A comparison of video modelling techniques to enhance social-communication skills of elementary school children

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ABSTRACT

This study compared the effect of video modelling with and without embedded narration on the social communication skills of four typical school children. Target behaviours were appropriate conversational turn taking and correct conversational body posture. The differential effects of the two video modelling procedures were assessed using Alternating Treatments Designs with target behaviours and treatment conditions counterbalanced. Responding on both target behaviours was below normative levels during baseline assessment but improved across the alternating treatments phase, and remained at or above normative levels across an optimal treatments phase and in follow-up. Video modelling with narration was more efficient than video modelling without narration for all four participants and more effective for two. Implications of the findings and suggestions for future research are discussed.

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1. Introduction

How children conduct themselves during conversations is an important aspect of social competence as this is the primary means by which we make interpersonal contact, form relationships and regulate our interactions (Gallagher, 1993). Children who do not adhere to common social-communicative rules, such as displaying appropriate body language, and allowing their companion to speak without interrupting, will find it difficult to successfully engage and develop good relationships with peers and adults. The lack of these skills can have a significant impact on a child’s ability to make and maintain friendships, and can detrimentally impact their academic achievement (Dwyer, Osher, & Warger, 1998; Elliott, Malecki, & Demaray, 2001).

Studies have also indicated that poor social-communication skills can lead to behavioural and self-regulatory problems, and adverse academic, social, and relationship outcomes (McClelland, Morrison, & Holmes, 2000; Osofsky & Osofsky, 2001; Segrin & Flora, 2000; Wentzel, 1991). In contrast, students who have well developed social-communication skills are typically happier, better adjusted and achieve greater academic success (Elliott et al., 2001; Spence, 2003).

School based teaching of social-communication skills has proven problematic with interventions varying in success. Indeed, only small positive effects have generally been reported, whether studies involved children with ASD (Bellini, Peters, Benner, & Hopf, 2007) children with emotional or behavioural disorders (Quinn, Kavale, Mathur, Rutherford, & Forness, 2000; 2001; Segrin & Flora, 2000; Wentzel, 1991). In contrast, students who have well developed social-communication skills are typically happier, better adjusted and achieve greater academic success (Elliott et al., 2001; Spence, 2003).

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typically developing children are similar to those in children with ASD (Donno, Parker, Gilmour, & Skuse, 2010). Early intervention occurring in the regular classroom rather than in some pull-out facility (Bellini et al., 2007), and targeting specific rather than generic skills (Quinn et al., 1999) have each been shown to result in more effective outcomes though clearly more research is needed in this field. Video modelling offers a potentially powerful contribution to social-communication interventions. It has been trialled extensively in intervention research with children with Autism Spectrum Disorder (ASD) (Bellini & Akullian, 2007; Moore et al., 2013; Nikopoulos & Keenan, 2004). Video modelling is a procedure in which (a) a participant is asked to watch a video prior to performing the target skill, (b) the target skill is modelled on screen by an adult or peer usually in the authentic context of the activity, (c) the instructor provides prompts and reinforcers to the participant for attending to relevant stimuli, and (d) the participant is then provided with opportunities to perform the skills displayed in the video, prompted if necessary, and reinforced for imitating the behaviour of the model (Nikopoulos & Keenan, 2006).

Charlop-Christy, Le, and Freeman (2000) suggest that video modelling may result in faster acquisition of skills, and better generalisation than in vivo modelling. They posit that it is effective because screen-based media playing devices are engaging for children and associated with sustained attention. Video modelling also permits accentuation of certain stimulus features and minimization of distracting or irrelevant features (Shukla-Mehta, Miller, & Callahan, 2010). Other strategies can be combined with video modelling to teach a range of social skills to children (Apple, Billingsley, & Schwartz, 2005; Charlop & Milstein, 1989; Litras, Moore, & Anderson, 2010). Indeed, the incorporation of instructional prompts and positive reinforcement (both verbal and tangible) appear more effective than video modelling alone for promoting the acquisition, maintenance, and generalisation of target skills (Shukla-Mehta et al.).

To date little research exists demonstrating the usefulness of video modelling in educational contexts, although video modelling might be a useful instructional technique to improve the social and communication skills of all children identified as having deficits in these areas relative to their peers. In many cases, the deficits in social communication exhibited by some typically developing children are similar to those in children with ASD (Donno, Parker, Gilmour, & Skuse, 2010).

The specific behavioural markers that characterise individuals with ASD exist on a continuum, and individuals without a diagnosis can still display deficits in social communication skills similar to those in individuals with ASD. The reasons for these deficits may be common to both populations, such as a diminished capacity to learn via imitation. This is likely given that typically developing children engaged in mainstream settings, have plenty of opportunity to experience appropriate behavioural (in vivo) models in their peers. Modelling interventions involving screen media might be effective for such populations for all the reasons why they work well for individuals with ASD.

Interestingly, many VM intervention studies have included narration overlaying the video model providing additional cues or directions for the targeted behaviour. The benefits of such voice-overs are unclear leading some to question whether narration overlaying VM might hinder learning rather than enhance it (Rayner, Denholm, & Sigafoos, 2009). Alternatively narration might make learning the requisite discriminations simpler. Skinner (1974) first drew a distinction between contingency-shaped and rule-governed behaviour and pointed out that rules can exert rapid control over behaviour, and that a person following instructions may behave differently from a person who has been exposed to the contingencies described by the instructions. Ayllon and Azrin (1964) provide a graphic demonstration of the differential effects of contingencies and vocal instructions. Working with 18 psychiatric patients they were unable to effect behavioural change by provision of reinforcement contingencies until they gave instructions about the desired response. The relationship was reciprocal however; the change in behaviour resulting from instructions was short-lived unless combined with reinforcement. Ayllon and Azrin concluded that “It would seem that for humans, instructions and reinforcement are complementary” (p 330), suggesting that utilizing existing verbal repertoires in humans’ instructions may “ . . . eliminate the necessity for arduous and impractical . . . procedure(s)” (p. 330). Similarly Baron, Kaufman, and Stauber (1969) found that instructions had a major influence on the establishment and maintenance of behaviour of college students.

Only a few studies have examined this empirically, comparing the effects of video with and without narration, and producing some evidence for video plus narration being superior to video modelling without narration. Mechling and Collins (2012), working with participants with moderate intellectual disabilities, reported that video with narration was more effective for three of their four participants. In 2013, Smith, Ayres, Mechling, and Smith (2013) reported a systematic replication of the earlier study working with four participants, all with diagnoses of ASD. They reported that video modelling with narration was more effective for one of these participants – the two procedures being equally effective with the others, and more efficient (errors to criterion) for two of the four. All of these participants were reported to have enjoyed learning new skills using the video models, but indicated a preference for videos with narration. Similarly their teachers opined that though it would be easier to develop video models than video models with narration, they would rather use videos with narration to teach other complex tasks. Mechling and Collins (2012) were working with young adults with intellectual disabilities enrolled in a school transition program, and Smith et al. (2013) with adolescents with ASD. Further research exploring the differential effects of narration combined with video modelling for other populations is clearly warranted.

Consequently, with a view to examining the relative effectiveness of video modelling alone and video modelling with embedded narration, the present study examined the effectiveness of a video modelling-based intervention to improve the social-communication skills of four typically developing elementary school children who had been identified as having social-communication skill deficits relative to their peers. Based on the results of previous studies it was expected that video modelling with embedded narration would be faster, or more efficient, and produce a greater effect than video modelling without such narration.
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