VIDEO MODELING

CHARACTERISTICS OVERVIEW CHART

<table>
<thead>
<tr>
<th>Verbal Skills</th>
<th>Grade Levels</th>
<th>Cognitive Level</th>
<th>Areas Addressed</th>
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<tbody>
<tr>
<td>☑ Nonverbal</td>
<td>☑ PK</td>
<td>☑ Classic</td>
<td>☑ (Pre)Academic/Cognitive/Academic</td>
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<tr>
<td>☑ Mixed</td>
<td>☑ Elementary</td>
<td>☑ High Functioning</td>
<td>☑ Adaptive Behavior/</td>
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<td>☑ Verbal</td>
<td>☑ Middle/High</td>
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<td>☑ Daily Living</td>
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<td>☑ Behavior</td>
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<td>☑ Communication/Speech</td>
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<td>☑ Social/Emotional</td>
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BRIEF INTRODUCTION

Video modeling combines the concept of modeling and video demonstration as visual cues. Video modeling has proven to be an effective strategy for individuals with autism (AU) (Bellini & Akullian, 2007).

DESCRIPTION

Video modeling is a teaching method used to promote desired behavior and interactions. Using this approach, the student observes a video of a peer, adult, or himself engaging in a targeted behavior. Video modeling is also very useful when the student has mastered individual skills but does not know how to combine them. For example, a child may know the individual steps required to put on his coat but not know how to combine them to perform this task himself. Video modeling can be used across many areas, such as self-help skills, communication skills, social behaviors, or academic behaviors.
The basic concept of video modeling is learning through observation. One of its benefits is that a student can learn without actually being in the various situations. Examples of video modeling include:

- Purchasing items at a store
- Communication skills (e.g., complimenting, greeting, or socially initiating words)
- Washing hands
- Playing with others
- Getting lunch
- Using a microwave oven
- Following a teacher’s directions
- Making a sandwich

**STEPS**

The following steps are used when implementing video modeling:

1. Determine the target behavior
2. Decide who should demonstrate the behavior on the video – self, adult, or peer
3. Set up the scenario to be videotaped
4. Videotape the scene
5. Show the video to the student and discuss the behavior portrayed
6. Encourage the student to practice the behavior she saw on the videotape

**BRIEF EXAMPLE**

Luke, a seventh-grade student with classic AU, had only used the bathroom accompanied by adults. His educational team and parents wanted Luke to learn to independently go into a bathroom at school or on a community outing.
Mr. Johnson, the resource teacher, decided to use video modeling to teach Luke how to use the men’s bathroom and the unspoken rules that apply. He created a scenario to videotape about the dos and don’ts related to the boys’ bathroom, including choosing the correct urinal or stall, manners while using a urinal, flushing the urinal, and washing and drying hands appropriately. He recruited peers who could demonstrate those behaviors based on the scenario and made the video. Then he introduced the video to Luke and subsequently replayed it on a daily basis. Luke and Mr. Johnson practiced going to a bathroom. In addition, a copy of the videotape was sent home, and Luke’s father agreed to teach Luke about male bathroom manners in their community, such as at the grocery store, mall, and the community library.

TIPS FOR MODIFICATION

Video modeling can be used with social scripts or Social Stories™ to teach social behaviors or situations. It can also be effective for introducing daily schedules or activities. PowerPoint™ is another useful tool in which video and a written script can be embedded.

SUMMARY

Video modeling is an effective visual strategy for teaching behaviors or skills to students with autism. Peers, adults, or the learners themselves can serve as models on the video. This strategy can be applied to various behaviors across multiple settings.

RESEARCH TABLE

<table>
<thead>
<tr>
<th>Number of Studies</th>
<th>Ages (year)</th>
<th>Sample Size</th>
<th>Area(s) Addressed</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>48*</td>
<td>2-20</td>
<td>150</td>
<td>Social behavior, communication, social orienting, eye contact, conversation skills, toilet training, play and social skills, social sequences, social language, task engagement, social understanding, perspective-taking, purchasing skills, prevocational/vocational skills, classroom rules, pretend play, letter recognition</td>
<td>+</td>
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</tbody>
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*Note: Includes studies cited in integrated review of literature conducted by McCoy & Hermansen (2005), Rayner et al, (2009) and Want & Spillane (2009).
STUDIES CITED IN RESEARCH TABLE

   Three elementary aged students with autism (ages, 9, 9, and 7) participated in an evaluation of video modeling as well as computer based simulation training in absence of any direct instruction. The participants each mastered all the skills they were taught via the computer and generalized this to the natural environment. They maintained the skills after a two-week follow up.

   In this study, the authors used a single-subject multiple-baseline design across four preschool children with autism to determine if video self-modeling would facilitate their social initiations during playground time. The results were mostly positive, with two children exhibiting major treatment effects, one with questionable results, and one child being unaffected.

   Four young adults with autism (16 to 21) and cognitive challenges participated in a study to determine whether video of self or video of others would aide in teaching prevocational and vocational skills. Results were equivocal with no overall pattern of response.

   Two 5-year-old boys participated in a study that used video self-modeling to teach classroom rules. The boys learned the rules and maintained them after the intervention ended.

   The purpose of the present study was to use video modeling to teach two children with autism (5, and 7 years) to engage in reciprocal pretend play with typically developing peers. Scripted play scenarios involving various verbalizations and play actions with adults as models were videotaped. Two children with autism were each paired with a typically developing child. Results indicated that both children with autism and the typically developing peers acquired the sequences of scripts and play actions quickly and maintained
this performance during follow-up. In addition, the children with autism increased in overall verbalizations, reciprocal verbal interactions and cooperative play.

Peer video modeling was compared to self-video modeling to teach three children with autism, ages 4 and 9 year, to identify or label novel letters. All participants met the mastery criterion in the self-modeling condition, whereas only 1 of the participants met the mastery criterion in the peer-modeling condition.

Three children with autism (ages 7 to 9) participated in a study to determine whether video modeling was effective in teaching them to put away toys. The results showed that this procedure can be effective for children with low levels of disruptive behaviors and more developed imitation skills. Successful responding generalized and was maintained at a 1-month follow-up assessment.

This study reviewed studies on video modeling and suggested that additional research is needed to answer the following questions: (a) Can we predict which individuals with respond to video instruction? (b) Is first- or third person video perspective more effective? (c) Is self as model or other as model more effective? (d) Should video instruction be combined with other approaches?

The purpose of this study was to provide a synthesis of research studies published in the last ten years on interventions to increase social skills for children and adolescents with ASD, examine the outcomes of these studies and evaluate whether a given intervention meets the criteria for evidence-based practice. Thirty-eight studies were included in this review. While Social Stories™, peer-mediated, and video-modeling all met the criteria for evidence-based; only video-modeling meets criteria for being evidence-based as well as demonstrating high effectiveness as an intervention strategy. (11 studies for Video Modeling. These studies are already included in this listing).

A 5-year-old child with autism and limited verbal skills participated in this study. He was exposed to short daily sessions of watching his parents on video in conjunction with an FM auditory trainer for a period of four weeks. Results indicated substantial gains in word productions, social orienting, and increased eye contact.


A 9-year-old boy with Asperger Syndrome participated in a study that combined Social Stories™ with video modeling in an effort to enhance conversation skills. An increase in two out of three targeted conversation skills occurred, and generalized behavior changes were observed.


Two students with autism, aged 4 and 5, participated in the study, which was designed to examine the effectiveness of video self-modeling (VSM). The results showed the efficacy of the VSM intervention in improving social, communication, and behavioral functioning.


This study sought to determine the effectiveness of presenting videotaped emotions and Social Stories™ to teach a 9-year-old child with Asperger Syndrome to recognize and understand his emotions and to generalize them to other situations in his home. Data showed an improvement of the child’s ability to recognize emotions and understand their occurrence.


Five boys, aged 4 to 6, participated in the study, which was designed to assess the effectiveness of an animated toilet training video for teaching daytime urinary control across several settings. Results indicated that, for young children with autism who are resistant to toilet training, acquisition of urinary control may be facilitated by using an animated toileting video in conjunction with operant conditioning strategies.


Twenty-five 4- to 6-year-old children with autism were assigned to one of two social skills groups: a direct teaching group or a play activities group. The direct teaching group used a video modeling format to teach play and social skills over the course of the intervention, whereas the play activities group engaged in unstructured play during the sessions. Findings indicated that while members of
both groups increased prosocial behaviors, the direct teaching group made more gains in social
skills.

Two girls, aged 2 and 3, participated in the study, which was designed to evaluate the
effectiveness of video modeling in teaching selected toy-play skills. The results indicated that
video modeling was an effective tool for teaching toy-play actions to preschoolers with
autism.

This review of literature described the various types of video modeling: models using adults,
peers, self, point-of-view, and mixed models. All have been found to be effective.

prompting for establishing response chains. *Behavioral Interventions, 22,* 147-152.
Two boys with the diagnosis of autism (ages 8 and 9) participated in the study. The results
showed that the boys acquired skills taught with video modeling plus least-to-most prompting in
fewer trials and with fewer prompts than skills taught with least-to-most prompting alone.

sequences to children with autism. *Journal of Autism and Developmental Disorders, 37,* 678-
693.
Three children, aged 6 to 7, participated in this study, which was designed to teach complex
social sequences to children with autism. Results showed that this video modeling procedure
enhanced the social initiation skills of all children. It also facilitated reciprocal play
engagement and imitative responding of a sequence of behaviors in which social initiation
was not included. These behavior changes generalized across peers and maintained after a
one- and two-month follow-up period.

Two boys with autism, aged 6 and 7, participated in this study designed to examine the
effects of video modeling on generalized independent toy play. Video modeling produced
increases in appropriate play and decreases in repetitive play, but generalized play was
observed only with toys that were used in the video.

A 6-year-old boy with autism participated in a study designed to assess the effectiveness of
video modeling and video feedback. Video feedback and prompting were required in the
third activity to increase social language. Unscripted verbalizations predominated across all
three activities, as did initiations.

Two middle school students, aged 13 and 14, participated in this study. Task completion time was substantially decreased following the presentation of high-preference items and choice via a computer-based video program. Students’ time to complete three tasks decreased immediately following the introduction of the computer-based program.


A 4-year-old boy with autism and his older brother participated in a study using video modeling to teach them to engage in four pretend-play scenarios. The older brother acted in the video models with a typically developing peer. Both the participant and his sibling successfully engaged in the four scenarios during intervention as well as during maintenance and generalization probes conducted in their home.


Two children, age 5, participated in the study, which involved two experiments focused on teaching compliment-giving responses and initiations through video modeling with embedded rules for giving compliments in the place of additional procedures following video viewing. The results pointed to the effectiveness of self-management as a means by which to produce social initiations when video modeling alone fails.


Five students, aged 5 to 11, participated in a study designed to analyze the effects of video-taped modeling on children with autism across a variety of behaviors, including language, social initiations, tantrums, and aggression. The results indicated that all of the five participants exhibited immediate and significant gains and that those gains were maintained after cessation of treatment.


Three children, aged 3 to 5, participated in the study designed to compare the effects of video modeling to the effects of in-vivo modeling in teaching contextually appropriate affective responses. Both treatments – video modeling and in-vivo modeling – systematically increased appropriate affective responding in all response categories for the three
participants. Additionally, treatment effects generalized across responses to untrained scenarios, the child’s mother, new therapists, and time.

Two children, aged 4 and 7, participated in the study, which was designed to use video modeling to teach thematic pretend play skills. Results indicated that both children acquired the sequences of scripted verbalizations and play actions quickly and maintained this performance during follow-up probes.

Computer-based video instruction (CBVI) was used to teach a 17-year-old purchasing skills and verbal responses to questions presented by cashiers in fast-food restaurants. Results indicated that verbal responses to questions and fast-food restaurant purchasing skills can be taught to students with moderate to severe intellectual disabilities through CBVI.

Three boys, aged 9 to 11, participated in the study, which was designed to investigate the value of a videotaped self-modeling and self-monitoring treatment program. The results indicated considerable decreases in off-task behavior during the period of intervention. Both short-term and long-term maintenance gains were in evidence. When the intervention was re-implemented during follow-up, similar reductions in off-task behavior were demonstrated.

This study overviewed a case study of a preschool student with autism who was successfully taught to use multimedia activity schedules to initiate play with peers.

Three children, between 7 and 9 years of age, participated in a study designed to examine the effects of a video modeling intervention on social initiation and play behaviors. Each child watched a videotape showing a typically developing peer and the experimenter engaged in a simple social interactive play using one toy. For all children, social initiation and reciprocal play skills were enhanced, and these effects were maintained at one- and three-month follow-up.

Four children, aged 5 to 6, participated in a study designed to assess the effects of combining video and computer-based instruction to teach social skills. The teacher designed a computer-based program that embedded video clips of peers without disabilities displaying examples and non-examples of the targeted social skills: sharing, following teacher directions, and social greetings. All students showed rapid improvements in targeted social skills in the natural environment.


Three boys, aged 6 to 9, participated in a study using video modeling to teach perspective taking. Video modeling turned out to be a fast and effective tool for teaching perspective-taking tasks to children with autism, resulting in both stimulus and response generalization.


A 3-year-old girl participated in the study. Results indicated that the video modeling intervention led to rapid acquisition of both verbal and motor responses for all play sequences. This procedure was successful for teaching relatively long sequences of responses in relatively few teaching sessions in the absence of chaining procedures. In addition, the complex sequences of verbal and motor responses were acquired without the use of error-correction procedures or explicit experimenter-implemented reinforcement contingencies.


Three boys, aged 7 to 13, participated in a study designed to evaluate video modeling and reinforcement for teaching perspective-taking skills. Video modeling and reinforcement were effective; however, generalization was limited. The findings suggest that video modeling may be an effective technology for teaching perspective taking if researchers can continue to develop strategies for enhancing generalization of these new skills.


A video modeling procedure was implemented with seven children (aged 9-15) with autism. The video modeling training enhanced the social initiation skills of four of the children. It also facilitated appropriate play engagement, which generalized across settings, peers, and toys. Further, these changes maintained after a one- and two-month follow-up period. The intervention was evaluated as a time-efficient teaching tool as well as a means of enhancing appropriate play skills.

38. Shipley-Benamou, R., Lutzker, J. R., & Taubman, M. (2002). Teaching daily living skills to children with autism through instructional video modeling. *Journal of Positive Behavior Interventions, 4*, 165-175. Three children, aged 5 years old, participated in a study designed to measure the efficacy of an instructional video modeling technique to teach functional living skills. Videotapes were developed from the participant’s perspective; that is, as the participant would be viewing the task. Instructional video modeling was found to be effective in promoting skill acquisition across all three children and maintained during the post-video phase and a one-month follow-up.

39. Sherer, M., Pierce, K. L., Paredes, S., Kisack, K. L., Ingersoll, B., & Schreibman, L. (2001). Enhancing conversation skills in children with autism via video technology: Which is better, “Self” or “Other” as a model? *Behavior Modification, 25*, 140-158. Five male children with autism ranging in age from 4 to 11 were taught to answer a series of conversation questions in both self- and other video-modeled conditions. Results indicated no overall difference in rate of task acquisition between the two conditions, implying that children who were successful at learning from video in general learned equally well via both treatment approaches.

40. Thiemann, K. S., & Goldstein, H. (2001). Social stories, written text cues, and video feedback: Effects on social communication of children with autism. *Journal of Applied Behavior Analysis, 34*, 425-446. This study investigated the effects of written text and pictorial cueing with supplemental video feedback on the social communication of five students with autism and social deficits (aged 6-12). Results showed increases in targeted social communication skills when the treatment was implemented. Some generalized effects were observed across untrained social behaviors, and one participant generalized improvements within the classroom.

41. Charlop-Christy, M. H., Le, L., & Freeman, K. A. (2000). A comparison of video modeling with in-vivo modeling for teaching children with autism. *Journal of Autism and Developmental Disorders, 30*, 537-552. Five children, aged 6 to 7 years, participated in the study across two modeling conditions (video and in vivo [video in a specific context]) and across tasks. Results suggested that video modeling led to faster acquisition of tasks than in-vivo modeling and was effective in promoting generalization. Results were discussed in terms of video modeling’s motivational and attention-maintaining qualities.

Three raters conducted and videotaped play sessions in the homes of three children (aged 7-12) with autism. The results indicated that the participants almost doubled their rates of appropriate responding to questions during play situations.


The researchers developed an intervention that used Social Stories™ in a computer-based format to improve social or behavioral deficits of three male elementary-school students (aged 7-9) with autism. Results indicated that the intervention increased the skill levels of some of the participants in certain settings. Moreover, some students showed generalization of newly acquired information to other settings.


Two experiments were conducted to assess the effects of video modeling procedures to increase play comments in two males (aged 6 and 9) with AU. It was concluded that video modeling was an effective intervention for teaching children with AU to make play comments toward their siblings.


This study examined the utility of an instructional package that included self-assessment, behavior rehearsal, and self-modeling via videotape feedback as an approach to improving the task fluency of self-help skills of a 14-year-old boy with autism and a 15-year-old boy with developmental, learning, and speech disabilities, both of whom were receiving in-home training. Results demonstrated that the video instructional package (a) increased task fluency, (b) promoted generalized increases in task fluency to other tasks not exposed to the training, and (c) decreased co-varying, task-interfering behavior.


Three children, aged 8 to 9, participated in a study designed to evaluate the effects of a videotape instructional package (i.e., viewing videotapes, on-site prompting, and reinforcement) on the acquisition and generalization of children’s grocery-purchasing skills in community settings. After training in two stores, all students increased their level of performance in the third store. Results showed that the use of a videotape instructional package is an effective training tool to teach community survival skills.

Three boys with autism (aged 6 to 7) observed videotaped conversations of two people discussing specific toys. Subjects learned through video modeling, generalized their conversational skills, and maintained conversational speech over a 15-month period.


Three adolescents aged 20 participated in a study designed to test the effectiveness of videotape modeling as a means of promoting generalization across settings. Results showed that training with the videotapes resulted in generalization to three community stores. The use of videotapes is viewed as a cost-effective means to program generalization in community training programs.

REFERENCES


**RESOURCES AND MATERIALS**

- **Video Modeling.** Evidence-Based Practice Brief from the National Professional Center on Autism Spectrum Disorder: [http://autismpdc.fpg.unc.edu/content/video-modeling](http://autismpdc.fpg.unc.edu/content/video-modeling)
The NPDC has developed evidence-based practice (EBP) briefs for their identified EBP. Each brief contains an overview, step-by-step directions for implementation, implementation checklist, and evidence base.

- **Video Modeling.** Association for Science in Autism Treatment (ASAT): [http://www.asatonline.org/intervention/treatments/video.htm](http://www.asatonline.org/intervention/treatments/video.htm)
This site includes a brief description of intervention, a research summary and recommendation.

- **Video Proves Highly Effective for Teaching and Providing Positive Behavior Support for Persons with Developmental Disabilities:** [www.special-kids.com/videolearning.cfm](http://www.special-kids.com/videolearning.cfm)
This resource page includes brief articles on video modeling through different stages of development.

- **VideoJuG:** [http://www.videojug.com/](http://www.videojug.com/)
Self-proclaimed as “life explained on film,” this website offers thousands of videos on widely varying subjects. The user navigates through different topics and chooses a video to watch. Because of the broad range of topics and content, it is not recommended that young children use this site without adult supervision.
• Video Modeling: www.autismtaskforce.com/downloads/video_modeling_may_2006.pdf
  This brief description of video modeling also includes many resource ideas.

GENERAL RESOURCES

• Autism Internet Modules (AIM) www.autisminternetmodules.org
  The Autism Internet Modules were developed with one aim in mind: to make
  comprehensive, up-to-date, and usable information on autism accessible and applicable to
  educators, other professionals, and families who support individuals with autism spectrum
  disorders (ASD). Written by experts from across the U.S., all online modules are free, and are
  designed to promote understanding of, respect for, and equality of persons with ASD.
  Current modules are:
  o Assessment for Identification
  o Home Base
  o Peer-Mediated Instruction and Intervention (PMII)
  o Picture Exchange Communication System (PECS)
  o Pivotal Response Training (PRT)
  o Preparing Individuals for Employment
  o Reinforcement
  o Restricted Patterns of Behavior, Interests, and Activities
  o Self-Management
  o Social Supports for Transition-Aged Individuals
  o Structured Teaching
  o Structured Work Systems and Activity Organization
  o Supporting Successful Completion of Homework
  o The Incredible 5-Point Scale
  o Time Delay
  o Transitioning Between Activities
  o Visual Supports

• Interactive Collaborative Autism Network (iCAN) http://www.autismnetwork.org
  iCAN offers free online instructional modules on autism spectrum disorder (ASD). Modules
  have been developed in these areas:
  o Characteristics
  o Assessment
  o Academic Interventions
  o Behavioral Interventions
  o Communication Interventions
  o Environmental Interventions
  o Social Interventions

• Indiana Resource Center for Autism (IRCA) http://www.iidc.indiana.edu/irca/fmain1.html
The Indiana Resource Center for Autism staff’s efforts are focused on providing communities, organizations, agencies, and families with the knowledge and skills to support children and adults in typical early intervention, school, community, work, and home settings.

- IRCA Articles [http://www.iidc.indiana.edu/irca/ftrainpapers.html](http://www.iidc.indiana.edu/irca/ftrainpapers.html)
- IRCA Modules [http://www.iidc.indiana.edu/irca/fmodules.html](http://www.iidc.indiana.edu/irca/fmodules.html)

Texas Statewide Leadership for Autism [www.txautism.net](http://www.txautism.net)

The Texas Statewide Leadership for Autism in conjunction with the network of Texas Education Service center with a grant from the Texas Education Agency has developed a series of free online courses in autism. Please check the training page, [www.txautism.net/training.html](http://www.txautism.net/training.html), for update lists of courses, course numbers and registration information. Current courses include the following:

- Autism 101: Top Ten Pieces to the Puzzle
- Autism 101: Las 10 piezas principales del rompecabezas
- Asperger Syndrome 101 Online
- Asperger Syndrome 101 Online
- Navigating the Social Maze: Supports & Interventions for Individuals with Autism Spectrum Disorders
- Communication: The Power of Communication for Individuals with Autism Spectrum Disorders
- Communication: The Power of Communication for Individuals with Autism Spectrum Disorders