Video Modeling/Video Self-Modeling

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Definition

Video modeling is the use of video to instruct an individual on desired skills or behaviors by viewing someone demonstrating those skills or behaviors. The video model can take several forms including watching an adult, peer, oneself (also known as video self-modeling), or an animation. This instructional approach is designed to teach new or improve existing skills or behaviors. Video modeling is also used to replace or eliminate challenging or nonproductive behaviors. All behavior viewed on a video model is positive modeling of what should be done versus what should not be done. Inappropriate behaviors or observed errors are removed from the videos. Video modeling helps focus an individual’s attention on the most relevant behaviors in the video so that with practice and rehearsal the individual learns and demonstrates the targeted behavior modeled (Prelock 2006; Prelock et al. 2011). Video modeling helps an individual translate and generalize what they learned in a video-modeling session to skill acquisition in many aspects of daily life (Charlop-Christy et al. 2000; Shipley-Benamou et al. 2002).

Historical Background

Bandura’s (1969) early work on social learning theory and the power of modeling to support learning as well as Dowrick & Dove, (1980) research on video modeling, including video self-modeling, provides the underlying historical framework for using video models and video self-models to increase positive behaviors. In fact, in the early 1970s, video self-modeling was used as an intervention strategy to support the learning and behavior of individuals with developmental disabilities. With the ongoing work of Marjorie Charlop-Christy, Scott Bellini, and Tom Buggey, interest in video modeling and video self-modeling as viable intervention strategies for children with ASD has grown. Positive outcomes have been reported for increasing play behavior, greetings, answering and asking questions, conversation language, and perspective taking and self-help skills, to name a few. With rapid expansion of and increased access to video-editing software, the use of video modeling and video self-modeling is likely to see a dramatic increase.

Rationale or Underlying Theory

Video modeling is grounded in social learning theory (Bandura 1969) and the influence of models on observational learning. Bandura (1969, 1977) describes two underlying theoretical considerations that support the use of video...
modeling and, in particular, video self-modeling. He found that the most effective models were those who shared attributes (e.g., gender, age, race, ability – those slightly more advanced than the observer) with the observer. He also described self-efficacy or how confident one feels about carrying out a task as critical to learning success. Video self-modeling is built on both of these theoretical foundations in that individuals observe themselves carrying out tasks with success. Since it is often difficult for individuals with autism to focus their attention, the use of video that highlights relevant stimuli facilitates an individual’s attention on what is most important for learning to occur (Prelock 2006). Video is also less socially threatening, does not require immediate responses, allows for repeated viewings, and focuses on the visual strengths frequently reported for children with ASD (Grandin 2006). Further, video self-modeling might affect memory. Kehle et al. (2002) propose that children viewing themselves performing positive behaviors might supplant their memories of inappropriate behaviors. Additional research is needed to more carefully examine each of these perspectives as an explanation of why video modeling and video self-modeling appear to lead to behavior change.

Goals and Objectives

Several goals have been addressed using video modeling. Much of the research has focused on facilitating social skills including emotion recognition (Golan and Baron-Cohen 2006); time engaged during play (Bellini et al. 2007); conversational speech, spontaneous greetings, labeling emotions, and perspective taking (Charlop and Milstein 1989; Charlop-Christy et al. 2000; Charlop-Christy and Daneshvar 2003; LeBlanc et al. 2003); and other social language skills (Bugghey 2005; Maione and Mirenda 2006; Scattone 2008). Some recent efforts have investigated the use of video modeling to support academic tasks (Delano 2007). Communication goals that might be a focus for video modeling or video self-modeling include naming, responding to questions, asking questions, participating in reciprocal conversation, and improving prosody and intonation (Prelock 2006).

Treatment Participants

Video modeling appears to be an appropriate intervention across a range of developmental levels and ages. For children with ASD, the reported research focuses on children 3–15 years of age, although some researchers describe using video modeling with preschool children through older adults. Video modeling has been applied to children across the autism spectrum with varying cognitive and linguistic abilities (Bugghey 2005, 2012; Delano 2007; Sansosti and Powell-Smith 2008; Scattone 2008). Some evidence suggests that individuals with both severe autism and cognitive impairment may not benefit from video modeling, yet several researchers have reported positive outcomes for children with moderate to severe autism (Bellini et al. 2007; Bugghey et al. 1999; LeBlanc et al. 2003).

Treatment Procedures

There are several steps to consider in the implementation of video modeling. First, a decision needs to be made about the behavior to be targeted. This should be a team decision, and the targeted behavior should be operationally defined so that it can be observed, measured, and is specific to the individual with ASD (Charlop-Christy 2004; Prelock et al. 2011). A task analysis is completed next so that the individual steps for the video model can be itemized. This should be guided by observations of individuals who are typically developing, and input should be gathered from those who know the individual best (e.g., parents, teachers). It is important to incorporate a motivating theme in what is being modeled based on the particular interest of the child or individual with ASD.

Actors for video modeling can be familiar or unfamiliar adults or peers who are able to follow a script that has been outlined by the team. The actors for video self-modeling would include the
individual with ASD performing a task that is slightly beyond his/her current observed ability. Notably, there are two types of video self-modeling, feedforward and positive self-review. In feedforward, an individual is shown a video of himself/herself performing a new, developmentally appropriate behavior that the team hopes will facilitate forward movement in performing that behavior. Positive self-review includes the individual with autism performing a task he/she already knows how to do, so performance success can be reinforced, maintained, and generalized.

When preparing the video, actors should speak slowly and clearly, and target behaviors should be clearly observable and exaggerated when appropriate. The actors’ facial expression should be shown. There should be minimal distracters in the video so the individual can focus on the most relevant cues. When viewing the video, attention can be prompted by pointing and saying “watch” or “look.”

Following the video viewing, it is important to debrief with the individual, reviewing what was seen and heard, identifying the targeted language, noting the prosody and emotional expression of the models, and talking about variations in the scenarios (Charlop and Milstein 1989; Prelock et al. 2011). To support the child’s generalized use of the targeted behavior being modeled, all communication and interaction attempts should be encouraged and reinforced. The target behavior should be demonstrated about 75–80% of the time before determining acquisition, and at least two observations of the video should occur before learning acquisition is assessed (Charlop-Christy et al. 2000; Prelock et al. 2011).

**Efficacy Information**

Dowrick and colleagues first described the effectiveness of video modeling when they used this intervention to facilitate skill development in children with a variety of disabilities (Dowrick and Dove 1980; Dowrick and Hood 1981; Dowrick and Raeburn 1995). Charlop-Christy and her colleagues then applied video modeling to children with ASD (Charlop and Milstein 1989; Charlop-Christy and Daneshvar 2003; Charlop-Christy et al. 2000; LeBlanc et al. 2003). Over the last 25 years, research has investigated a variety of outcomes in the areas of communication, social, and academic skills following implementation of video modeling for children with ASD.

Spontaneous requesting (Wert and Neisworth 2003), recognizing emotions in speech and facial expressions (Corbett 2003), compliment giving, initiations and responses (Apple et al. 2005), and language production (Buggey 2005; Charlop-Christy et al. 2000), including responding to questions and making verbal requests (Buggey et al. 1999), asking questions (Charlop and Milstein 1989), and increasing conversational speech (Charlop and Milstein 1989; Charlop-Christy et al. 2000; Nikopoulos and Keenan 2003, 2004, 2007; Ogletree and Fischer 1995; Sherer et al. 2001), have all been reported as yielding positive communication outcomes following video modeling.

A variety of social skills have also been facilitated through video modeling, including play behaviors such as reciprocal play (Nikopoulos and Keenan 2003; Sancho et al. 2010), motor and verbal sequences (D’Ateno et al. 2003), independent play (Charlop-Christy et al. 2000), play-related comments (Taylor et al. 1999), and sociodramatic play (Dauphin et al. 2004; Nikopoulos and Keenan 2003) and more social engagement behaviors like complying, greeting and sharing (Simpson et al. 2004), spontaneous greeting (Charlop-Christy et al. 2000), and social initiations (Buggey 2005, 2013; Nikopoulos and Keenan 2004). Various aspect of theory of mind have been taught using video modeling including first-order false-belief tasks (Charlop-Christy and Daneshvar 2003) and other perspective-taking activities such as recognition of facial expressions, gestures, and intonation in the context of play (LeBlanc et al. 2003). In fact, Gena and colleagues (2005) found video modeling to be as effective as in vivo modeling in increasing affective responding (i.e., sympathy, appreciation, and disapproval) for preschoolers in the context of play with peers. Video-based group instruction was successful in increasing social initiations such as joining an activity and social awareness
such as asking about another person’s interest and offering assistance (Plavnick et al. 2013).

Academic classroom skills have also been supported through video modeling. Adolescents with ASD learned to solve math problems (Burton et al. 2013) after watching their successful performance. Preschoolers with ASD successfully increased their social communication in the classroom using either in vivo or video modeling (Wilson 2013).

When comparing the effects of live modeling to video modeling on increasing spontaneous greetings, conversational speech, play, comprehension following story reading, emotion recognition, and self-help skills, results favored video modeling which led to faster skill acquisition and better generalization and was more cost effective (Charlop-Christy et al. 2000). In addition, Sherer et al. (2001) found no differences between children watching themselves and children watching other children or adults when examining children’s ability to respond to and ask questions.

Video modeling appears to be an evidence-based intervention that supports generalized learning and skill maintenance (Prelock et al. 2011). A review of the literature suggests video modeling is a promising intervention to support social communication and functional skills (Ayres and Langone 2005; Bellini and Akullian 2007). In fact, the National Standards Project (National Autism Center 2009, 2015) describes modeling, including video modeling, as an established intervention that increases communication, cognitive, social, play, and personal responsibility skills and decreases problem behaviors for children ages 3–18 on the autism spectrum. Additional research is needed to examine the impact of video modeling on children with more limited verbal and cognitive abilities.

**Outcome Measurement**

There are no specific tools or instruments suggested for measuring treatment outcomes, although most clinical researchers using this method suggest that a functional behavior assessment should occur prior to implementation to determine the targeted behaviors (Sturmey 2003), data collection should follow a single-subject design approach (Kazdin 1982), and curriculum-based measurements should be considered in assessing effectiveness across contexts (Salvia and Hughes 1990). Following these recommendations, baseline rates of behaviors should be documented and then tracked through intervention and maintenance. Graphic representations can also be made to display visual evidence of change. Charting progress on targeted behaviors is also possible through curriculum-based measurements if team members are examining change in the context of the classroom as compared to the performance expected of other students in the classroom. Parents can have a critical role in the measurement of outcomes, particularly if the desired behaviors are primarily observed in the home, although documenting generalization of behaviors across home and school settings is ideal.

**Qualifications of Treatment Providers**

There is no specific training required to implement video modeling other than being familiar with the equipment and software used to create and edit the video models or video self-models. Models require the basic skills to act out a predetermined script that is targeting the desired behavior. Parents, teachers, speech-language pathologists, and other related service providers may be required to take on primary responsibility for planning and editing the videos or particular aspects of the video depending on the targeted behaviors and the requirements for language, engagement, physical positioning, behavior, etc.

**See Also**

- Modeling
- Self-Recognition
- Social Skill Interventions
- Video Instruction
References and Readings


National Autism Center. (2009). National Standards Project, Phase 1: Addressing the need for evidence-based...