



Citation: Rao, K., Hitchcock, C., Boisvert, P. & Kilpatrick, E., Corbeill, C. (2012). Do it yourself: Video self modeling made easy. *Teaching Exceptional Children*, 45(1), 8. Retrieved from <http://www.cec.sped.org/Publications/CEC-Journals/Teaching-Exceptional-Children/TEC-Plus/Video-Self-Modeling-Made-Easy>



## Do it Yourself: Video Self Modeling Made Easy

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Elaine, a tutor, and Carlo, a fourth-grader, sit together at a table with a laptop. They discuss the book that Carlo is about to read, which Carlo chose from a set of preselected books at his instructional level. Elaine and Carlo discuss the cover of the book before starting to read, then they read a few pages in unison. After 2 minutes of unison reading, Elaine reaches over to the laptop, hits a button, and starts recording the rest of their tutoring session on video.

When Carlo first sat down at the table, Elaine ensured that the laptop's camera had him in the center of the frame. She placed an external microphone connected to the laptop on the desk, in order to pick up Carlo's voice more clearly than the computer's built-in microphone.

Elaine records Carlo as he echo-reads the passage they just read in unison. Elaine reads a sentence, modeling pace and prosody, and Carlo reads the sentence after her. When Carlo stumbles on a word, Elaine says "let's try that one again," and models the sentence for him again—this gives Carlo a chance to read each sentence without errors. After echo reading the passage, Elaine stops the video recording and asks Carlo to reread the passage aloud independently. When he finishes reading, she praises his efforts and asks him a few questions to check his comprehension. They play a short "memory game" to reinforce new or challenging vocabulary. After Carlo goes back to class, Elaine spends about 15 minutes editing the video that was recorded during the echo reading portion of the tutoring session.

Video modeling (VM) and video self-modeling (VSM) are two methods to support the development of target skills or behaviors. With VM, the target student watches a video of a peer performing a targeted skill or behavior. With VSM, target students watch themselves successfully performing a target skill or behavior. Studies have shown that both VM and VSM have positive outcomes on target skills and behaviors (Cihak & Shrader, 2009); individuals tend to be more engaged by videos of themselves and to learn self-efficacy in the process of making their VSM projects (Marcus & Wilder, 2009).

## Using Video Self Modeling to Support ...



In her efforts to help Carlo gain proficiency with reading fluency and comprehension, Elaine decided to use VSM. During her tutoring session with Carlo, she was able to create (by editing herself and repetition of troublesome passages out of the video) a video of Carlo fluently repeating each sentence.

Watching the video gives Carlo the opportunity to see himself reading with fluency, which he does not have when he reads independently. Carlo will watch these videos before each tutoring session over the next few weeks, and Elaine will make new videos as needed, portraying Carlo practicing reading fluency, comprehension and vocabulary at incrementally higher skill levels. (See Video 1 at “Do It Yourself: Video Self Modeling Made Easy,” <http://bit.ly/howtovsm>, for a video overview of Elaine and Carlo’s tutoring session click.)

### Technology Tools for VSM

In the past, VSM involved several complex technical steps. Teachers required resources such as video cameras and needed to possess the skills to edit video. These days, with cameras built into laptop computers, the technology to create simple videos is more easily accessed and commonly available. Readily available video editing software (e.g., iMovie for Macintosh computers and Microsoft’s Movie Maker) makes it possible to do quick rough editing; doing a basic edit of a video no longer requires a “technology expert.” With some training and a little practice, a teacher or tutor can edit a short video in less than half an hour.

In addition to built-in cameras on laptops, cameras built into mobile devices such as smart phones (e.g., iPhone) or tablets (e.g., iPad) can also be used to create VSM projects. Relatively inexpensive point-and-shoot video cameras also can capture the necessary action for a VSM project. The choice of which device to use for capturing video depends on the project:

\_\_\_ For a reading fluency video, a laptop’s camera is easy to use.

\_\_\_ For videos of a child practicing desired behavior, the cameras on mobile devices and tablets are small and portable—ideal for use in the natural settings where the action takes place.

The steps for implementing a VSM strategy are the same regardless of the video device used.

### Self Modeling, VSM, and Feedforward

The concept of self-modeling is based on Albert Bandura’s ideas about self-efficacy as a factor in behavioral change (Bandura, 1977), and the related notion that self-modeling provides the essential elements of self-efficacy. A key component of self-modeling is that students who see themselves successfully performing a skill or behavior can strengthen their belief in their capability to reach mastery of the skill or behavior. The visual image creates affective changes, increasing motivation to engage in and successfully undertake a task, eventually eliminating the need for the scaffold.

VSM projects can incorporate feedforward ( i.e., images of future mastery; Dowrick, Kim-Rupnow, & Power, 2006). In contrast to feedback, which focuses on past or present performance, feedforward is a depiction of future performance. A feedforward video depicts skills or behaviors not yet mastered, but which can be attained with assistance or scaffolding.

Filming the video provides a student with support—or a scaffold—to reach mastery. The video is edited so that its final version depicts the individual performing the skill independently.

In her use of VSM, Elaine first provided Carlo with a scaffold, by modeling fluent reading. The echo-reading process helped Carlo achieve his own fluent and error-free reading. While editing the video, Elaine removed the portions in which she could be heard reading each sentence. The final feedforward video depicted Carlo reading independently and fluently, providing images of future mastery of the target skill.

Characteristics of a VSM video with feedforward (Anderson & Dowrick, 2000)

Show only successful and independent performance of a skill beyond one's current ability.

Focus on one attainable skill; if the skill is complex, consider making a series of videos that demonstrate the sequence, step-by-step.

Show only positive images (e.g. with specific praise). In order to build confidence, avoid correcting errors.

Keep the video short. The most successful feedforward videos are about 2-3 minutes long.

## Using VSM for Academic and Behavioral Skills

VSM has been used for a variety of interventions targeting academic and behavioral skills. Several studies have examined VSM as a method to address communication and literacy skills (see Hitchcock, Dowrick, & Prater, 2003) and specific behavioral and social skills (Bellini, Akullian, & Hopf, 2007; Buggey, 2007; Shukla-Mehta, Miller, & Callahan, 2010). Researchers have also examined ways in which VSM can help students gain confidence (Greenberg, Buggey, & Bond, 2002.)

### Literacy Skills

Struggling readers have made significant gains in targeted literacy skills in various interventions that combined reading instruction and VSM (Dowrick et al., 2006; Greenberg et al., 2002; Hitchcock, Prater, & Dowrick, 2004). In 2000, the National Reading Panel (National Institute of Child Health and Human Development, 2000) identified five topic areas that children need to master to become proficient in reading: phonemic awareness, phonics, fluency, comprehension, and vocabulary. VSM projects can be designed to help students practice and gain confidence in these skill areas. VSM-based literacy interventions can be helpful for students who are not fluent readers, who have trouble with reading comprehension, and whose oral language and vocabulary skills are poor. VSM projects also can benefit students who have difficulty remembering sounds, have difficulty tracking, or have attention problems. The process of creating the videos provides practice with target skills, and the images of mastery on the resulting video helps students build confidence in their ability to read.

In her work with Carlo, Elaine is combining tutoring and VSM to target specific reading skills. In this type of intervention, the tutor or teacher coaches a student on components of reading (e.g., fluency, comprehension, and vocabulary) and creates videos of the student practicing these skills. In addition to increasing reading skill levels, another goal of this intervention is to help children gain confidence in their reading and to develop oral literacy skills. Several studies have shown gains for students with disabilities and for English language learners who struggled with reading (Hitchcock et al., 2003). These interventions have been effective in increasing phonemic awareness, vocabulary development, reading fluency, and comprehension.

### Behavioral Skills

VSM projects also have shown promise as an intervention to help students acquire behavioral and social skills. Creating a VSM project can provide authentic contexts for students to practice developmentally appropriate social skills and desired behaviors. The process of creating the video becomes a positive behavioral support, because the child performs the desired behaviors while making the video. For example, a VSM video for a child who has trouble sharing in class or interacting with peers can highlight situations where the child is interacting appropriately with classmates.

VSM has gained attention as a way to help students with autism spectrum disorders (ASD) acquire target behavioral skills. In a meta-analysis of 23 studies, Bellini et al. (2007) found VM and VSM effective in addressing social-communication skills, functional skills, and behavioral functioning in children and adolescents with ASD. Graetz, Mastroperi, and Scruggs (2006) suggested that "VSM may be most effective for students who are visual learners and are motivated by watching television" (p. 47). Researchers note that individuals with ASD often spontaneously imitate actions and memorize and repeat dialogues seen on video and television. VSM is a way to utilize and harness this natural proclivity towards engagement with video to achieve behavioral and instructional objectives (Nunes et al., 2010). Students who find social interactions challenging might also benefit from this type of intervention, as it does not require much

interaction and uses oneself as a model.

## Planning a VSM Project

To plan a VSM project, start by identifying the target skill or desired behavior. Then, determine how the skill or behavior will be depicted on video, giving consideration to what the “action” will be. Three other important considerations are (a) the scaffolds that the student will need to be able to perform the skill or behavior with mastery in the video, (b) where to film the video, and (c) who else (peers and/or teachers) will be involved.

If the target skill is a behavioral or social skill, it can be helpful make a short script or storyboard as part of the planning process. Social skills videos might feature the target student interacting with peers in appropriate ways. Videos depicting desired behaviors, functional, or social skills can be filmed in authentic contexts. If the child has to be prompted to do the desired skills, these scaffolds can be planned as part of the storyboard and edited out when the final video is made.

To measure the change in the student's targeted skills or behavior, incorporate steps to collect data for progress monitoring. Start by collecting baseline data and then collect intervention data before, during, and after the period when the child watches the video. For academic interventions, curriculum-based measures (e.g., words correct per minute) can be used for weekly progress monitoring. For behavioral interventions, it is important to identify behaviors that are observable and measurable (Banda, Matuszny, & Turkan, 2007). Data can be collected on changes in a number of dimensions, such as frequency, rate, or duration of behaviors as a result of a VSM intervention.

### Planning and creating a VSM project

Identify the target skill or behavior (e.g. reading fluency, how to share).

Develop a plan for filming a short 2-3 minute video; the plan can be a storyboard or script in some cases.

Determine what the “scaffolds” are (e.g. coaching provided by the teacher/tutor).

Videotape the student performing the target skill or behavior with scaffold; for some behavioral interventions, such as a video on “how to share,” it is appropriate to involve peers in the video in order for the student to be in an authentic interaction.

Edit the video, cutting out the portions with the scaffold.

Have the student view the edited video in which the target behavior is being successfully performed.

## Creating a Reading Fluency VSM Video

Elaine first started working with Carlo because, although he was motivated to read, he needed additional practice and support to be able to access the grade-level books his peers were reading. They met three times a week for 30-minute tutoring sessions, with the goal of increasing Carlo's reading fluency, comprehension, and vocabulary skills.

Each tutoring session followed the same process (Dowrick et al., 2006): (a) they read a passage in unison, (b) they echo-read the same passage together, (c) Carlo read the passage independently, (d) Elaine asked Carlo a few questions to check his comprehension, and (e) they spent a few minutes playing a memory game with vocabulary words from the book they were reading. Elaine provided appropriate praise and encouragement to Carlo during the session.

## Capturing and editing video in iMovie



Below we describe one portion of the tutoring session, focusing on the steps of setting up, filming and editing the self modeling video of Carlo reading fluently. The steps below highlight the “echo reading” portion of the tutoring session in which Elaine reads a sentence modeling fluency and prosody and Carlo repeats the sentence. [For a video tutorial of the video capture and editing processes described in the steps below, watch Video #2 at <http://bit.ly/howtovsm>. A written step-by-step instructional guide of the process is also available.]

### Step 1: Select the Book

Select a book that is at the student’s instructional level: one that is neither too easy nor so difficult the student is frustrated. The book should provide an appropriate level of challenge but also allow the reader to feel successful. This is based on the “90:10” rule, the idea that children benefit from practice if 90% is within their grasp and 10% is challenging (Dowrick et al., 2006).

Students’ instructional levels can be identified from assessment data; if they receive special education support and have an individualized education program (IEP), this is often spelled out in the IEP objectives. Another method of determining instructional level is to assess a student’s reading grade level and range using computer software or a quick indicator such as the San Diego Quick Assessment (La Pray & Ramon, 1969), which can be freely downloaded from the Internet. A simple way to determine whether a text is too challenging is to follow this rule of thumb: If the student is making three or more errors while reading words in a short paragraph, the text is probably too difficult.

### Step 2: Set Up the Computer

Find a relatively quiet room or area of a classroom. Place the laptop (or desktop computer with webcam) on a table and have the student sit in front of the laptop. Though the laptop’s built in microphone can be used, a USB microphone or headset with microphone can pick up clearer audio. USB microphones cost about \$20 to \$30.

Launch the video editing software and select the option that allows importing video from the webcam (rather than an attached digital video camera). Ensure that the student is in the center of the frame. Be aware of the surroundings; create an attractive backdrop if possible. (For instance, cloth can be used to cover up a stack of unsightly boxes or the laptop can be angled to capture a bright bulletin board in the background instead of a plain wall.)

### Step 3: Rehearse and Practice the Process

To familiarize the student with the technology and the procedures, practice the reading process before getting started. This step only needs to be done when you first introduce the intervention; it does not need to be repeated once the student is familiar with the processes.

Describe what you will be doing and explain that you will be taking a video of the student that he or she will be able to view later. For some children, this can reduce the reticence, anxiety or shyness of doing something new. Some students react with fascination to seeing their video being recorded. In our experience, students quickly get used to being filmed and do not get as distracted by the video once they understand that they will be given the opportunity to watch what is

filmed later. Practicing prior to the intervention can help reduce the novelty of being filmed and help a child focus on other parts of the process.

This practice session also allows you to test the microphone and audio levels. You can coach the student to talk at a certain volume. Students benefit from watching the practice video to understand how they should speak in order to be audible on the video. The practice session also allows you to adjust related factors such as placement of the microphone.

#### **Step 4: Select a Passage**

If you are working with short picture books, you might be able to read a full book with a student in one session. If your student is reading a chapter book, select a passage from the book for each session. Because each 30-minute tutoring session involves several activities (unison reading, echo reading, independent reading, comprehension questions, and vocabulary game), we recommend selecting a short passage from the book, one that takes no more than 3 or 4 minutes to read in unison. Select a passage that has a natural stopping point, then pick up where you left off at the next tutoring session. (Depending on the student's reading ability and affinity for the reading process, you can select slightly shorter or longer passages for each tutoring session. We recommend short passages in order to maintain student engagement and interest. Because the student will be reading the same passage repeatedly in a session, it can get onerous to read anything longer.)

#### **Step 5: Film**

After completing the unison reading of the selected passage or book, record the next part of the tutoring session, in which you echo-read with the student. Echo reading provides a simple way to model of fluent reading. Because you will read first and the student will repeat what has been read, it is easy to edit out the adult voice later. Read each sentence (or portion of a sentence) modeling fluent and prosodic reading. For passages with long or complex sentences, it can be useful to read a portion of a sentence, stopping at a natural point such as a comma. If a sentence is too long, a student may have trouble remembering and repeating the whole sentence in the way it was modeled. The student should be looking at the words on the page during the echo reading, not repeating only from memory.

During the recording process, you can be entirely off the screen, sitting beside the student. When the video is edited, you will edit out the portions of the video where your voice can be heard, creating a video in which only the student's voice is heard. This edited video will be the one that the student watches at the start of the next tutoring session, one in which he or she is reading independently and without error.

The video of the echo-reading process is filmed in one shot, without stops and starts. Errors or pauses are edited out later. If the student makes an error during the echo reading, prompt the student to repeat the sentence or word correctly. For instance, if the student stumbles on some part of a sentence, you can say "let's try that sentence again" and restate that sentence correctly, giving the student another opportunity to repeat it fluently. (See Video 2 at <http://bit.ly/howtovsm> for a visual on capturing and editing video; download the instructions in the PDF file, "Step-by-Step Directions on Capturing and Editing Video.")

#### **Step 6: Edit the Video**

After the tutoring session is completed, the student returns to the classroom. Edit the recorded video, selecting only the portions of the video in which the student is reading. Edit out the parts of the video in which your voice, the scaffold, can be heard. The end result is a short video in which the student is reading sentences independently and fluently. This VSM video will be about 2 or 3 minutes long, depending on the length of the passage you selected.

#### **Step 7: Using the VSM Video**

At the start of the next tutoring session, the student watches the edited VSM video. Rapid changes in the target skill, a documented effect of VSM, often occurs within two or three sessions. Some tutors may choose to create a new VSM video during every tutoring session, to be shown at the next session. Another option is to create a video during selected tutoring rather than creating one in each session. The key is for the student to watch the VSM videos created at the start of each session, reinforcing the images of success with the target skill.

Once the student gains proficiency with a target skill (e.g., reading fluency), videos can be made portraying advanced skills (e.g., increasing reading rates) or other related skills (e.g., the student correctly answering comprehension questions about a passage read). In addition to using these VSM videos during tutoring sessions, teachers can use the videos as part of the documentation of a student's overall progress. The videos can become part of a student's portfolio. We also

share these videos with families, who are often proud to see their children reading fluently.

### Step 8: Gather Data on Student Progress

We recommend tracking progress using curriculum-based measurements such as, for a reading intervention, fluency and reading comprehension probes. Take probes periodically, such as once every four tutoring sessions. Common reading fluency measures (e.g., DIBELS; Good & Kaminski, 2002 ) record number of words correct per minute; reading comprehension measures (e.g. Accelerated Reader; Renaissance Learning, 2012) calculate number of correct responses. You can also graph the results of curriculum-based measures to give the student a visual view of progress made. In our experience with these projects, many students eagerly ask to see their progress on the graphs.

### Promising Practices for School-based Settings

VSM interventions hold promise as a short and intensive way to work with a student on specific academic and behavioral skills. In a literature review of VSM studies, Hitchcock et al. (2003) identified studies using VSM in school-based settings. Using readily available tools, short-term intervention projects can be undertaken by the classroom teacher, educational assistant, or tutor. VSM interventions can be used for students who are already identified for special education services and with students who are at risk or struggling with specific academic or behavioral skills.

VSM is an evidence-based strategy that can be used within response-to-intervention (RTI) models. In a three-tier RTI model, VSM can be used in Tier 2 or Tier 3 to provide student assessment with a classroom focus and intensive instruction that includes progress monitoring (Smith & Okolo, 2010.) This strategy can be implemented quickly and efficiently, employing the services of an educational assistant or tutor. Along with acquisition of target skills, VSM can result in increased confidence and motivation and improved behaviors that accompany a sense of success.

Since the time Elaine and Carlo worked together, Carlo has returned to his classroom and is benefiting from instruction with his general education peers. Elaine said, "Well look at you, now you can read!" Carlo was delighted with his videos and asked to take them home to share with his family. Elaine was pleased with her new technology skills and has planned additional VSM interventions to help other students achieve target skills.

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### Supplemental Media Files

[Using Video Self Modeling to Support Reading Skills - Video](#)

[Capturing and Editing Video for VSM Projects in iMovie - Video](#)

[Step-by-Step Directions on Capturing and Editing Video in iMovie](#)

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