

**Video Modeling: An Effective, Evidence-Based Practice for
Teaching Students with Autism Spectrum Disorders**

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Video modeling is a promising behavioral intervention that has myriad applications for students with autism spectrum disorders (ASD). Video modeling uses visual cues, an effective strategy for instructing students with ASD, who are often visual learners, and modeling, an evidence-based strategy that is effective across ages and populations. Over the past three decades, research has demonstrated that video modeling can be a valuable tool for instructing children with ASD in a variety of skills, and that once a skill is learned through this process, it is maintained over time and generalized across settings. Recent research qualifies video modeling as an evidence-based intervention, which has implications for its use with students with ASD in the school setting (Bellini & Akullian, 2007).

In video modeling, an individual is shown a video in which a model performs a target behavior or task in order to facilitate learning and use of the behavior or task. A variety of models may be employed, including adults, peers, video-self modeling (VSM), point-of-view video models, and mixed models, in which more than one model is used in a video sequence. McCoy and Hermansen (2007) explored the relative efficacy of different types of models, and found that all types of models are effective, but some are more effective than others. Self and peer models appear to have the greatest effectiveness in video modeling for students with ASD (McCoy & Hermansen, 2007). Studies have documented positive results with both familiar and unfamiliar adults and peers, and some research has focused on the use of siblings as models (e.g., Reagon, Higbee, & Endicott, 2006). Point-of-view video models are relatively new, and feature sequences filmed in first-person perspective, with only the hands visible.

VSM, in contrast, involves the use of the individual herself as a model. This may be achieved through a number of strategies, including role-playing, imitation, and providing hidden supports. Cues, prompts, and other unnecessary or detrimental information are removed during the editing process to create a seamless video in which the student performs the task or behavior successfully and independently. Dowrick (1991), refers to this technique as FeedForward, and emphasizes the importance of showing individuals that they can successfully complete a task to increase self-efficacy.

For students who cannot effectively participate in role-playing or imitate desired behaviors, including many students with severe ASD, another, more time-consuming technique may be employed. In this method, the child is continually filmed until he performs a behavior enough times to create a video. This technique may be used to increase rare or emerging behaviors that are already in the student's repertoire, but is not an effective means of teaching new behaviors. Unfortunately, the time-consuming nature of this method may limit its applicability in school or clinic settings (Buggey, 2007).

Video modeling is proven to be effective in addressing several areas of concern for students with ASD. In a meta-analysis of 23 studies published between 1987 and 2005, Bellini and Akullian (2007) concluded that video modeling could be successfully used to target social-communication skills, functional skills, and behavioral functioning. Specific areas successfully addressed in research include social skills (e.g., Bellini, Akullian, & Hopf, 2007), play behavior (e.g., Reagon et al., 2006), conversation skills (e.g., Wert & Neisworth, 2003), and self-help skills (e.g., Shipley-Benamou, Lutzker, & Taubman, 2002). Very few studies have addressed behavioral functioning; however,

these studies have examined problem behavior and off-task behavior with promising results (Bellini & Akullian, 2007).

In addition, Charlop-Christy, Le, and Freeman (2000) found that video modeling is more effective than in vivo modeling for children with ASD. They planned both video and in vivo modeling interventions for five children ages 7-11 with ASD with varying degrees of severity and compared the results. In four out of five children, video modeling facilitated faster acquisition of skills. All children were able to generalize the skills taught using video modeling, whereas none of the children were able to generalize the skills taught using in vivo modeling.

A variety of theories have been presented to explain why video modeling is successful for many students with ASD. According to McCoy and Hermansen (2007), the visual nature of this strategy helps students with ASD to find an appropriate frame of reference for their behavior in a given context. Video modeling may help individuals with ASD to circumvent their difficulties with imitation and incidental learning, of which the inability to attend to relevant stimuli may be a contributing factor. Charlop-Christy et al. (2000) suggest that video modeling may help children with ASD to compensate for stimulus overselectivity by facilitating their attendance to salient stimuli and cues in a given situation. In addition, video modeling may reduce anxiety related to social interactions, thereby enabling an individual to attend more closely to relevant stimuli or cues (Bellini & Akullian, 2007).

Buggey (2007) suggests that VSM in particular is effective because the individual's central role in the video sequence builds confidence and is highly motivating. Charlop-Christy et al. (2000) also posit that video modeling may improve

motivation, proposing that the method itself is intrinsically reinforcing to some children with ASD. Individuals with ASD may find video modeling reinforcing because of inherent social deficits; for example, many children with ASD appear to attend and relate to objects more than people, suggesting that perhaps it is easier for some children with ASD to attend to a video rather than to an in vivo model (Charlop-Christy et al.). Bellini and Akullian (2007) also propose that children with ASD for whom watching videos is a highly preferred activity may be especially motivated by video modeling.

As mentioned above, video modeling combines two highly effective interventions, visual cues and modeling. The incorporation of visual cues in instruction builds on the strengths of students with ASD. Bellini and Akullian (2007) cite evidence that video modeling may be particularly effective with students who are visual learners. The addition of the video component adapts the evidence-based and widely used strategy of modeling for the unique needs of students with ASD.

Although many studies show that video modeling can be a useful tool for teaching students with ASD, it is not always successful or the best option for intervention. Dowrick (1991) cautions that video modeling may not always be developmentally appropriate, and that students must be assessed on an individual basis to determine if video modeling would be a worthwhile avenue to explore. Bugghey (2007) also suggests that some students may not have the cognitive ability or attention skills necessary to participate in video modeling, citing two cases in which adolescents with severe autism and pronounced perseverative and self-stimulatory behavior were unable to benefit. In addition, McCoy and Hermansen (2007) found that limited success could also be related to a dearth of non-verbal imitation skills.

As part of their meta-analysis, Bellini and Akullian (2007) applied the standards of the Council for Exceptional Children Division for Research to the 23 studies they examined and determined that video modeling meets the criteria for evidence-based practices. Because video modeling can be considered an evidence-based practice, its use in the school environment is justified and provides an effective tool for instruction and intervention. In addition, video modeling is also useful in the school environment because it provides positive behavior supports. Dowrick (1991) emphasizes that VSM in particular builds confidence and encourages positive behavior by showing students that they are capable of success. In contrast, studies in which negative behavior is included as a contrast to positive behavior documented meager results (McCoy & Hermansen, 2007).

Video modeling is also promising in the school environment because of its cost-effectiveness and the ease with which it can be implemented. In their comparison of video and in vivo modeling, Charlop-Christy et al. (2000) analyzed the expenses associated with both methods and found that video modeling is consistently and substantially more cost-effective than in vivo modeling. In addition, they also analyzed the time needed to execute both methods and concluded that the amount of time needed for video modeling was substantially less than the amount of time needed for in vivo modeling (Charlop-Christy et al). The most challenging aspect of video modeling is the technical savvy needed to record and edit video sequences. However, the necessary tools are widely available (Buggey, 2007) and software is relatively easy to learn. Although video modeling is extremely effective in terms of cost and use of time, Buggey (2007) suggests that it may not always be used because of discomfort with the necessary technology.

While research supports the use and effectiveness of video modeling as an evidence-based practice, there are still many aspects of the method that need to be examined and clarified. No studies to date have examined whether pre-intervention abilities to attend and imitate affect the student's ability to benefit from video modeling (McCoy & Hermensen, 2007). There is also a paucity of information regarding why video modeling is motivating for children with ASD (Bellini & Akullian, 2007). In addition, video modeling is often combined with other methods, and more studies are needed to determine the efficacy of video modeling without the addition of other strategies (Bellini & Akullian, 2007; McCoy & Hermensen, 2007). Finally, more information is needed about what specific aspects of video modeling lead to the best outcomes and what characteristics of individuals with ASD may be indicators that video modeling may be an effective intervention.

Video modeling holds much potential as an evidence-based intervention that promotes that acquisition, maintenance, and generalization of a variety of skills and behaviors in students with ASD. More research is needed to determine why video modeling is effective, under what circumstances it leads to favorable outcomes, and which individuals with ASD may benefit most from its use. However, it is a promising strategy from which many different individuals with ASD have been demonstrated to achieve substantial benefit, and it should be readily considered in the school environment.

In my opinion, video modeling is a promising practice that I would consider implementing with students with ASD. Video modeling may assist many individuals with ASD with varying skill levels and cognitive abilities to acquire, maintain, and generalize a variety of skills, which gives me confidence that exploring its uses would be

an effective use of my time as a teacher. In addition, its status as an evidence-based practice for students with ASD validates its use in the classroom. Considering the paucity of evidence for the effectiveness of many interventions for students with ASD, video modeling should be considered by any teacher working with children and adolescents with ASD. In addition, the number of studies that demonstrate the effectiveness of video modeling in conjunction with other interventions demonstrates that video modeling can be used as part of a comprehensive behavior intervention plan. Also, its highly individual nature enables effective individualization to meet the unique needs of children with ASD. Although much remains to be learned about why it works and how it can be made more effective, the considerable and varied research demonstrating the success of video modeling gives me confidence that it should be considered and can be used as a method of instruction in the classroom for students with ASD.

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