**Module: Video Modeling**

**Evidence-Based Practice Brief: Video Modeling**

This evidence-based practice brief on video modeling includes the following components:

1. **Overview**, which gives a quick summary of salient features of the practice, including what it is, who it can be used with, what skills it has been used with, settings for instruction, and additional literature documenting its use in practice
2. **Steps for Implementation**, detailing how to implement the practice in a practitioner-friendly, step-by-step process
3. **Implementation Checklist**, to be used to monitor fidelity of the use of the practice
4. **Evidence Base Summary**, which details the NPDC-ASD criteria for inclusion as an evidence-based practice and the specific studies that meet the criteria for this practice
Module: Video Modeling

Overview of Video Modeling


Video modeling is a mode of teaching that uses video recording and display equipment to provide a visual model of the targeted behavior or skill. Types of video modeling include basic video modeling, video self-modeling, point-of-view video modeling, and video prompting. Basic video modeling involves recording someone besides the learner engaging in the target behavior or skill (i.e., models). The video is then viewed by the learner at a later time. Video self-modeling is used to record the learner displaying the target skill or behavior and is reviewed later. Point-of-view video modeling is when the target behavior or skill is recorded from the perspective of the learner. Video prompting involves breaking the behavior skill into steps and recording each step with incorporated pauses during which the learner may attempt the step before viewing subsequent steps. Video prompting may be done with either the learner or someone else acting as a model.

Evidence

Video modeling meets evidence-based practice (EBP) criteria with eight single-subject studies.

With what ages is video modeling effective?

The evidence-based research suggests that video modeling can be effectively implemented with learners from early childhood through middle school. This practice may prove useful with high school age learners as well, though no studies were identified to support its use at this age level.

What skills or intervention goals can be addressed by video modeling?

In the evidence-based studies, the domains of communication, social, academic/cognition, and play were represented. It may be useful in the behavior domain as well; however, no studies were identified to support the use of video modeling in this domain.

In what settings can video modeling be effectively used?

In the studies that serve as the foundation for the evidence base, video modeling was implemented in home and school settings. This practice, however, may be useful anywhere there is learner access to viewing equipment.
**Module: Video Modeling**

**Evidence Base**

The studies cited in this section provide the basis upon which this practice was determined to meet the NPDC of ASD’s criteria as an evidence-based practice. This list is not exhaustive; other quality studies may exist but were not included.

**Preschool**


**Elementary and Middle School**


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Selected Additional References


Evidence Base for Video Modeling

The National Professional Development Center on ASD has adopted the following definition of evidence-based practices.

To be considered an evidence-based practice for individuals with ASD, efficacy must be established through peer-reviewed research in scientific journals using:

- **randomized or quasi-experimental design studies.** Two high quality experimental or quasi-experimental group design studies,
- **single-subject design studies.** Three different investigators or research groups must have conducted five high quality single subject design studies, or
- **combination of evidence.** One high quality randomized or quasi-experimental group design study and three high quality single subject design studies conducted by at least three different investigators or research groups (across the group and single subject design studies).

High quality randomized or quasi experimental design studies do not have critical design flaws that create confounds to the studies, and design features allow readers/consumers to rule out competing hypotheses for study findings. High quality in single subject design studies is reflected by a) the absence of critical design flaws that create confounds and b) the demonstration of experimental control at least three times in each study.

This definition and criteria are based on the following sources:


Module: Video Modeling

Using these criteria, the empirical studies referenced below provide documentation for supporting video modeling as an evidence-based practice. This list is not exhaustive; other quality studies may exist that were not included.

Preschool


Elementary and Middle School


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Steps for Implementation: Video Modeling

These steps for implementation were adapted from:


The implementation process for video modeling is similar for each type of video modeling strategy (i.e., basic video modeling, video self-modeling, point-of-view modeling, video prompting). Ten steps are outlined below which describe how video modeling is implemented with learners with ASD.

Step 1. Targeting a Behavior for Teaching

In Step 1, teachers/practitioners focus on identifying a behavior for the learner with ASD to acquire and then clearly describe it so that accurate data can be collected throughout the intervention process to monitor its effectiveness (Sigafoos et al., 2007).

1. Teachers/practitioners identify a target behavior that is important for the learner to be taught.

Target behaviors may include communication skills (e.g., requesting, giving compliments, initiating interactions with peers).

2. Teachers/practitioners define and describe the target behavior so that is observable and measurable.

Example of a non-observable behavior: “Mary will increase her social skills with peers.”

Example of an observable and measurable behavior: “Mary will initiate interactions with peers by saying, ‘Hi,’ at lunch and small group work time each day without prompting from adults.”

Step 2. Having the Correct Equipment

Teachers and other practitioners must have access to two basic pieces of equipment to implement video modeling techniques with learners with ASD: (a) something to make the video and (b) something to show the video (Sigafoos et al., 2007).

1. Teachers/practitioners acquire a video recording device (e.g., hand-held camera, computer technology).

Videos can be created by using any number of devices including (a) traditional video cameras, (b) hand-held or micro video cameras, or (c) digital cameras. Picking the right device will be based on resources that are available in schools and districts and budget constraints.
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2. Teachers/practitioners identify how the video will be played back (e.g., DVD, VCR, computer).

Two basic devices are used to show videos: (a) a TV with a video cassette player (VCP) or Digital Video Disk (DVD) or (b) a computer with a video player (e.g., Real Player, Apple Quick Time Player, Windows Media Player).

3. Teachers/practitioners are familiar with the equipment and are comfortable using it.

Teachers and other practitioners should practice using all equipment before implementing video modeling interventions with learners with ASD. This will ensure that the intervention is implemented as smoothly as possible.

Step 3. Planning for the Video Recording

In Step 3, teachers and other practitioners plan for the video recording by creating scripts that can be used during the taping process.

1. Teachers/practitioners write a script or task analysis detailing exactly what needs to be said and/or done on the video.

Creating a script or task analysis of the skill that is being taught is very important for video modeling. A script tells learners with ASD what they need to say or do during the taping process. A task analysis is helpful for breaking down a complex skill into a sequence of several behaviors (e.g., all the steps in learning how to make a bed, how to use a microwave oven). It should include a list of all of the steps needed to complete the target behavior (Sigafoos et al., 2007).

Step 4. Collecting Baseline Data

Before instruction takes place, it is important to identify skills that learners already have or how much of the target behavior they can do.

1. Learners complete as much of the skill as possible.

2. Teachers/practitioners collect baseline data to identify steps of the task analysis that the learner can complete without assistance.

Videos used during the intervention should be determined by baseline data. For example, if the learner already knows the first three steps in shoe tying, only the remaining steps could be included (Sigafoos et al., 2007).

Step 5. Making the Video

With this step, teachers/practitioners make the video that will be used to teach a specific skill during the video modeling intervention.
Module: Video Modeling

1. Teachers/practitioners identify the kind of video modeling that is appropriate for the learner (e.g., basic video modeling, video self-modeling, point-of-view modeling, video prompting) as well as the target behavior.

This may be determined by the type of task, skill, or behavior being taught. For example, if a behavior is already in the learner’s repertoire and the goal is for him to engage in the behavior more frequently or consistently, self-modeling may be the best choice. If the behavior or skill is not in the learner’s repertoire (i.e., he doesn’t know how to do it), then having someone else model the behavior would be most appropriate. For tasks or skills with many steps or learners who progress slowly, video prompting may be the best option.

Other questions to ask when determining the type of video modeling procedure to use include:

- Do you want to show the target behavior from the learner’s point of view or from a third person?
- If video modeling, who will be the model?
- If video self-modeling, how will you prepare the learner to be videotaped?

2. For basic video modeling, teachers/practitioners identify and prepare the model. For self-modeling, teachers/practitioners prepare the learner with ASD. Depending on the developmental and cognitive levels of the model, different teaching techniques may be used to prepare him/her. These may include providing a script, role-playing, breaking the task down into steps (i.e., task analysis), or modeling the desired behaviors. Sometimes, video can be recorded in real time (e.g., recording a student passing through a cafeteria line) and little preparation is necessary.

3. Teachers/practitioners record a video that is satisfactory in quality and accurately reflects the steps of the task analysis.

4. Teachers/practitioners edit the video and remove any errors and/or prompts.

Once the video is recorded, it may need to be edited to remove any errors, particularly for self-modeling, and also to remove prompts or added cues (beyond naturally occurring cues).

5. Teachers/practitioners complete voice-overs, if necessary.

Voice-overs may be used to further support the video and increase learner comprehension (Sigafoos et al., 2007). Voice-overs might include narration of the steps (e.g., “I wait in line. I use a spoon to take the food I want to eat.”) or to describe the target behavior (e.g., “Students in the hallway hold their books and do not hit other students.”).

Step 6. Arranging the Environment for Watching the Video

In this step, teachers and other practitioners arrange the environment so that learners with ASD can watch the video and learn how to use the target skill.
Module: Video Modeling

1. Teachers/practitioners identify the environment where the video will be watched, considering when and how it will be used within natural routines.

The following questions may be helpful when determining when and where the video modeling intervention will be implemented.

- How often and when will the video be shown?
- Where will the learning take place?

2. Teachers/practitioners ensure that the materials for the performance of the target behavior match those on the video.

Teaching should take place in the most natural setting and at times when the target behavior can be used in a functional way (e.g., making a sandwich at lunch time with the video being shown right before). It is important to use the same materials during the intervention as those that are used in the video (Sigafos et al., 2007).

Step 7. Showing the Video

In Step 7, teachers/practitioners show the video that demonstrates the use of the target behavior to learners with ASD.

1. Teachers/practitioners allow the learner to watch the video and provide prompts necessary to gain and/or keep attention.

Many learners with ASD will sit down and watch the video without prompting; however, some may need prompting to attend to and watch the video. Other learners may need continued prompts to focus on relevant video.

2. Teachers/practitioners allow the learner to watch the video an appropriate number of times before expecting the learner to use the target skill.

Teachers and other practitioners may have to show the video several times before asking the learner with ASD to use the target skills during classroom routines and activities.

3. For video prompting, teachers/practitioners stop the video after each step of the task analysis so the target skill can be performed by the learner.

When using video prompting, remember to stop the videotape after each step so that the behavior can be performed (Sigafos et al., 2007).

Step 8. Monitoring Progress

The focus of Step 8 is on monitoring learner progress to determine the effectiveness of the intervention.
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1. Teachers/practitioners collect data on the performance of the target behavior, noting the specific steps of the task learners were able to do independently.

2. Teachers/practitioners note how often and when the learner watches the video when using the target behavior.

Collect data on learner performance each time the target behavior is used and how often the learner refers to the video model when using the behavior.

3. If, after collecting data on three to five occasions, learners are not making progress, teachers/practitioners should begin troubleshooting (see Step 9). If learners are making progress, instruction is continued until they have reached maximum proficiency.

When collecting progress monitoring data, it is important to observe the trend. For example, is the learner making progress or is the learner’s use of the target behavior remaining the same? For most skills or behavior, if after collecting three to five data points, the learner does not seem to be making progress, refer to the troubleshooting hints in Step 9. Be careful not to alter or discontinue instruction too quickly, particularly for new and complex skills and behaviors. If learners are succeeding, continue instruction until they have reached maximum proficiency.

Maximum proficiency should be determined by the learner’s IEP goal; some learners may be working toward complete independence, others may by working toward chaining multiple steps together while being provided with visual prompts (e.g., a visual schedule). Once the learner is consistently using the target behavior, fade the use of prompting (as appropriate) and the video to promote maintenance of the behavior (Sigafoos et al., 2007).

Step 9. Troubleshooting if the Learner is Not Making Progress

In this step, teachers/practitioners adjust or change tactics to help learners with ASD acquire the target behavior if they are not making adequate progress.

1. Teachers/practitioners analyze the learner’s progress monitoring data to identify changes needed for the video modeling procedure.

First, progress monitoring data are analyzed to determine whether changes to the video modeling strategy are needed to improve learner progress (Sigafoos et al., 2007).

2. Teachers/practitioners adjust intervention tactics to help learners make progress by considering the following questions:

   a. Is the learner watching the video enough times per week?
   b. Is the learner watching the video, but not attending to the most relevant parts?
   c. Is the learner getting enough prompting from adults and/or peers to use the target behavior?
   d. Is the learner receiving the appropriate amount and type of reinforcement for performing, or attempting to perform, the target behavior(s)?
   e. Is the video too complex?
Module: Video Modeling

f. Does another task analysis need to be completed to make sure that the video includes the correct steps?

Does the learner have the skills (e.g., imitation, learn by observation) needed to benefit from video modeling?

3. Teachers/practitioners implement the adjustments to the video modeling procedures.

Step 10. Fading the Video and Prompting

1. Teachers/practitioners fade the use of prompting to encourage independent use and to promote maintenance of the target behaviors.

As in good teaching, prompts are faded once the learner shows progress or is able to use the target behavior consistently. The fading of prompts gives the learner the opportunity to independently use the target behavior in new situations and with different individuals.

2. Teachers/practitioners use one or more of the following procedures when fading videos:

   a. Delaying start/premature stop. By delaying the start of the video or ending it before it is over, less of the video is shown. When the amount of the video is gradually decreased, the learner sees less of the video modeling. This procedure is maintained if the learner continues to use the target behavior successfully. At a certain point, the video can be stopped entirely.

   b. Error correction. This procedure can be used if a learner continues to make mistakes with certain parts of the target behavior. Only the particular scene where the mistake has been occurring is played for the learner to rewatch and practice. For example, if a learner correctly performs all the steps in getting mail from the mailbox, except the step where he locks the mailbox, then the section of video that details locking the box would be the only piece shown.

   c. Scene fading. This technique involves gradually removing scenes or parts of the task from the video that the learner has mastered (Sigafoos et al., 2007).

3. Teachers/practitioners allow the learner to continue watching the video to some extent if it is appropriate, enjoyable for the learner, and supports the behavior.

Some learners may benefit from consistent watching of videotapes for long periods of time (e.g., weeks, months) because it is not only enjoyable for them, but the practice continues to support their success. The key is to individualize the viewing patterns for the learner.

Reference

**Module: Video Modeling**

Implementation Checklist for Video Modeling

The implementation checklist steps were adapted from:


**Instructions:** The Implementation Checklist includes each step in the process of implementing video modeling. Please complete all of the requested information including the site and state, individual being observed, and the learner’s initials. To assure that a practice is being implemented as intended, an observation is always preferable. This may not always be possible. Thus, items may be scored based on observations with the implementer, discussions and/or record review as appropriate. Within the table, record a 2 (implemented), 1 (partially implemented), 0 (did not implement), or NA (not applicable) next to each step observed to indicate to what extent the step was implemented/addressed during your observation. Use the last page of the checklist to record the target skill, your comments, whether others were present, and plans for next steps for each observation.

Site: ________________________________________    State: _______________________________

Individual (s) Observed: ________________________    Learner’s Initials: ____________________

**Skills below can be implemented by a practitioner, parent, or other team member**

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### Planning (Steps 1 – 6)

**Step 1. Targeting a Behavior for Teaching**

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1. Identify a target behavior that is important to be taught.

2. Define and describe the target behavior so that it is observable and measurable.

**Step 2. Having the Correct Equipment**

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1. Acquire a video recording device (e.g., handheld video camera, digital camera, computer technology).

2. Identify how the video will be played back (e.g., DVD, VCR, computer).

3. Become familiar with the equipment and comfortable using it.

**Scoring Key:** 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable
**Module: Video Modeling**

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**Step 3. Planning for the Video Recording**

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<tr>
<td>1. Write a script or task analysis detailing exactly what needs to be said and/or done on the video.</td>
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**Step 4. Collecting Baseline Data**

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<td>1. Learners complete as much of the skill as possible.</td>
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<td>2. Collect baseline data to identify the steps of the task analysis that the learner can complete without assistance.</td>
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**Step 5. Making the Video**

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<td>1. Identify the kind of video that is appropriate for the learner (e.g., video modeling, self-modeling, point-of-view modeling, video prompting), based on the learner’s skill level and preferences, as well as the target behavior.</td>
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<td>2. Prepare the model (with basic video modeling) or the learner (with self-modeling) for the video.</td>
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<td>3. Record a video that is satisfactory in quality and accurately reflects the steps of the task analysis.</td>
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<td>4. Edit the video and remove any errors and prompts.</td>
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<td>5. Complete voice-overs, if necessary.</td>
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**Step 6. Arranging the Environment for Watching the Video**

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<td>1. Identify the environment where the video will be watched, considering when and how it will be used within natural routines.</td>
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**Scoring Key:** 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable
### Module: Video Modeling

#### Step 6. Arranging the Environment for Watching the Video (cont.)

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2. Ensure that the materials for the performance of the task match those on the video.  

**Score**

#### Intervention (Step 7)

**Step 7. Showing the Video**

1. Allow the learner to watch the video and provide prompts necessary to gain and/or keep attention.

2. Allow the learner to watch the video an appropriate number of times before expecting the learner to use the target behavior.

3. For video prompting, stop the video after each step of the task analysis so the target behavior can be performed by the learner.

#### Progress Monitoring (Steps 8-10)

**Step 8. Monitoring Progress**

1. Collect data on the performance of the target behavior, noting the specific steps of the task learners were able to do independently.

2. Note how often and when the learner watches the video when using the target behavior.

3. If after collecting data on three to five occasions, learners are not making progress, begin troubleshooting (see Step 9). If learners are making progress, instruction is continued until they have reached maximum proficiency.

**Scoring Key:** 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable
**Module: Video Modeling**

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**Step 9. Troubleshooting if the Learner is Not Making Progress**

1. Analyze the learner’s progress by monitoring data to identify changes needed for the video modeling procedures.

2. Adjust intervention tactics to help the learner make progress by asking:
   a. Is the learner watching the video enough times per week?
   b. Is the learner watching the video, but not attending to the most relevant parts?
   c. Is the learner getting enough prompting from adults and/or peers to use the target behavior?
   d. Is the learner receiving the appropriate amount and type of reinforcement for performing, or attempting to perform, the target behavior(s)?
   e. Is the video too complex? and
   f. Does another task analysis need to be completed to make sure that the video includes the correct steps?

3. Implement the adjustments to the video modeling procedures.

**Scoring Key:** 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable
# Module: Video Modeling

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## Step 10. Fading the Prompting and the Video

1. Teachers/practitioners fade the use of prompting to encourage independent use and to promote maintenance of the target behavior.

2. Teachers/practitioners use one or more of the following procedures when fading videos:
   a. delaying start/premature stop,
   b. error correction, and
   c. scene fading.

3. Teachers/practitioners allow the learner to continue watching the video to some extent if it is appropriate, enjoyable for the learner, and supports the behavior.

**Scoring Key:** 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable

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### Module: Video Modeling

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Video Modeling: Implementation Checklist
National Professional Development Center on ASD
10/2010