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Video Modeling for High School Students With Autism Spectrum Disorder

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Abstract

Video modeling (VM) has demonstrated efficacy in teaching a variety of skills (e.g., social skills, communication, vocational tasks) to learners with autism spectrum disorder. Previous research indicates teachers and learners have supported the use of VM. However, the majority of studies have focused on elementary-school students; less research has explored the use of VM in secondary education settings. To extend the literature, this article describes the use of VM with three high school student–teacher dyads. Each teacher adapted the VM intervention to meet the needs of their student as well as to fit with the current technology available and utilized in their classrooms. All of the three students learned a different target skill with VM and achieved mastery criteria. Results for the three student skills, as well as implementation guidelines and future directions, are discussed.

Keywords

video modeling, autism spectrum disorder (ASD), secondary education

Video modeling (VM) is an evidence-based practice that involves a video demonstration of a target skill, using either self-modeling (i.e., the learner modeling the target behavior in the video) or peer modeling (i.e., a peer modeling the target behavior in the video), typically created by an educator or parent, and delivered on a technological device (e.g., cell phone, tablet, computer). VM has been used to effectively teach individuals with autism spectrum disorder (ASD) a variety of skills across settings (e.g., schools, clinics, home, community) and with different providers (e.g., parents, educators, clinicians; Bellini & Akullian, 2007).

ASD is a lifelong neurodevelopmental disorder, characterized by social communication deficits and restricted, repetitive behavior (American Psychiatric Association [APA], 2013). VM is considered an evidence-based practice for learners with ASD (Steinbrenner et al., 2020), teaching a number of skills such as functional communication (Plavnick & Ferreri, 2011), appropriate transition behavior (Taber-Doughty et al., 2013), social skills (Day-Watkins et al., 2014; Halle et al., 2016; O'Handley et al., 2015), academic skills (Yakubova et al., 2016), independent living skills (Wynkoop et al., 2018), and vocational tasks (Seaman & Cannella-Malone, 2016).

Teachers Describe VM as Feasible and Flexible

Notably, teachers report that VM is effective for their students (Morlock et al., 2015). After receiving training in VM, teachers continue to use and expand their use of VM (i.e., teachers are likely to use VM with other students in the future and to target additional skills; Starkey, 2010). In particular, teachers noted the biggest advantages included (1) the efficacy of VM, (2) the opportunity for students to repeat the instruction until they achieve mastery of the skill, and (3) the opportunity to teach using different modalities (Cihak et al., 2010; Starkey, 2010; Yakubova et al., 2016). Teachers describe VM as a simple and efficient intervention in secondary education settings (Hart & Whalon, 2012). Teachers also appreciate the flexibility of VM, which allows them to provide individual instruction to struggling learners, while more advanced students can move ahead more quickly with learning new skills (e.g., mathematical concepts; Cihak et al., 2010; Yakubova et al., 2016). VM includes a few key components: a relevant situation for the target behavior, a model demonstrating the target behavior correctly, and reinforcement for the target behavior (e.g., praise). These components can be incorporated into a VM to address a variety of target behaviors, across different settings.

One of the most notable advantages to using VM is the portability of the intervention, where students can utilize the video model across a variety of settings. Specifically, video models are typically used on handheld devices (e.g., tablet, cell

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phone), allowing the learners to bring the VM with them to the relevant setting in which they will be using the novel skill. Further, the handheld devices are discreet, unobtrusive, and socially acceptable (Seaman & Cannella-Malone, 2016). Teachers noted that they appreciated the flexibility of the handheld device, allowing the students to use the VM intervention in many different settings and throughout the school day (Cihak et al., 2010).

In particular, Cihak et al. (2010) used VM on handheld devices (i.e., an iPod) to teach appropriate transition behavior between activities and locations in an elementary general education setting, highlighting the flexibility and portability of the intervention. Prior to the introduction of VM, participating students had a number of inappropriate behaviors during transitions (e.g., physical aggression, elopement [i.e., running away from the group], or sitting on the floor) and often needed adult assistance to transition between locations and activities. During intervention, all participating students substantially increased independent transitions, defined as walking in the hallway with classmates while not engaging in inappropriate behavior (e.g., aggression, elopement, sitting). This study showcases the use of VM interventions in a general education setting to support students with ASD.

VM interventions can be used in a variety of settings, including natural settings (e.g., schools, community; Bennett et al., 2016; Taber-Doughty et al., 2013). High school students have been taught to use VM interventions in their school workroom, at a bowling alley, and at a grocery store in order to learn how to transition between tasks (Taber-Doughty et al., 2013). Another study implemented VM in a high school setting in a separate classroom or conference room, rather than the natural classroom setting for the participating adolescents (Alexander et al., 2013). Similarly, Spriggs et al. (2016) used VM in self-contained special education classrooms to teach leisure skills (i.e., accessing video games). When used across settings, instructional control may be shifted from teacher to the VM system itself, increasing independence and autonomy which are critical skills for young adults with ASD. Further, educators can use a variety of different types of VM (e.g., point-of-view modeling where the target behavior is recorded from the perspective of the learner, self-modeling, or others as a model), which have all demonstrated efficacy for individuals with disabilities (Mason et al., 2013).

VM interventions also show clear promise as a tool for supporting employment for adults with ASD. Seaman and Cannella-Malone (2016) found that VM and video prompting (i.e., a video model in which the learner pauses the video to complete each step separately) made up the vast majority (62%) of the interventions used in employment settings for adults with ASD. In particular, technology was cited as an effective method of providing job skill training to adults with ASD for a number of reasons: Technology increases independence for employees, the employee with ASD can repeat and review steps as needed, technology is less obtrusive and easy to implement in the workplace, and overall proves as a more cost-effective method of job training than traditional materials and professionals.

Taken together, existing research demonstrates the social validity and feasibility of VM and its potential for effective use in secondary education settings (e.g., high school classrooms); however, given the variability in functioning, support needs, and interests of youth and young adults with ASD, individualization of the intervention is critical to maximize impact. For example, various types of VM have been used with different learners, depending on the target skill and individual need (e.g., self-modeling to promote positive behavior, point-of-view modeling to demonstrate a self-care or vocational skill, or peer models to demonstrate a new skill). Additionally, different forms of technology have been used to implement VM depending on available resources and the preference of the learner (e.g., computers, tablets, smartphones). Further, VM interventions have been tailored to meet the unique needs of each learner, rather than a "one-size fits all" approach (Alexander et al., 2013).

For example, Alexander et al. (2013) used VM in conjunction with other intervention methods to promote learning (e.g., error correction, prompting, reinforcement) when participants did not reach mastery criteria. Other adaptations could include embedding voice-over instructions into the video, building in pauses for the student to complete each step separately (i.e., video prompting), or using point-of-view modeling to demonstrate a skill. However, the majority of previous work has described these adaptations as limitations of the study rather than a potential strength in the utility of VM (Alexander et al., 2013). For example, previous studies have cited a limitation of combining VM with other instructional procedures (e.g., prompts), as it does not allow researchers to parcel out the effects of VM and prompts separately (Cihak et al., 2010). In line with this previous research, we presented three high school educators with the key components of VM (e.g., demonstrating the target skill in the appropriate situation and showing reinforcement provided for that skill), and supported the educators in modifying the VM to meet the specific needs of their students.

Our aims were to extend the research in this area by (a) providing an example of VM interventions delivered in the natural setting (i.e., students' regular classrooms) with high-school students with ASD, (b) adapting VM interventions to fit the individual needs of the students as well as the technology readily used in each classroom setting (e.g., computer, cell phone, and iPad), and (c) assessing the efficacy of individualized VM interventions.

Method

Participants

In this work, we taught three educators how to use VM with their students. The three educator–student dyads included: Ethan and Emily, Sean and Scott, and Tony and Tammy. The educators included two females and one male, ages 38–45, working in a southern California high school; two were special education teachers with a master's degree, and one was an instructional aide with an associate's degree. Their students

Table 1. Participating Teacher Name, Student Name, Student Demographics, and Target Skills.

Teacher Name	Student Name	Adaptive Functioning: Vineland-2	Cognitive Functioning: Leiter-3	Target Skill	Definition
Tammy	Tony	71	73	Asking for help	Any instance of Tony requesting help from a teacher or peer using a variety of appropriate phrases
Emily	Ethan	71	87	Appropriate interjections	Any instance of Ethan interjecting to talk with another person appropriately using a phrase such as "excuse me"
Scott	Sean	34	Not testable	Greeting with handshake	Sean will greet novel people by reaching out with his right hand and shaking the other person's right hand

included three male high school students receiving services under the eligibility category of autism. All three students attended special education classes with individualized support. Two of the students (Ethan, age 16; and Tony, age 14) attended some general education classes. The other student (Sean, age 17) received all services in one special education classroom throughout the school day. Sean presented with limited vocal verbal behavior and deficits in a variety of developmental areas, whereas Ethan and Tony presented with an extensive vocal verbal repertoire and a few social deficits. Table 1 includes additional participant demographics (e.g., adaptive functioning, cognitive functioning).

Setting and Materials

In the current study, all the training, coaching sessions, and VM interventions were conducted in high school classrooms, including one general education setting and two special education settings. The classroom typically included 10–20 other students and additional classroom aides (e.g., approximately three other adults). Sessions included the participating educator and target student; the researcher observed at least one session per week.

This study included materials for teacher training and a technology device for developing and viewing the VM. Training materials for the educators included a PowerPoint of VM interventions which covered the different types of video models (e.g., point-of-view modeling, self-modeling, peer modeling, video prompting), how to select the appropriate type of VM, the relevant components of successful video models, how to plan and implement the intervention, and how to collect data. (Training materials are available from the corresponding author upon request.) The first author used a cell phone with video capabilities and a computer to record and create the video models as well as a flash drive to transport the video to other devices. Each educator had access to the training manual, as well as video models, either on a computer or mobile device available in the classroom. In particular, the participating educators used the technology available in their individual classrooms (e.g., computer, iPad, or cell phone) in order to ensure the students had regular access to the video models. Lastly, the researcher used datasheets (i.e., paper and pen) to collect data on the skills examined.

Technology devices. Each educator–student dyad used a different form of technology to implement the video model. The form of technology was determined in collaboration with the educator, student, and researcher to ensure that the technology would be readily available to the student during class. One student, Sean, spent most of his school day in a self-contained classroom working on functional life skills. This classroom frequently used iPads which were available to Sean, and therefore the video model was created and viewed on the classroom iPad. Tony preferred to view his video model on his personal cell phone, which he had access to during the first period in his classroom. Lastly for Ethan, his resource classroom had two computers in the back of the room that students frequently used to do research or write papers. Therefore, the researcher used a cell phone with video capabilities to create their videos, and then transferred the completed videos to Tony's personal cell phone and Ethan's classroom computer.

Types of VM. The type of VM (e.g., self-modeling, peer modeling, point-of-view modeling) was chosen in collaboration between the educator and researcher, while considering the student's previous learning history (e.g., imitation skills, attending) and the target skill being taught (e.g., verbal request for help, greeting with a handshake). Sean's instructional aide chose self-modeling as the most appropriate VM for Sean because Sean often had a difficult time attending to and/or imitating others; therefore, a self-model was created using the classroom iPad and partial physical prompts that were not in view of the camera. Tony's teacher selected peer modeling for his VM, as Tony was motivated by peers and often imitated peers in other contexts. Similar to Tony, Ethan was motivated by peers and modeled their behavior independently in other settings, so peer modeling was selected for Ethan.

Procedures

In this study, we used a multiple-baseline across participants design to explore the implementation of VM across the three

Table 2. Student Observation Form.

Date:			
Time/Class Period:			
Participant Initials:			
Opportunity	Independent	Needed Help/Prompts	Notes
1.	+	−	
2.	+	−	
3.	+	−	
4.	+	−	
5.	+	−	
Total			

educator–student dyads. Each educator selected a target skill for his or her student based on their current Individualized Education Program (IEP) goals (e.g., social skills, communication; see Table 1). The VM intervention was delivered on various schedules based on individual student need and when the skill was taught throughout the day; for example, Ethan viewed his VM during the resource period where he would learn similar skills (e.g., social skills curriculum, organization of assignments, transition preparation). The intervention schedule was established with the participating educators and researcher so that the VM intervention was easily embedded into the existing classroom schedule.

Student behavior. The three participating educators chose a skill for each student to learn using the VM intervention. These target skills were operationally defined and assessed during both baseline and intervention conditions: shaking hands, interjecting appropriately, and asking for help (see Table 1). Tony had difficulty asking for help during academic and self-help tasks (e.g., when he was having trouble with an assignment or buttoning his uniform buttons); Tony previously did not respond to a number of strategies including visuals, social stories, and so on, and therefore his teacher selected asking for help as his target skill (i.e., requesting help from a teacher or peer using a variety of appropriate phrases). Sean's instructor reported that when greeting others, Sean either gave a high five or fist bump or stood silently. Due to Sean's limited vocal verbal repertoire and his age (i.e., 17 years old), his instructor chose to teach Sean how to shake hands appropriately when greeting someone (i.e., reaching out with his right hand and shaking the other person's right hand) as he considered this an important social skill as Sean reached adulthood. Ethan had difficulty understanding both *when* as well as *how* to interject appropriately (i.e., interjecting to talk with another person appropriately using a phrase such as "excuse me"). Ethan struggled with this fairly nuanced social skill and often interjected when a teacher was not available to respond (i.e., on a phone call, talking with another student, etc.); in addition, when Ethan did interject, he often kept talking when clear indicators were provided that he should wait (e.g., one finger up to demonstrate "one minute").

Data collection. Observational data were collected using operational definitions of student behavior(s) and researcher-developed forms (see Table 2). Specifically, data were collected on the percentage of opportunities in which the student demonstrated the target skill correctly. A minimum of five opportunities were recorded in each observation session. Data were collected by the primary researcher and participating teachers. However, all reported data reflect that of the primary researcher. Observation sessions occurred weekly for 1 hr for each student, during a time when the target skills were likely to be observed.

For Sean, a minimum of five contextually appropriate opportunities to shake hands were created during each observation session, and data were collected on Sean's performance for each opportunity. For Tony, naturally occurring opportunities to ask for help were recorded on the student observation form. When an opportunity for Tony to seek help occurred (e.g., a difficult math problem), data were collected on whether Tony asked for help independently. Similarly, data were collected on naturally occurring opportunities for Ethan to interject (i.e., target skill). At the end of the observation, the researcher calculated the percentage of opportunities by dividing the frequency of independent use of the target skill by the total number of opportunities (e.g., four of the five opportunities = 80%).

Baseline. To document each students' beginning skill level, baseline probes were conducted weekly with all three educator–student dyads. To collect baseline data on student skills, the researcher(s) observed the students during the scheduled baseline sessions and recorded the percentage of opportunities in which the student independently displayed the target skill. No prompting or feedback was provided during baseline sessions.

Training. After the completion of the baseline phase, educators received a 2-hr training during their after-school professional development period. During training, the researcher and educator reviewed the PowerPoint slides which focused on the different types of video models (e.g., self-modeling, peer modeling, point-of-view modeling), the relevant components of video models (e.g., setting up an appropriate situation to use novel skill, a clear model of the target skill, and the reinforcement that follows the use of the skill), how to create a video model, and how to plan and implement the intervention. All educators received a copy of the PowerPoint training slides, a manual, and additional online resources on VM. At the end of the training, the researcher and educator planned how to create the VM for the target skill, including who would serve as models for the video (e.g., peers or the target student), what technology would be used to create and view the video model and scheduled the filming of the video model.

Creation of the video model. The researcher and educator developed a video model to use for intervention with their individual student. Criteria for each VM included the following: a relevant situation for the skill to be demonstrated, the model demonstrating the target skill correctly, and reinforcement for the target skill (e.g., praise) for at least one full demonstration. Models for each of the videos were selected based on individual student need (e.g., self-modeling for one participant, peer models for two participants). Self-modeling was chosen for one participant (Sean) as his educator (Scott) indicated this would help maintain his attention on the video. Peer models were chosen for the other two students (Ethan and Tony) as their educators (Emily and Tammy) indicated these students had responded well to modeling from preferred peers in the past. The peers were student volunteers chosen by the participating educator due to their ability to demonstrate the skill and willingness to help with the project. Videos were created in the classroom when no other students were present; prompts (used in Sean's video only) were edited out of the video to ensure an independent demonstration of the target skill. The duration of each video varied between 30 and 90 s depending on the number of skill demonstrations included. Once the video was created, the researcher checked to ensure it included all relevant components (e.g., relevant situation for the skill to be demonstrated, accurate demonstration of the skill, and reinforcement of the target skill delivered), and then the educator and researcher tested the video on the device to ensure it worked properly.

Intervention. The video model was implemented during the intervention phase for each educator–student dyad. Each educator identified the optimal time for the student to view the video. In terms of implementation, two educators allowed their students to independently view the video model during appropriate times throughout the school day; the third educator (Scott) showed his student (Sean) the video model prior to each teaching trial. For example, Tony viewed the video each morning at the beginning of the school day; once Tony demonstrated success with his target skill (e.g., asking for help), the video was faded to twice per week. Ethan viewed the video at the beginning of his resource period each day; similarly, the video was faded to once per week as Ethan demonstrated more independence with his target skill. Sean viewed the video during a typical one-to-one instructional period (e.g., life skills) at the beginning of each teaching trial. As Sean began using his target skill independently (i.e., shaking hands without prompting), the instructional aide only presented the video once per week.

When a naturally occurring (for Ethan and Tony) or contrived (for Sean) opportunity arose for the student to use the target skill, the teacher providing prompting (if necessary) and reinforcement. If needed, the educator provided prompting (e.g., verbal reminders, gestures, or physical prompts for Sean). When the student independently engaged in the target skill, the teacher provided immediate reinforcement, including specific praise, for example, "Thanks for asking me for help! Let's look at this math problem together." Reinforcement was also embedded in the video (e.g., demonstration of praise provided for asking for help; praise and attention provided for greeting with a handshake, "It's so nice to meet you, Sean!") as well as provided by teachers during each naturally occurring trial during the school day.

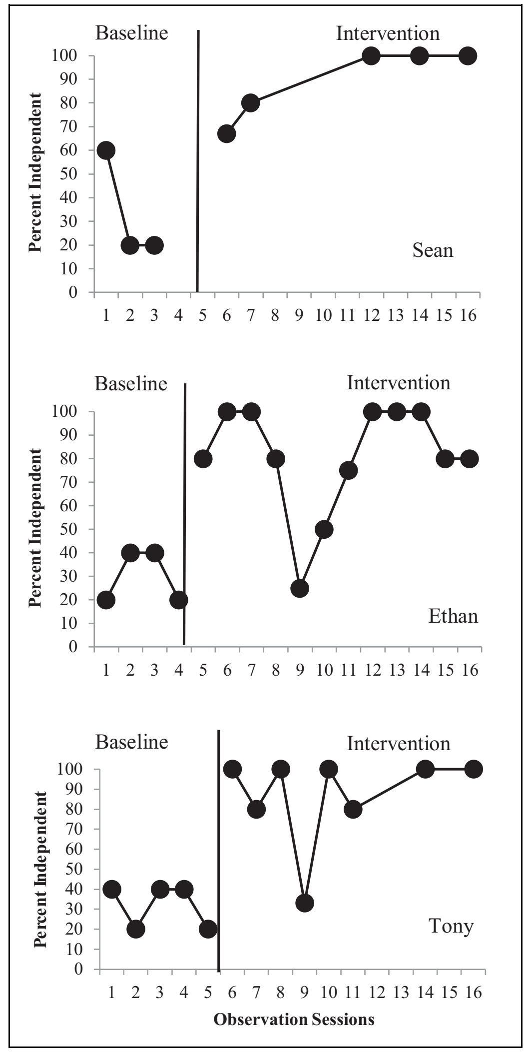

Figure 1. Student goals across baseline and intervention conditions. This graph shows the percentage of opportunities in which the student performed the target skill independently during each observation session.

Results

Student Goals

All participating students demonstrated increases in target behavior from baseline to intervention conditions. During intervention, all three students achieved mastery criteria: 80% or above across three consecutive trials (see Figure 1). During baseline, Tony asked for help an average of 32% of opportunities (range = 20%–40% of opportunities). Following intervention, Tony asked for help on an average of 87% of opportunities (range = 33%–100% of opportunities). The intervention had an immediate effect on skill development such that the first session following the introduction of the VM, Tony independently asked for help on 100% of opportunities. Data remained high and stable throughout intervention, with only one datapoint falling below the mastery criterion (i.e., the first day back after spring break).

During baseline, Ethan made appropriate interjections on an average of 30% of opportunities (range = 20%–40% of opportunities). After intervention, Ethan made appropriate interjections on an average of 81% of opportunities (range = 25%–100% of opportunities). The intervention had a rapid effect on skill development; Ethan appropriately interjected on 80% of opportunities on the first session following the introduction of the VM. Data were slightly variable during intervention, with a drop after spring break. However, the data had an increasing trend after spring break and reached mastery criteria within five sessions.

During baseline, Sean used the shaking hands greeting on an average of 33% of opportunities (range = 20%–60% of opportunities). Following intervention, Sean used the shaking hands greeting on an average of 89% of opportunities (range = 67%–100% of opportunities). The intervention had a more gradual, consistent impact on skill development for Sean. Data during baseline gradually increased from 60% on the first session to 100% for the final three observation sessions. While VM did not have an immediate impact, Sean's data demonstrated a consistently increasing trend throughout intervention.

Discussion

Overall, these data indicate that VM had a positive impact on increases on students' target behavior. Additionally, anecdotally educators indicated generalization of skills (e.g., using the novel skill in various classrooms and/or with various teachers) and reduction of VM use over time (e.g., less frequent viewing of the VM). Each educator used the technology readily available within their classroom to deliver the video model, adding another form of instruction to their repertoire. This demonstrates the feasibility of training teachers and paraprofessionals to use VM interventions in the classroom. Although teacher adaptation of the VM procedure indicates feasibility for long-term use of the intervention, it also introduced limitations to measurement accuracy (i.e., how often the student viewed the video model).

Similar to other studies using VM, all three students learned their target skills within a brief period of intervention (4 weeks; Alexander et al., 2013; Bellini & Akullian, 2007; Plavnick & Ferreri, 2011). In addition, the target skills for the participating students addressed two developmental domains that typically present difficulties for students with ASD: social communication and restricted, repetitive behavior (APA, 2013). For Sean, who had trouble attending for long periods of time (i.e., average attending lasted 10 s prior to intervention), the video model provided a brief, engaging model of the appropriate handshake greeting. This allowed Sean to attend for longer periods of time (i.e., up to 30 s) as well as engage with others appropriately. Similarly, Tony developed a crucial skill for academic and vocational success: asking for help when needed. During intervention, Tony walked across the classroom to find an available teacher and sought help appropriately; whereas before intervention, Tony would simply sit at his table (i.e., "stuck" as his teacher reported) without asking for help. Prior to the VM intervention, Ethan struggled understanding when and how to interject (e.g., when two teachers were talking but he had a question, when his teacher was on a phone call). With VM, Ethan learned to appropriately interject when needed, and his teacher planned to use VM for additional social skills due to the success that Ethan had with this intervention.

For all three students, the video model provided an age-appropriate intervention to teach social skills (e.g., shaking hands, appropriate interjections) and communication (e.g., asking for help). For Tony in particular, his teacher reported that numerous other interventions (e.g., visuals, social stories, self-management strategies) failed to teach the skill of asking for help. Tony's video model included two of his peers modeling the skill during an academic task and a self-help task (i.e., classroom assignment and setting up his Reserve Officers' Training Corps uniform correctly). After viewing the video model, Tony responded immediately to intervention (i.e., scoring a 100% on his first observation session during intervention) and began to ask for help across a variety of settings.

Research has demonstrated the efficacy of VM across a variety of skills as well as a variety of environments. Numerous studies have examined VM in home settings, community-based instruction, and elementary schools (Alexander et al., 2013; Cihak et al., 2010). However, very limited research has examined the use of VM within a secondary education setting. This presents a new area of research that warrants additional examination. This example demonstrated that VM was effective, efficient, and feasible among high school educators and their students. Also, this example showcased the ability to adapt VM procedures to fit the needs of individual students as well as the technology readily available in classrooms (e.g., iPad, computer). Additional research on using VM in high school settings would add to the literature in this area. Further research would provide more insight on the benefits of VM (i.e., accessibility, efficacy, feasibility, etc.) as well as the drawbacks (e.g., resources, technology needed, time spent creating the video).

Educator modification allowed each of the educators to use different forms of technology, specifically devices that both educators and students knew how to use independently and reduced barriers to use. Technology was already built into regular classroom instruction (e.g., computers, tablets), and VM allowed students to engage with technology to learn a novel skill. Further, educators indicated the benefits of using a different modality (i.e., technology) to address a skill deficit where traditional methods had previously failed (e.g., visuals, social stories). Future studies could examine discrepancies in VM based on student functioning level, especially considering the variable application of VM by the three educators in this study. In addition, more information is warranted on the use of VM for whole-class instruction as well as different types of video models (e.g., self-modeling, peer models, point-of-view modeling) for different students and their goals.

Implementation Guidelines

Selecting a Target Skill

When first beginning any intervention, it is crucial to identify and define the target skill that needs to be addressed. First, teachers could address goals already defined in the student's IEP. If a relevant skill is not already listed in the IEP, then the teacher should write a goal for the student (e.g., Dominic will ask for help when needed for 80% of opportunities). Next, educators should operationally define the target skill. After identifying the target skill, the next step involves defining the target skill in observable, measurable terms. As in the previous example, define asking for help, Dominic will ask for help by raising his hand, verbally requesting help, walking up to a teacher, or touching a "help" card on his desk.

Selecting an Appropriate Type of Video Model

There are four types of video models: basic modeling, self-modeling, point-of-view modeling, and video prompting. Each can be helpful depending on the target skill and the individual needs of the learner. Basic modeling, the most commonly used type of VM, involves recording another person (e.g., peer, model) demonstrating the skill. This is especially helpful if the learner does not yet know how to complete the target skill. Self-modeling involves the learner displaying the target skill, providing an example of them performing the target behavior successfully. This can be very motivating for the student; however, the student must be able to perform the skill. Point-of-view modeling involves recording the target skill from the point-of-view of the learner. This can be especially helpful for daily living skills (e.g., cooking, cleaning) or vocational skills (e.g., sorting mail, stocking shelves). Video prompting breaks down a skill into smaller, individual steps. This can be especially helpful for teaching a sequence of skills, allowing the learner to pause in between each step and complete each component part in the sequence.

Creating the Video Model

Once you have selected the relevant type of video model, it is important to carefully plan the creation of the video model. First, select the form of technology that will be readily used by the learner. This should be selected so that the learner can independently operate the device, including starting, stopping, and pausing the video as necessary. After choosing an appropriate form of technology, select the relevant models who will be included in the video model (e.g., the learner for self-modeling, peers, a teacher). During filming, ensure that the environment of the video incorporates the natural setting in which the student is expected to perform the skill (e.g., classroom, workroom). Also be sure to minimize distractions in the background of the video (e.g., too much on the walls behind the model, background noise, other students interfering).

When filming, have the model demonstrate the skill in a natural opportunity including the conditions in which the target skill should be used, how it should be performed, and what consequence will result from the target skill. In the example of asking for help, the video should include the following: (1) a student struggling on an assignment or other relevant difficult task, (2) the student asking for help appropriately, and (3) the student receiving help from a peer or teacher as well as praise for asking appropriately. After filming is complete, upload the video to the relevant device that the learner will use (e.g., cell phone, tablet, computer). Test the video to make sure that it works properly, including the audio components. Ensure that the video is readily accessible for the student when needed (e.g., saved on the desktop of the computer for easy access).

Implementation and Data Collection

Once the video has been uploaded and is ready to use, introduce the student to the video and the intended purpose of the video. For example, say to the student, "This is a video to show you how you can ask for help when you need it. Let's have you watch this video each morning during homeroom, and we'll practice this skill throughout the day." Ensure that the student can independently operate the video on the relevant device. After the student starts viewing the video, collect data on the target skill to ensure that the intervention results in an increase in that specific skill. For example, use the Student Observation Form (see Table 2) or simply keep tallies in two columns: (1) each time they demonstrate the skill *independently* and (2) each time they need prompts or reminders to engage in the target skill.

Modify the intervention as needed. If the student does not respond to the intervention, consider increasing the number of times they view the video (e.g., multiple times per day instead of once each day). As the student starts to independently engage in the target skill, consider reducing the frequency of viewing the video (e.g., viewing only 3 times per week instead of daily). Be sure to provide praise in order to reinforce their use of the new target skill.

Authors' Note

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study. The first author can provide any supplementary materials (e.g., data collected, training materials) via email.

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