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The Technological Barriers of Using Video Modeling in the Classroom

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The purpose of this investigation is to identify the technological barriers teachers encounter when attempting to implement video modeling in the classroom. Video modeling is an emerging evidence-based intervention method used with individuals with autism. Research has shown the positive effects video modeling can have on its recipients. Educators working with individuals with autism have encountered numerous barriers when implementing video modeling as an intervention strategy. Therefore, this project attempts to discover potential barriers on the topic of video modeling and possible solutions to the problem.

Keywords: Video modeling, teacher training, technology

Recent statistical data from Center for Disease Control (CDC, 2014) reflects that autism affects every 1 out of 68 children in America. With the rate of autism increasing, educators are searching for a board range of interventions methods and tools to support individuals in the school setting. Individuals with autism have deficits in communication skills and exhibit a disinterest in socialization with others (Boudreau & Harvey, 2013). Teachers in the special education field are focused on improving communication and social skills through various intervention strategies, in hopes that students with autism can be successful in both a general education classroom and their surrounding communities. Video Modeling (VM) is an emerging method that has been garnering increased support from researchers and practitioners. This evidence based practice capitalizes on the abilities of individuals with autism, while simultaneously increasing their communication and social skills (Boudreau & D'Entremount, 2010). The research suggests that video modeling can be an effective intervention method to teach children with autism (Dorwick, 1999). Various studies report an increase in social skills, communication abilities, and play skills after using video modeling as an intervention technique (Boudreau & Harvey, 2013; MacDonald, Clark, Garrigan, & Vangala, 2005; Nikopoulous & Keenan, 2007). Experts in the field have tapped into the visual abilities that individuals with autism have by scripting out sequences that model communication, social skills, play scenarios, and cognitive functioning (Gelbar, Anderson, & McCarthy, 2012). In tandem with the evidence of VM as an effective strategy, the mode for

implementing VM, technology has made increased advances. These technologies include iPads, smartphones, and flip cameras.

A Review of the Types and Effects of Video Modeling

Video Self-Modeling

Video Self-modeling (VSM) is a specific type of presentation that allows the individual with autism to observe him or herself performing a positive targeted behavior. There has been a mixture of both successful and unsuccessful studies published on VSM. Boudreau and Harvey (2013) found that VSM intervention increased all their participants' ability to engage in social initiations during their recess time. Participants showed a drastic increase in the level of social initiation when compared to their typically developing peers (Boudreau, Harvey, 2013). However, in Buggey's (2012) study to increase social initiations, the result were deemed unsuccessful due to the fact that imitation skills were not assessed beforehand and participants were unable to engage with their peers.

Adult Modeling

There is an abundance of successful research pertaining to adult video modeling (AVM). MacDonald et al. (2005) found that participants significantly improved in their ability to reenact scripted verbalizations and scripted play skills. Additionally participants were able to maintain and generalize the skills they had learned from the videos. Similar results were found by MacDonald et al. (2009) and Bourdreau and D'Entremount (2010) who examined using AVM to teach pretend play skills and verbalizations to young participants. Researchers found that after video modeling was implemented participants increased the amount of unscripted verbalizations, unscripted actions, and cooperative play skills during their play session with their typically developing partners. Boudreau and D'Entremont (2010) reported that participants increased their ability to model actions that were learned through AVM, as well as incorporate new un-modeled actions that were not present on the video. The overall findings of the studies support the notion that AVM can be used to increase play skills and vocalizations skills of children with autism.

Peer Modeling

Using typically developing peers as models for students with disabilities has been a long running educational practice, due to the fact that a majority of typically developing peers exhibit appropriate social behaviors (Simpson & Ayres, 2004). This type of VM is also easily accessible because peer models can be taped and edited at any given time. Therefore, there is no shortage of research conducted on peer video modeling (PVM). Nikopoulous and Keenan (2007) found that PVM is a successful intervention strategy to teach a sequence of complex social behaviors. Results also found that children were able to demonstrate three different social behaviors, only after viewing one or two steps performed on videotape. Additionally, not only was this video modeling study successful in building a sequence of three complex social actions, it increased reciprocal play and generalization over a two month period.

PVM instruction has accumulated a large body of research, however, there is little research regarding the use of VM with other types of instructional methods. PVM coupled with prompts and reinforcements has shown to increase the amount of positive social interactions (Green et al.,2013; Simpson, Langone, and Ayres (2004) examined the effects of combining

peer video modeling with computer-based instruction (CBI). The results, suggest that participants increased their ability to engage in unprompted targeted social behaviors. These results suggest that using both CBI programs and peer video modeling clips can dramatically improve the social skills of children with ASD.

Point of View Modeling

Point of view modeling (POVM) is filmed with the participant's point of view in mind. Therefore, the camera is angled at the models hands, exactly how the participant would view the targeted activity (Tetreault & Lerman, 2010). Wolery and Hine (2006) found that POVM was effective in teaching preschool participants specific toy-play skills that can be generalized to novel materials in the classroom. The use of POVM facilitated the acquisition of target play skills.

Barriers to the Use of Video Modeling

Although VM as an intervention has been identified as an effective technique, educators have experienced issues associated with the implementation of technology that is required for VM. The technological challenges that present themselves can deter teachers from utilizing high tech devices that are essential in classrooms (Hew & Brush, 2006). Various studies have identified common barriers associated with implementing technology into a child's education environment. These identified variables are: scarcity of resources, lack of training, teachers' attitudes towards technology in the classroom, and lack of time.

According to Kurt and Ciftci (2012), teachers have a difficult time gaining access and funding to use technology with their students in the classroom. Researchers have identified the lack of equipment being one of the most important considerations in the implementation of technology (Guimond, Wilcox, Campbell, & Moore, 2006). Without the necessary materials, teachers are unable to integrate technology into the daily activities (Hew & Brush, 2006).

A second barrier that teachers identify is the lack of time to successfully incorporate technology into their daily routines (Hew & Brush, 2006). Creating personalized videos to capture a specific skill can be time consuming (Bellini & Akullian, 2007). Teachers report that they already spend an enormous amount of unpaid personal time to access, create, and investigate appropriate ways to utilize technology with their students.

A third barrier is the lack of professional development and basic knowledge of how to use the technological needed to implement VM (Kurt & Ciftci, 2012). Studies have found that educators lack the essential tools and training to effectively implement technology with their students; teachers have reported that they feel inadequate and uneducated when integrating technology into instruction (Hew & Brush, 2006). A study conducted by Guimond et al. (2006) found that only 18% of the educators surveyed viewed themselves as being competent in using technology with their students.

When educators feel inadequate with a particular teaching strategy or technology technique, they are more likely to ignore the implementation process (Kurt & Ciftci, 2012). There is a strong correlation between an educator's belief system and their planning techniques (Hew & Brush, 2006). Teachers who view technology in a negative light will shun away from using computers and other high tech devices in their classroom; however, educators who view technology as an asset will use technology frequently (Hew & Brush, 2006).

The gaps identified in the research suggest that in order to make sense of the barriers of VM, more information is required to understand the complexities of implementing technology in the classroom, as well as the best way to present video modeling with students (Guimond et al., 2006). This study focused on examining the challenges of video modeling technology, as well as the possible approaches to solve technological problems in the field of education. It is important to examine these technological challenges and identify potential solutions, in order to better assist educators when implementing video modeling in the classroom. By supporting special education teachers with video modeling implementation, this research can potentially aid in the development of social skills in individuals with autism. Four questions guided this study. First, what are the technological barriers associated with the implementation of video modeling in the classroom? Second, what strategies can be identified as being the most beneficial when overcoming the challenges presented with video modeling technology? Third, given the proper strategies to implement video modeling, what is the frequency and likelihood of application in the classroom, and are prompts/reinforcements being administered? Lastly, what types of VM are used most frequently in special education classrooms?

Research Design

This study utilized a mixed method design. The first component of the study was a survey consisting of eight Likert scale model questions and three ranking statements from one to four. The survey questions were designed to gain insight into knowledge of VM, types of models used, preferences of prompts and reinforcements, and barriers to the use of VM. The second component of the study was a focus group consisting of seven special education teachers who are asked six open-ended questions regarding technological barriers in the classroom. The focus group was used to explore deeper questions related to VM in order to gain more understanding on perceptions and experiences related to the topic. Using focus groups allows for the researcher to ask probing questions (Parker & Twitter, 2006). The topic of the focus group questions concentrated on issues regarding technological barriers of VM in the classroom and allowed open-ended responses to be acknowledged.

Participants

Participants of this study were special education teachers from school districts in the Southern California area. Participants were recruited through school districts, a university teacher education program, and social media. Participants were selected through convenience sampling. A total of 60 special education teachers were asked to partake in the study. Participants were selected only if they held a special education credential and were willing to participate in the study. Of the 60 participants, 50 participants worked at one districts. The remaining ten special education teachers were from various districts throughout Southern California. All the participants currently teach or have taught individuals with autism. There were a total of 53 females and seven male educators who completed the study. The participant's age ranged from 20s to 60s and. participants varied in the number of years they taught special education. Teachers who were surveyed had a variety of special education credentials; Early Childhood Special Education (ECSE), Mild/Moderate (M/M), and Moderate/Severe (M/S), and Education

Specialist. Table 1 illustrates the demographic information of the participants.

Table 1
Demographic Information

Gender	Age					Years Teaching			Credentials			
	20's	30's	40's	50's	60's	1-9	10-19	20-30	M/M	M/S	ECSE	Education Specialist
Male		2	4	1		2	5		3	1	2	1
Female	10	17	16	9	1	29	17	7	14	9	21	9

Setting

The survey was administered through surveymonkey.com. Participants were sent the consent form through district mail and through the social media websites. Participants were also provided with a brief scenario of the survey and a link to surveymonkey.com where they completed the survey online.

The follow up focus group consisted of seven educators. The focus group meeting was held within a school campus. Focus group participates were selected based upon availability within one Southern California school district. Ten participates within the school district were asked to participate in the focus group following an annual procedural review. However, seven out of the ten participants voluntarily participated in the focus group. No incentives were provided to the participants. The focus group was an informal setting, held in the teachers' lounge of a child development center during afternoon school hours. The group met on one occasion for 45 minutes. Six open-ended questions were asked during the course of the group meeting. The questions were listed as the following: 1. What kind of training have you received in video modeling interventions? 2. What type of video modeling technique do you use most frequently, and why? 3. How often do you use video modeling in your classroom? 4. Do you use prompts and reinforcements while implementing the video modeling techniques, if so do you find that it helps the students? 5. What technological barriers do you struggle with when implementing video modeling in your classrooms? 6. Given these specific challenges, what solution(s) do you deem would be the most beneficial for your classroom and your students?

Instrument

The survey consisted of eight questions utilizing a Likert scale. Participants were asked to indicate whether they strongly agreed, agreed, were neutral, disagreed, or strongly disagreed with the proposed questions. In addition to the Likert scale questions, participants were asked to rate three questions from a one to a four depending on their preferences. Lastly, fill in the blank demographic information was provided at the bottom of the survey. The focus group questions consisted of open-ended questions regarding similar video modeling inquiries.

Data Collection Procedures

The data collection process began once an Institutional Review Board (IRB) was obtained. The data collection process included several different procedures.

Consent forms and surveys were distributed to special education teachers through district email. In the email, the researcher introduced herself and provided information related to the study. Additional participants were recruited through a university teacher education program and social media websites. All surveys remained anonymous. The survey did not ask for names. The participants in the focus group completed a consent form. Answers that were given by the participants during the focus group were both written in note form by the researcher and recorded on an audio device.

Data Analysis

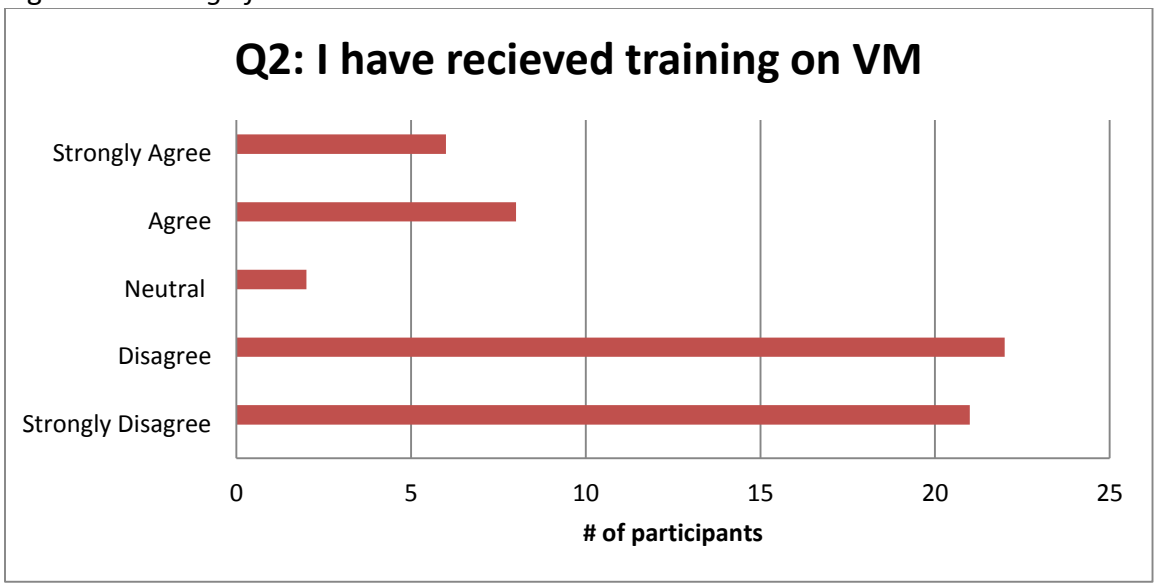
The results of the survey questions were analyzed using the survey monkey software that was provided on the surveymonkey.com website. The software provided statistical analysis of the Likert scale questions. The aim of the focus group interviews was to make it possible for the participants to explain their experiences with VM in their own words. The focus group interviews provided a voice for the survey. The digital audio recordings were transcribed. Field notes and audio transcriptions were analyzed and coded emerging and common. In the analysis, coded interviews were reread by the researcher's university project chair to scrutinize for contradictions or conflicting codes, and researcher bias.

Results

Knowledge of VM

There were three Likert scale questions that were asked which pertained to the participants knowledge base of VM. The first question stated: I have heard of VM, but do not know much about it. Out of 60 participants surveyed, 24 teachers (40%) stated that they have heard about VM, but do not know much about it. An additional question that was on the survey stated: I have received training on VM throughout my teacher training courses. Of the 59 participants who answered the question, 21 educators (35.59%) said that they strongly disagree, as well as 22 educators (37.59%) stating that they disagree with the proposed statement. The last question that pertained to the knowledge base of VM stated: I have studied the research of VM techniques. Of the 60 participants that answered the questions, 22 teachers (36.67%) stated that they have never studied VM techniques, along with 20 teachers (33.33%) who stated that they strongly disagree with the statement of studying VM techniques. See Figure 3 for a summary of responses for the participant's training in VM.

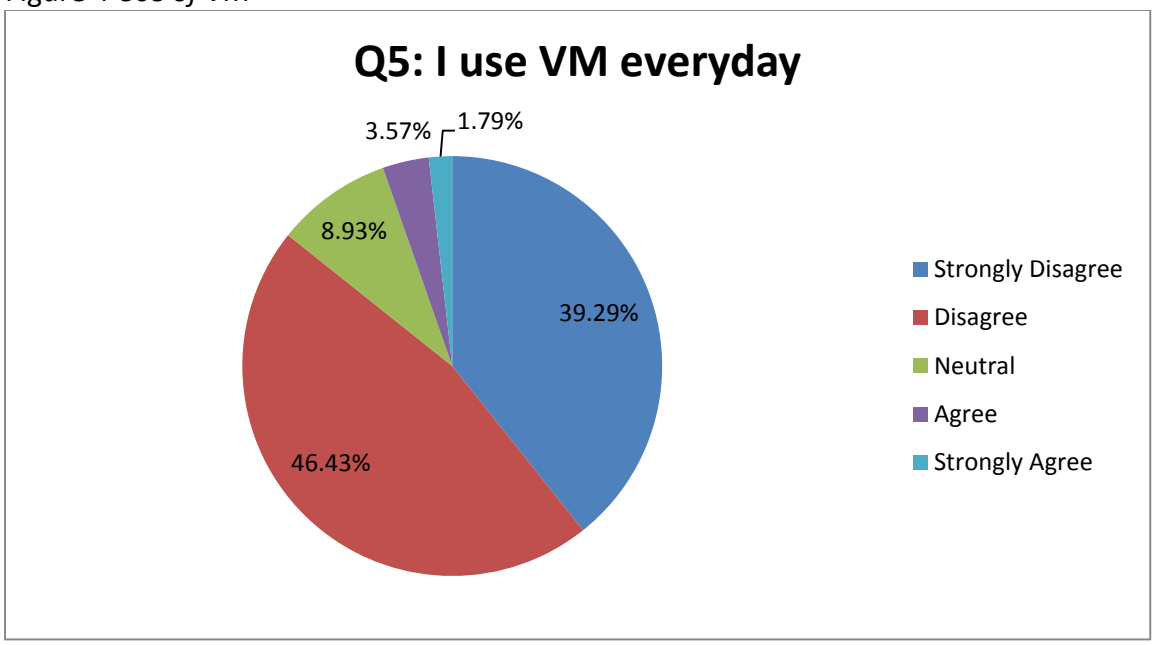
Figure 3 *Training of VM*



Use of VM in the classroom

Participants were asked four Likert scale questions addressing the frequency of VM occurring in the classroom. Out of the 56 participants who answered the first questions stating: I never use VM in my classroom, 21 participants (37.50%) agreed to never using VM in the classroom. When asked a question posed in the opposite manner: I use VM everyday with students, 26 participants (46.43%) stated that they disagreed with the statement. Similar results were found when asked: I use VM two to three times during the week and I use VM once a month with my students. Out of the 56 participants who answered the two questions, 22 people (39.29%) disagreed to using VM two to three times per week and 19 participants (33.93%) strongly disagree to using VM once a month with their students. See Figure 4 for the percentage of teachers who use VM in their classrooms.

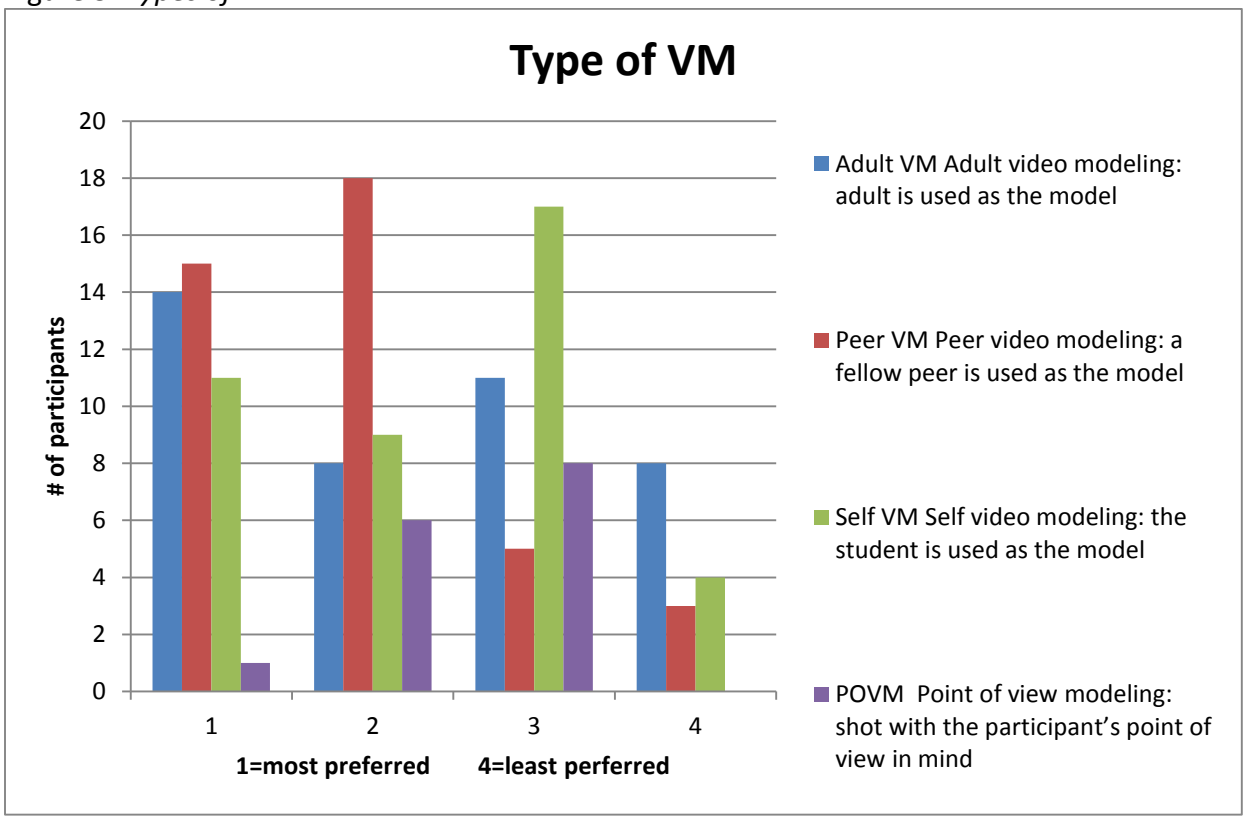
Figure 4 *Use of VM*



Type of VM and Prompts

One rating scale question was asked to determine the type of VM used out in the field. Out of the 41 participants who answered the question, 15 teachers (36.59%) responded with peer video modeling as their first preference for VM and 18 teachers (43.90%) also stated that peer video modeling was their second most used type of VM in the classroom. A close comparison to take note of is out the 41 surveyed, 14 participants (34.15%) identified that adult video modeling was their first preference for VM. An additional Likert scale question was asked to determine the amount of teachers who use prompts and reinforcements when implementing VM. The percentages for this question varied. 14 participants (25.93%) disagreed, 11 participants (20.37%) were neutral, and 13 participants (24.07%) agreed to using prompts and reinforcements. Figure 5 displays the types of VM used in the classroom.

Figure 5. *Types of VM*



Common barriers of VM

A rating scale question addressed the common barriers associated with VM. Participants were asked to rate the common VM barriers from one to four, with one being the biggest barrier and four being the smallest barrier. Out of the 50 participants who answered the question, 41.18% of the teacher stated that lack of time to create videos was the biggest barrier for implementing VM in the classroom. Similarly, 49.02% of teachers agreed that lack of time was the second biggest barrier for implementing VM in the classroom. An equal amount of participants (39.22%) felt that lack of resources and lack of professional development was the third biggest barrier of implementing VM into their classrooms. The smallest barrier identified amongst 40 participants was their personal attitudes and beliefs towards implementing VM. Table 2 displays Table 1 highlighting the five most common barriers of VM.

Solutions of VM

An additional rating scale question suggested some solutions to the barriers of implementing VM in the classroom. Solutions were rated from one to four, one being the best solution and four being the worst solution. Out of the 50 participants who answered the question, 16 teachers expressed that professional development course would be the best solution to solving the technological problems associated with VM. However, an even larger amount of participants, 18 teachers, stated that professional development courses would be the worst solution for solving the technological barriers of VM. Comparatively, 20 out of 50 participants (40%) expressed that extra collaboration time to create videos would be the second best solution to issues with VM. Lastly, 34%

of the participants believed that creating a video modeling website would be the third best solution to the problem. It should also be noted that 15 teachers surveyed expressed that purchasing materials such as iPads and computers is an additional poor solution to the technology issues related to VM. Table 2 displays the most and least beneficial solutions identified by the 50 teachers surveyed.

Focus Group Responses

A follow up focus group was established in order to expand on the questions provided in the survey as well as correlate the data of the study. The participants were ask open-ended questions related to VM trends The questions were centered on similar themes posted in the VM questionnaire, however, the face to face group experiment gave participates the opportunity to expand upon their thoughts and give insight to personal experiences in the field of special education. The seven focus group participants were asked six open-ended questions related to video modeling techniques, challenges, and possible solutions.

Of the seven participants in the focus group, only one mentioned that they had little to no training pertaining to VM, which does not correlate with the results from the survey. In the survey, 35.59% of the participants expressed that they have received little to no training on VM, however, in the focus group all but one of the participants were highly trained on the subject. When participants were asked about the type of VM used in their classroom, half responded with using both adult and peer video modeling and the other half responded with using only adult video modeling. This response correlates to the survey results: 15 teachers (36.59%) responded with peer video modeling as their first preference for VM and 14 participants (34.15%) identified that adult video modeling was their first preference for VM. Focus group participants were asked about the frequency of using VM in their classroom. All of the participants agreed that they use VM sparingly. Answered ranged from once a week at the beginning of the school year to once every couple months depending on how often a student needed a refresher on a skill. This answer is consistent with the results of the survey where 46.43% of the participants strongly disagreed to using VM every day. When asked if they had ever used prompts of reinforcements during the VM process, all of the participants unanimously agreed to using both techniques. They all have found that prompts and reinforcements are helpful to keep the students on task and engaged with the videos.

The focus group participants gave similar answers to the common technological barriers presented in the field. A common theme that came up throughout the discussion is that creating videos was time consuming. Four participants stated that that lack of collaboration time to create videos was the biggest barrier for them, since creating videos was time consuming and required more than one person in order to make each video. One teacher expressed her frustration with the fact that she was unable to “do it all. I constantly overwork myself with lesson planning, paperwork, IEP’s, trainings, teaching, and then on top of it I have to find the time to create videos? It’s just too much!”

In addition, participants mentioned that lack of resources such as iPads and SMART Boards were another barrier for them to implement VM with their students. This correlates to the results found in the survey with 90.2% of the participants

stating that the lack of time to create videos was the first and second biggest barrier in the VM implementation process. According to the survey, the third biggest barrier was lack of resources, which was also highlighted in the focus group.

When asked about possible solutions to the technological barriers of VM, participants provided two common resolutions. Four of the participants mentioned that a virtual library of videos would be so helpful to access on the SMART Board or an iPad. A teacher of an autism specific classroom expressed that "a Dropbox or website would make video modeling so much easier for me, one click and I could teach a specific skill to my entire class by using my SMART Board." The other two participants mentioned that PLC time would be more beneficial for them so that they could create specific videos tailored to their students. "We have all the necessary technology at our fingertips, we just lack the time necessary to create specific videos," stated another teacher.

Overall, the participants' responses to the topic of possible solutions correlate to the survey results. When comparing and contrasting the focus group to the survey, the two most common solutions to the technological barriers of video modeling are identified as extra collaboration time and a video modeling website. Overall, the responses from the focus group were consistent with most of the results yielded from the prior survey.

Discussion

Teachers are finding more students with autism placed in their classrooms due to the rising number of children diagnosed each year (CDC, 2014). Researchers have studied various techniques and one promising strategy that has proven to be highly effective in teaching students with autism is VM (Boudreau & D'Entremount, 2010). VM is one strategy that uses their individual strengths while simultaneously teaching them how to communicate and socialize (Gelbar, Anderson, & McCarthy, 2012; Boudreau & D'Entremount, 2010; Nikopoulos, Keenan, 2007). It is evident that there is no shortage of research pertaining to this effective form of intervention. However, educators in the field find it difficult to properly implement VM in their classrooms due to three common technological barriers. Researchers have determined that there is a scarcity of resources, lack of professional training, and lack of teachers' beliefs and pedagogies towards using technology in the classroom (Kurt & Ciftci, 2012).

Common Trends

In an effort to better understand the common technological barriers of VM and brainstorm potential solutions to ease the challenges of VM, a survey and focus group questionnaire were administered and examined. Findings in this study suggest that participants are more likely to use adult and peer VM with their students because they are deemed to be more effective than POVM and VSM. These findings concur with research in the field. The review of the research found two different types of VM methods have proven to be more influential than its counterparts. Out of the three adult VM studies reviewed, all researchers reported that participants were able to acquire the targeted social skills in each individual experiment (MacDonald et al., 2005; MacDonald et al., 2009;.Boudreau and D'Entremont, 2010). Similar results were found in the peer video modeling section as well (Green et al, 2013; Nikopoulous and Keenan, 2007; Simpson, Langone, and Ayres, 2004). Comparatively, both VSM and POVM reported failed results in two research studies when attempting to

teach children with ASD social skills (Tetreault and Lerman, 2010; Buggey, 2012).

There are mixed results in both this study and previous research when determining whether or not to use prompts and reinforcements during the VM implementation process. In the focus group, a majority of the participants agreed to using prompts and reinforcements in order to increase the likelihood of repeating the behaviors showcased on the video. These findings correlate strongly with the research that compared simultaneous (prompts and reinforcements) vs. priming (no prompts and reinforcements). The research suggests that using prompts and reinforcements during VM sessions increases the likelihood of acquiring targeted social skills (Sancho et al., 2010). In comparison, the survey results varied when participants were asked if they used prompts and reinforcements during VM sessions; 26% disagreeing, 21% were neutral, and 24% agreed to using prompts and reinforcements. These results are similar to the Wolery and Hire's (2006) study, in that participants seem to agree on the fact that not all students require additional interventions methods such as prompts and reinforcements in order to acquire a skill set.

The results of this study also align with the common technological barriers found in the field of VM. Both the focus group and the survey participants agreed that lack of resources and lack of collaboration time were the two most common barriers amongst teachers. Lack of proper resources was identified as the biggest barrier in the Kurt and Ciftci study (2012). Additionally, teachers in the Hew and Brush (2006) study expressed that lack of time to successful incorporate technology was the second biggest barrier in the classroom. A common frustration that was a reoccurring theme amongst the focus group is that creating videos was time consuming, which is exactly what previous researchers found to be true. Teachers are constantly constrained when it comes to time, therefore, creating videos becomes a time consuming task (Bellini, & Akullian, 2007). With regards to the survey results of common technology barriers, 39% agreed that there was a need for professional development, which also correlates to a study that determined only 18% of service providers felt competent in using technology with their students (Guimond et al., 2006).

When looking at the results of possible solutions associated with technological challenges in the classroom, one similarity was found amongst previous research. The current study found that 40% of teachers in the survey determined that extra collaboration time would be most beneficial to solving the common challenges linked to VM. Participants in the focus group also agreed that both extra collaboration time to create videos, as well as creating a video modeling library, would be two solutions in solving the issues of VM. Similar themes were found in the study done by Hew and Brush (2006). This study states that districts should be encouraging educators to collaborate and create technology materials that can be used again or placed in a virtual library of lessons, which can then be shared amongst colleagues. Extra collaboration time would minimize the level of frustration felt by educators in the field; therefore, administrators need to set aside more time for teachers to have PLC meetings throughout the school year (Hew and Brush, 2006).

Implications

The results of this study further indicate the challenges presented when attempting to implement technology in the classroom. A majority of the participants identified that lack of resources and lack of collaboration time were the two most common barriers associated with VM technology. Therefore, it is detrimental for districts to be proactive by resolving these issues with beneficial solutions. The findings of the study also specify solutions to these problems by incorporating more collaboration time amongst teachers and creating a video-modeling library. A virtual video modeling resource is in high demand amongst the district in this study. Teachers and administrators within the district are reviewing other resources that pertain to video modeling banks to determine which are user friendly. The next step is to create a task force to engineer a video modeling source where all teachers can access.

The study was also effective in determining that the most common used model in videos is both adult and peer models. Additionally, the study suggests that educators should use their own discretion when using prompts and reinforcements during the VM process.

With the information provided from the study, districts are encouraged now more than ever to grant teachers the extra collaboration time needed to create videos. Additionally, resources such as iPads or flip cameras could be purchased in order to support the creation of these videos. A different approach to solve this problem would be to form a group of five to ten teachers with whom would organize a video modeling website. This solution would not only solve all the technological barriers, but it would ultimately help teachers gain instance access to a huge library of videos. This solution would make VM implementation more convenient.

Limitations

Although the present study clearly identifies common trends in the field of VM, there are various limitations. Such limitations include the fact that the online survey had a few minor errors. Participants who completed the survey online complained about the drop down boxes not working properly, which may or may not have altered the results of the study. Another repercussion of this study is the fact that not all 60 participants answered the 11 questions that were presented. More than 10 of the participants skipped two or three questions throughout the study, which ultimately affects the percentages of the study. Other limiting factors include the fact that both the survey sample size and the focus group sample size were relatively small and majority of the participants worked in one district.

Future Research

Future researchers should take into consideration that there must be a larger audience to survey in order to gain more accurate results. Once more, in order to integrate VM appropriately, teachers and districts need to be cognizant of the common barriers associated with using technology in the classroom. Lack of time, scarcity of resources, and lack of professional development will affect the proper implementation of technology in the classroom. Future strategies to overcome these common challenges should focus on expanding the resources of VM to other teachers throughout the district. This can be accomplished through collaboration time in order to share and create VM tapes with other colleagues or by creating a library of materials for teachers to utilize.

Furthermore, professional development courses need to be available for teachers to gain hands on experience with equipment needed to properly implement VM and other means of technology in the classroom. Districts should not assume that all teachers have the knowledge to effectively create VM clips. Therefore, trainings are required to teach educators the proper way to implement technology in the classroom.

It is evident that there is no shortage of research studies pertaining to video modeling. The literature reviewed clearly indicates the powerful effects adult and peer video modeling can have on individuals with autism. In order to properly implement this effective intervention, all technological challenges in the classroom need to be resolved. Future efforts must be geared towards extra teacher collaboration time and a virtual library to gain better access to videos. Future researchers should continue to take precautionary measures and avoid the various limitations that have been referenced throughout this study.

Using VM as a teaching tool shows great potential in including individuals with autism in both a school and community setting. In order to properly implement this intervention, teachers require more support in the classroom. Special education programs are encouraged to become more tech savvy in the years to come. The sole purpose of an educator is to teach, as well as further the development of their students. The issue at hand then becomes less about teaching and more about the complications of implementation. When the technological barriers become obsolete, teachers can once again focus on teaching the youth of our nation.

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