behaviors if they started displaying lower rates of engagement or higher rates of disruptions, but this outside the scope of this study.

**Future Directions and Implications for Practice**

Based on the results of the present study, there are many natural directions and extensions in which to proceed in the future. The first area is related to the last limitation mentioned regarding the research design. Future researchers could examine the use of a similar video modeling procedure as a booster or reminder and investigate any behavior changes involved. The goal of this study was to assess whether or not video modeling could be used to teach behaviors to students (as measured through behavior change). The study did provide evidence that a video modeling intervention could be used with a whole class, but it was not intended to be used as a
follow-up intervention. Examining the use of a video modeling procedure through multiple viewings throughout the year, as is sometimes done with PBIS procedures when students display a change in behaviors, may be a natural extension of the video.

With this in mind, another extension of this research would be exploring if showing the video only once would be as effective as showing it 3-4 times, as was done in this study. Because results were observed immediately after showing the video one time, it is possible that only one showing was necessary. Perhaps the students already knew the expected behaviors and the video acted as a cue to remind them to behave. Additionally, the students reported that they did not like the video on the student social validity survey. The classroom teachers mentioned that the students asked why they had to watch the video again and again, indicating that they were bored with it after the first time. As novelty was one of the grounding principals underlying observational (Dowrick, 1986; Dowrick, 1991), as this novelty wore off, students may not have attended to it as much. Showing the video only once at the beginning of the year and perhaps as a booster throughout the year may be a logical next step for research.

A final area of future research using video modeling would be applying a similar video modeling procedure to a different environment. This study was conducted in an art class, however, it may be more practical for a replication of the procedures to be applied to a general education classroom, as this is often the first place where students learn behavior expectations. Future researchers could work with classroom teachers to create videos for their own rooms and then observe behaviors in the general education room. This would provide further evidence of the social validity of using video modeling in a school environment as a classroom-wide intervention for all students. Other areas of research include expansion to other
ages/demographic populations and combining it with other interventions (i.e. specified reinforcement for students displaying expected behaviors).

**Conclusions**

In spite of the limitations to the study, results indicate that video modeling can potentially be an effective intervention for improving behaviors in an art classroom. These behaviors changes also appear to be maintained over time. But because behaviors were improving prior to implementing the intervention, it is not possible to definitively state that the intervention was effective in improving behaviors. Therefore, it is recommended that future studies be conducted to further assess the results found in this study.

This study added to the knowledge base by applying video modeling procedures to a whole class of students. Data related to both disruptive behaviors as well as engagement were collected along with reliability and social acceptability data. Based on the data results, teachers and students alike report that the video was acceptable and effective as a classwide intervention. This information is important for school psychologists and teachers alike as they are examining different behavior management strategies to implement in the classroom.
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Appendix A

Observation Recording Sheet

Date:           Observer:          Class#:  Y  N

Did the classroom teacher show the video prior to the class?

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Scoring

Transition
Total Disruptions ____________ / Total Intervals ___________ = _________% observed

Instruction
Total Disruptions ____________ / Total Intervals ___________ = _________% observed
Total Engagement ____________ / Total Intervals ___________ = _________% observed

Work Time
Total Disruptions ____________ / Total Intervals ___________ = _________% observed
Total Engagement ____________ / Total Intervals ___________ = _________% observed
## Appendix B

Variable Definitions

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<th>Transition</th>
<th>Variable and Definition</th>
<th>How Coded</th>
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<td><strong>Disruptions:</strong></td>
<td>talking to or touching another student, and touching materials on the art table without art teacher permission</td>
<td>Partial interval frequency count</td>
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<table>
<thead>
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<th>Instruction</th>
<th>Variable and Definition</th>
<th>How Coded</th>
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<td><strong>Engagement:</strong></td>
<td>being oriented to the teacher while she is providing instruction (i.e. looking at the teacher, raising a hand, or talking to the teacher about the assigned material) <strong>Disruptions:</strong> any time the students display off-task behaviors that interfere with their ability to maintain engagement to instruction (i.e. making any audible sound, such as whistling, humming, or forced burping, talking to another student about issues unrelated to an assigned task, engaging in any out-of-seat behavior (defined as buttocks not in contact with floor or chair), or touching materials on the tables)</td>
<td>Momentary time sampling Partial interval recording</td>
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<table>
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<th>Work Time</th>
<th>Variable and Definition</th>
<th>How Coded</th>
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<tbody>
<tr>
<td><strong>Engagement:</strong></td>
<td>actively or passively attending to as assigned task. (i.e. raising a hand, talking to a peer about the assigned task, manipulating the art materials, or looking at the teacher during instruction) <strong>Disruptions:</strong> any time the students display off-task behaviors that interfere with their ability to attend to the art task (i.e. making any audible sound, such as whistling, humming, or forced burping, talking to another student about issues unrelated to an assigned task, or using art materials inappropriately)</td>
<td>Momentary time sampling Partial interval recording</td>
</tr>
</tbody>
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Appendix C

Parent Information Letter

Parent Permission/Information Sheet for Research
University of Cincinnati
Department: School Psychology
Principal Investigator: Julia DeGreg
Faculty Advisor: Julie Morrison, PhD

Title of Study: Video Modeling as a Classwide Intervention for Promoting Positive Behavior in K-2 Classes

Introduction:
Your child is invited to take part in a research study. Please read this paper carefully and ask questions about anything that you do not understand.

Who is doing this research study?
The person in charge of this research study is Julia DeGreg, a doctoral student at the University of Cincinnati (UC). She is also the School Psychologist at St. John the Baptist School. Dr. Julie Morrison will be supervising and providing support for her throughout the study. There may be other people on the research team helping at different times during the study.

What is the purpose of this research study?
The purpose of this study is to help children do a better job of obeying class rules. If children watch others behaving the right way, it might help them obey the rules, too.

Who will be in this research study?
Up to 155 students and 7 teachers from St. John the Baptist school will be in this study. There will be up to 5 3rd grade children and their teacher in one part of the study.

There will be up to six kindergarten through 2nd grade classes in the other part of the study. That means there will be up to 150 students and 6 teachers in those six classes. Your child fits into this group.

What will your child be asked to do in this research study, and how long will it take?
Once a week your child's teacher will show a short video about obeying class rules. The video will show 3rd grade students using good behavior. All the students in your child's class will watch the video. Your child will not be asked to do anything special.

Once a week your child's class will be visited by Ms. DeGreg or one of the other researchers helping with this study. They will take notes to see if watching the video helps children in the class behave better. Their notes will be about the class as a whole. They will not write down anything that has your child's name on it.

This research study will take 4 months for finish, but not all classes will start at the same time. Ms. DeGreg will tell the teachers when it is their turn to start.

At the end of the study, Ms. DeGreg will ask the children whether they liked watching the video. She will also ask if they thought it helped them learn to obey class rules. Children will not put their names on their papers.
Are there any risks to being in this research study?
There are no risks to your child from this study.

Are there any benefits from being in this research study?
Your child may learn better ways to obey class rules. If behavior in your child's class improves, your child may be able to lean better.

Will your child have to pay anything to be in this research study?
Your child will not have to pay anything to take part in this study.

What will your child get because of being in this research study?
Your child will not be given anything for being in this study.

Does your child have choices about taking part in this research study?
Your child has to do regular class activities, such as learning about class rules. But you do not have to let Ms. DeGreg or the other researchers watch your child's behavior in class.

All children will answer Ms. DeGreg's questions at the end of the study. But you do not have to let Ms. DeGreg use those answers for this research study.

How will your child’s research information be kept confidential?
Your child's name will not be written down. The name of your child's teacher or St. John the Baptist school will not be written down.

Information from this research will be kept in a secure place at the school or at the University of Cincinnati. Only members of the research team will have access to it.

Agents of the University of Cincinnati may inspect study records for audit or quality assurance purposes.

What are your and your child’s legal rights in this research study?
Nothing in this consent form waives any legal rights you or your child may have. This permission form also does not release the investigator, Julia DeGreg, the institution, or its agents from liability for negligence.

What if you or your child has questions about this research study?
If you or your child has any questions or concerns about this research study, you should contact Julia DeGgreg at (513) 385-8175 or jdegreg@stjohnbluejays.org. Or you may contact Julie Morrison at quatmaje@ucmail.uc.edu.

The UC Institutional Review Board reviews all research projects that involve human participants to be sure the rights and welfare of participants are protected.

If you have questions about your child's rights as a participant or complaints about the study, you may contact the UC IRB at (513) 558-5259. Or, you may call the UC Research Compliance Hotline at (800) 889-1547, or write to the IRB, 300 University Hall, ML 0567, 51 Goodman Drive, Cincinnati, OH 45221-0567, or email the IRB office at irb@ucmail.uc.edu.

Does your child HAVE to take part in this research study?
No one has to be in this research study. Refusing to take part will NOT cause any penalty or loss of benefits that you or your child would otherwise have. You may give your permission and then change
your mind and take your child out of this study at any time. To take your child out of the study, you should tell your child’s teacher or contact Julia DeGreg by email at jdegreg@stjohnbluejays.org or by phone at (513) 385-8175.

If you do not let your child be in this study, no one will be upset. Your child will be treated the same way at school, no matter what you decide.

What do you decide?
You may **GIVE PERMISSION.**
You may give permission for your child to be in this research study. Your child will watch the video and answer the questions. Ms. DeGreg will watch your child in class and use your child's answers. Your child's name will not be written down.

To GIVE PERMISSION you DO NOT need to do anything. Please keep this paper in case you want to read it again.

OR

You may **NOT GIVE PERMISSION.**
You may NOT give permission for your child to be in this research study. Your child will still watch the video and answer the questions. But Ms. DeGreg will NOT watch your child in class and will NOT use your child's answers.

To NOT give permission, please fill out the next page and return it to your child's teacher. Please keep this paper in case you want to read it again.

** Only fill out and return the next page if you **DO NOT** give permission for Ms. DeGreg to watch your child in class or use your child's answers. *If you GIVE permission, you do not need to return anything.*

** Only fill out and return this page if you **DO NOT** give permission for Ms. DeGreg to watch your child in class or use your child's answers. *If you GIVE permission, you do not need to return anything.*

---

**Title of Study:** Video Modeling as a Classwide Intervention for Promoting Positive Behavior in K-2 Classes

I do **NOT** want my child to be in Ms. DeGreg's research study.

____________________
Child’s Name (please print)

____________________
Parent Signature
Appendix D

Art Video Script

1. **Students enter classroom:**
   a. Come in quietly, but you can talk quietly once seated
   b. Go to your assigned seat
   c. Look in pencil case:
      i. It should be sharpened and ready
      ii. If not, you can get up to sharpen it
      iii. If there is already one sharpened, you should not go to the pencil sharpener
   d. Once I call for your attention, eyes should be on me and mouths should be closed. This is time to listen for instructions

2. **Instructions:**
   a. There should be no talking during instructions
   b. If you have a question, raise your hand

3. **Work time:**
   a. You should stay in your seat unless:
      i. There is an emergency
      ii. You need to sharpen your pencil
      iii. You need to move to another part of the table to get a marker/crayon
   b. Getting marker/crayons
   c. You do not need to ask me to:
      i. Use materials in crate
      ii. Sharpen a pencil
   d. Can talk quietly
   e. Use materials appropriately

4. **Clean-up:**
   a. I’ll call when it is time to clean up – you must stop what you are doing and listen
   b. Put lids on markers
   c. Check the floor
   d. If assigned to collect materials, you can leave your seat. Otherwise, stay seated.

5. **Washing hands:**
   a. Put hands in bucket, count to 10
   b. Do not turn on water
   c. Dry with paper towel
   d. Walk away so others can come
More detailed art script

Entering Room

- Students enter classroom
- Welcome class! Please go quietly to your seats. Once you are there, you can talk quietly to each other.
- Students sit down in front three chairs
- Look in your pencil cases. There should be a sharpened pencil ready, but if there isn’t, you can get up to sharpen one.
- One student gets up and sharpens pencil. Other students talk quietly while Mrs. Smith passes out papers.
- Once I call for your attention, your eyes should be on me and you should not be talking any more. Now it is time for you to listen to what we are doing today. Please do not touch your pencils while I am talking.

Instructions

- Today we are going to be drawing pictures like these on the board…
- One student gets out of seat and calls out, “That looks like my cat!”
- If you have any questions, please raise your hand and I will come to you. You do not need to get out of your seat while I am talking.
- One students raises hand
- Thank you for raising your hand.
- Should my paper be up and down or side to side?
- Side to side. Now you may begin working

Work Time:

- Mrs. Smith stands next to student and quietly helps them with picture.
- One student raises hand and says that she cannot reach the markers.
- You may get out of your seat to move around your table to get another marker or crayon. You may also get out of your seat if you need to sharpen your pencil or there is an emergency. Otherwise, you should stay seated.
- Students continue working
- I like how you are working quietly.

Clean-up:

- Now it is time to clean up.
- Students put down markers and look at Mrs. Smith.
- Thank you for stopping when I called your to clean up. I like how Landon is putting the lids on his markers and checking the floor for any loose lids. Sami, will you please collect the markers from your table and put them away?
- Sami gets out of seat to pick up markers
- You should stay in your seat during clean up, unless I give you a job to collect materials.
- Landon raises his hand
- Yes Landon, thank you for raising your hand
- I have marker all over my hand, can I wash them?
• Yes, let’s go over to the sink and I will show you how to use it

**Washing hands:**
• Put your hands in the buckets of soapy water and count to 10 while you rub them together. You do not need to turn the water on or play in it. When you are done, get a paper towel here and dry them off and throw the towel away. Then you go back to your seat in case others need to wash their hands too.
• *Landon goes back to seat.*

**Line-up:**
• Check your place and make sure there are no materials still out, that your spot is clean. Now you can line up.
• *Students get up, push in chairs, and line up by door.*
• Thank you for being a great class today. You were very respectful and listened well.
Appendix E

Art Teacher Intervention Acceptability Survey

Directions: Please read the following statements and circle the number (1-5) that best describes your agreement or disagreement with each statement.

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<td>When the students watched the video, they had better behaviors during my class</td>
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<td>I would be willing to use this intervention in the future</td>
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<td>Overall, this intervention was beneficial for the students and myself</td>
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Other comments regarding this intervention:
Appendix F

Student Intervention Acceptability Survey

Directions: Please listen as the following statements are read to you and circle the answer that best describes your agreement with each statement.

1. I understood what I was supposed to do during class
   Yes ☑️ No ☐

2. I liked watching the video
   Yes ☑️ No ☐

3. I would like to use a similar video for other classes (i.e. gym, music)
   Yes ☑️ No ☐

4. I think the video helped me behave in class
   Yes ☑️ No ☐