

Long Abstract:

Individuals with ASD demonstrate challenges in understanding and participating in reciprocal conversation, including initiating or taking-turns in conversations, and showing poor understanding of non-verbal communication (Orsmond, Krauss, & Seltzer, 2004; Travis & Sigman, 1998). These behaviours may lead to diminished potential for friendship or relationship beyond the immediate family. The significant impacts of conversation impairments in ASD have led to an increase in interventions targeting conversation. An emerging intervention that has demonstrated promise as an evidence based practice is video modelling (VM) (Bellini & Akullian, 2007; Qi & Lin, 2012; Shukla-Mehta, Miller, & Callahan, 2010; Wong et al., 2015).

Based on Social Learning Theory (Bandura & McClelland, 1977), VM is a technique that uses video clips of models demonstrating target skills in intervention. The model portrayed in the VM clips may include a peer, an adult or an animated character. In video self-modeling (VSM), the learner is the model. Here, the learner watches themselves successfully demonstrating the target behaviour. As VSM displays positive self-portrayal, Bandura hypothesized that this may increase self-efficacy (Bandura, 1986).

A systematic review found these techniques to be moderately effective in facilitating conversation in individuals with ASD (Authors). It also highlighted (a) the lower number of adolescents and adults as participants; and (b) the lower number of individuals with complex communication needs (CCN). These findings warranted further investigation in determining the effectiveness of VM and VSM in facilitating conversation skills in adolescents with ASD and CCN. Conversation is the key medium in human interaction (Goodwin & Heritage, 1990). Given that (a) conversational reciprocity is a key impairment in ASD; (b) approximately 30-50% of individuals with ASD require the use of augmentative and alternative communication(AAC) systems (Mirenda & Iacono, 2009); and (c) VM has demonstrated promise as an effective tool for facilitating various skills in verbal children with ASD (Bellini & Akullian, 2007; Qi & Lin, 2012), investigation into the effectiveness for adolescents with ASD who use AAC was logical. Furthermore, because VSM was hypothesized to foster self-efficacy (Bandura, 1986), an important feature especially in adolescence; the use of VSM in facilitating conversation skills was also seen as important for the target group.

This research aimed to (a) determine and (b) compare the effectiveness of VM and VSM in facilitating conversation skills in adolescents with ASD and CCN.

Method

Design. The project consisted of two small intervention studies. The studies used a combination of (a) multiple baseline design across participants, to determine the effectiveness of VM and VSM; and (b) alternating treatments design to compare the effectiveness of VM versus VSM in teaching conversation skills to adolescents with ASD and CCN.

Participants. Overall four participants (two in each study) aged between 10-18 years of age participated in this study. All four participants used the Proloquo2Go on an iPad and attended special schools in this state. The models in the VM clips were gender and age matched peers. The peers used the Sono Flex app on the iPad.

Setting. Both studies were conducted at school, outside the classroom in a separate room.

Materials. Two topics were selected for training. Each topic had two scripts: one for VM and one for VSM. Four other scripts were used to measure generalisation. The generalisation scripts also contained the same turns as the training scripts. The two turns involved were (1) *What about you?* and (2) *What's yours?*. These turns were selected because of their generalisability across topics. The video clips used for the intervention were shown on an iPad. Each clip was no more than 6 seconds. The conversations were based on the following pattern: (a) the communication partner asks a question; (b) the participant responds; (c) the participant takes a turn; and (d) the communication partner responds.

Measures. The independent variable was the type of intervention (VM and VSM) and intervention plus prompts. The dependent variable was the number of correct responses on (a) scripted conversations and (b) generalisation.

Procedure. Prior to commencing baseline, the video clips for VM and VSM were recorded. Baseline was conducted at least three times a week for a minimum of five sessions. During baseline, the participants did not view the video clips and they were not prompted to take their turns. Participants 1 (in each study) commenced intervention first, while participants 2 remained in baseline probes. Intervention was conducted at least three times per week for up to nine sessions in total. Following at least three intervention sessions for participants 1, participants 2 commenced intervention. During the intervention, participants watch the video clip, and then were assessed directly on the viewed script. Prompts (least-to-most) were provided for turns. Maintenance of assessed skills was conducted 1-2 weeks post intervention. Generalisation probes were conducted at each session during all phases. Inter-observer reliability was also conducted for 20% of the sessions for each condition. For the purpose of social validation, teachers were asked to watch four short clips and answer a questionnaire about participants' interaction and comment on overall changes perceived following the intervention.

Results

The findings of this study showed mixed results. This study demonstrated that VM and VSM are more effective when implemented with additional instruction (e.g., prompts). The level of prompts varied for each participant. Additional factors that influenced the effectiveness included vocabulary layout, participant characteristics and interest in the conversation topics. Comparison between VM and VSM also showed mixed results. For some participants VM was more effective, whilst for others VSM was more effective. Parents/teachers of participants noted positive changes, especially in terms of increased use of AAC systems for communication.

Conclusion

In conclusion, this study provides preliminary findings on the effectiveness of VM and VSM in facilitating conversation skills in adolescents with ASD and CCN. For this group of individuals (students with ASD and CCN attending special schools) VM and VSM are more effective when supplemented with additional instructional techniques. Given the small sample size, a study with more participants is warranted to make a conclusive judgment.

Declaration of Interest Statement: The authors disclose they have no financial or other interest in objects or entities mentioned in this paper.

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- | | |
|--|---|
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| Intellectual property rights | Gift |
| Speaking fee | Ownership interest (e.g., stocks, stock options or other ownership interest excluding diversified mutual funds) |
| Royalty | |
| Honoraria | |
| Hold patent on equipment | |
| Other financial benefit (please describe): | |

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Volunteer teaching and speaking

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<input type="checkbox"/> Honoraria
<input type="checkbox"/> Hold patent on equipment
<input type="checkbox"/> Other financial benefit (please describe): <input style="width: 440px;" type="text"/> | <input type="checkbox"/> In kind
<input type="checkbox"/> Grants
<input type="checkbox"/> Gift
<input type="checkbox"/> Ownership interest (e.g., stocks, stock options or other ownership interest excluding diversified mutual funds) |
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