

Video Technology and Persons with Autism and Other Developmental Disabilities:

An Emerging Technology for PBS



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Video is a novel and expanding technology for positive behavioral support. Because it is acceptable and widely used by typical adults and children for leisure, educational, and business activities, it has considerable potential as an effective, socially acceptable form of support.

The use of video technology can lead to a range of positive social, language, and academic outcomes for children with a variety of disabilities. It may be used in a variety of ways as an educational intervention. Videos may present peer, self-, or adult models of appropriate social and language behavior. Observing a videotape of correct performance can also be used as a correction procedure. Video technology also has the potential to promote stimulus control of appropriate child behavior through non-social stimuli, thus freeing the child from reliance upon prompts from other people. Finally, video technology can be incorporated as one element within a broad package of positive behavioral support for children with disabilities.

In this special section we expand on previous uses of video technology by addressing new behaviors, such as perspective taking; independent, cooperative, and imaginative play; spontaneous requesting; and academic skills. Charlop-Christy and Daneshvar present an interesting study of the use of video technology in teaching perspective taking to children with autism spectrum disorders. In their theory of mind, Baron-Cohen and Swettenham (1989) posited that children with autism have an inherent deficit in understanding the thoughts and feelings of others. They believed that these deficits reflect abnormalities in putative cognitive structures residing in as yet undetermined regions of the brain. Interventions based on theory of mind have had only limited impact on teaching these skills (e.g., Swettenham, 1996). Theory of mind presents an interesting challenge to behavior analysis. It describes subtle social

behaviors and more complex kinds of performances that behavior analysis has generally not previously addressed. Theory of mind requires that behavior analysis account for these behaviors (Spradlin & Brady, 1999).

D'Ategnò, Mangiapanello, and Taylor address how to increase imaginative play in a child with autistic disorder. They demonstrate that video modeling by an adult was effective at teaching a variety of imaginative play behaviors, such as having a tea party, to this child. There are at least two significant aspects of this study. First, the child learned to engage in extended periods of pretend play without programmed prompting, correction, or reinforcement from another person. Second, the child learned to do this by watching a 5-minute videotape 1 hour prior to the play session. This suggests that this technology has considerable applied potential. Many parents and teachers long for a simple technology that could promote extensive periods of appropriate behavior without the need for intervention from other people. They would regard such behavior as an important sign of maturity and independence in a child with autism. Two additional noteworthy features of this study are that, as with the Charlop-Christy and Daneshvar study, imaginative play is often seen by Theory of mind as an observable symptom of unobservable cognitive deficits. D'Ategnò et al. suggest that imaginative play can be effectively taught using simple video modeling. Another important aspect of this study is the programming of nonsocial stimuli to promote appropriate behavior in children with autism (cf. McClannahan & Krantz, 1997).

Charlop-Christy and Daneshvar address the following questions: What observable behaviors reflect supposed deficits related to Theory of mind? What environmental stimuli control these behaviors? How can they be taught? Charlop-Christy and Daneshvar demonstrate that video

modeling can be an effective intervention to teach perspective taking to children with autism. They also show considerable generalization across stimuli, whereas previous research (Swettenham, 1996) has reported very limited generalization. This article has a number of important implications: First, theory of mind skills can be readily conceptualized in behavior analytic terms. Second, with careful attention to intervention design and the materials used, theory of mind skills can be taught using behavior analytic methods. Charlop-Christy and Daneshvar report variable outcomes, however. One child acquired only three of five tasks, and relatively little stimulus generalization occurred. It appears that although perspective taking can be taught using video modeling, further development of this technology is needed to effectively address perspective taking in all children with autistic disorders.

Kinney, Vedora, and Stromer report on a novel application of video technology—teaching generative spelling to a child with autism using video modeling and video reinforcement. They describe the development of effective and efficient teaching strategies for a girl with autism who did not respond well to teaching from adults. Although she had learned initially to read and spell some simple words with video technology, she did not participate in regular sessions to teach her spelling. Building on her interest in computers, Kinney et al. developed novel and ingenious instructional technologies to provide models for correct spelling and to use the computer to provide motivation for correct spelling. An interesting aspect of this study is the use of matrices of initial word consonants and word endings to generate words, some of which could be explicitly taught and others of which could be used to probe for generalization. Through careful design of the instructional materials, Kinney et al. were able to demonstrate the development of generative spelling to many new words that had not been explicitly taught. Through the use of careful follow-up data and of data from home and school, they were also able to demonstrate meaningful change in the child's spelling abilities in multiple settings and over prolonged periods of time.

Wert and Neisworth present an evaluation of video self-monitoring to teach children with autistic disorder to self-initiate social interactions with peers. Video self-

monitoring consists of taking a videotape of the study participant and editing that videotape to develop a video model of the child's own appropriate behavior. As with the D'Ateno et al. study, Wert and Neisworth's procedure included a gap of approximately 1 hour between playing the videotape and collecting data. Interestingly, they played the videotape at home but collected the data at school. Their results indicated that video self-monitoring was very effective in increasing spontaneous requesting by all four participants in their study. These effects were maintained during a brief maintenance phase.

These four articles demonstrate that video technology can be a powerful tool for teaching appropriate social behavior, independent play, and academic tasks to children with autistic disorder. The range of target behaviors and different methods by which this technology was successfully used attests to its robustness as an approach for supporting appropriate behaviors in children with autism.

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