

Rationale

- Difficulty with social communication skills is a core diagnostic feature of Autism Spectrum Disorder (ASD; American Psychiatric Association, 2013).
- Pretend play is an important context for learning social communication skills during childhood (Schuler & Wolfberg, 2000); however, many children with ASD are at risk for exclusion from play due to difficulty with both communication and play skills (Boudreau & Harvey, 2013).
- A number of play-based interventions have been developed for children with ASD (e.g., Wolfberg, DeWitt, Young & Nguyen, 2015) but most do not provide an alternate means of expression for individuals with limited speech.
- Videos with integrated visual scene displays (Video VSDs) offer a platform that provides simultaneous support for both play skills (through video modeling) and communication (Light, McNaughton & Jakobs, 2014).
- Video VSDs have been shown to support both skills acquisition and communication in adolescents with ASD and limited speech (Babb, Gormley, Light & McNaughton, 2017; O'Neill, Light & McNaughton, 2017), but have not yet been studied with younger children or within a play context.

Research Question

What is the effect of video VSDs on the frequency of symbolic communicative turns taken by a child with ASD and limited speech during interactive pretend play with a typically developing peer?

Methods

- Single subject, multiple probe design across 3 play activities



- Independent variable: Video VSDs + instruction
- Dependent variable: Frequency of symbolic communicative turns taken by the participant with ASD
- Two phases: Baseline and intervention

Participants and Setting

One child dyad

Participant with ASD:

- CARS-2: severe
- 8 years old
- Uses single words, short phrases, and scripted utterances
- Play characterized by repeated use of scripted routines and language

Typically developing peer:

- 8 years old (second grade)
- No reported developmental concerns

Classroom setting

- All sessions conducted in a quiet room separate from the classroom
- Participants sat together at a table for all probes and instructional sessions



Materials

Play activities

- Identified via preference assessment (consultation/observation with families, teacher and participants)
- Afforded opportunities for pretend play

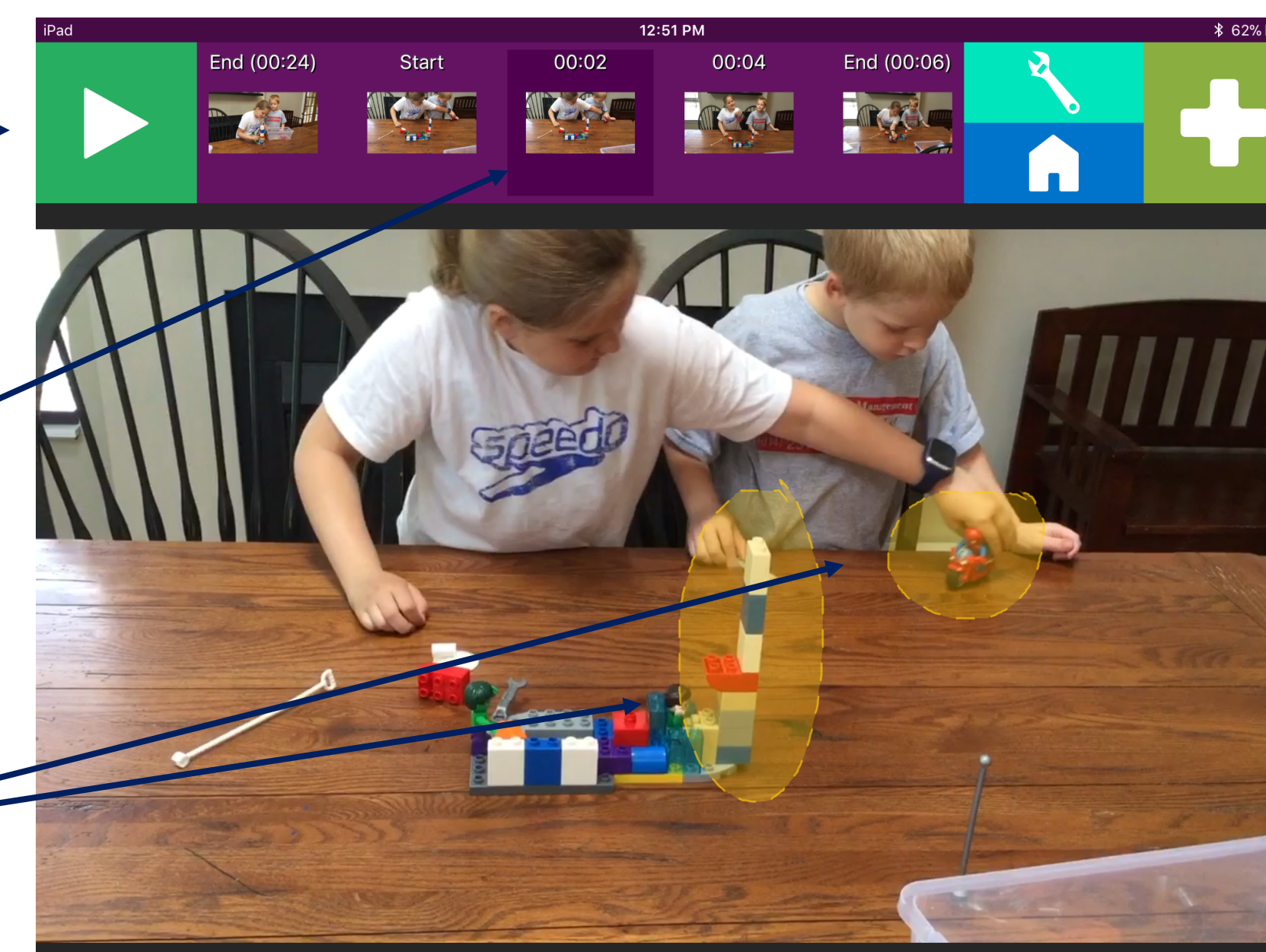
Video VSDs

- Three discrete pretend play actions for each activity were identified through observation of typically developing children engaging in each activity
- Videos depicting each play action were captured and edited to isolate action and remove extraneous sound
- Video VSDs created using the GoVisual™ application (Attainment Company) on an Apple iPad
 - Videos depicting target actions imported into the app (three actions per activity)
 - Two VSDs embedded within each video
 - Two hotspots added to each VSD

Play button activates a video clip depicting a discrete play action (e.g., making the motorcycle jump over the tower)

Videos VSDs for various play actions are depicted by thumbnails. Participants select a thumbnail to open a VSD.

Hotspots provide voice output when touched (e.g., "Tower," "motorcycle," "jump")

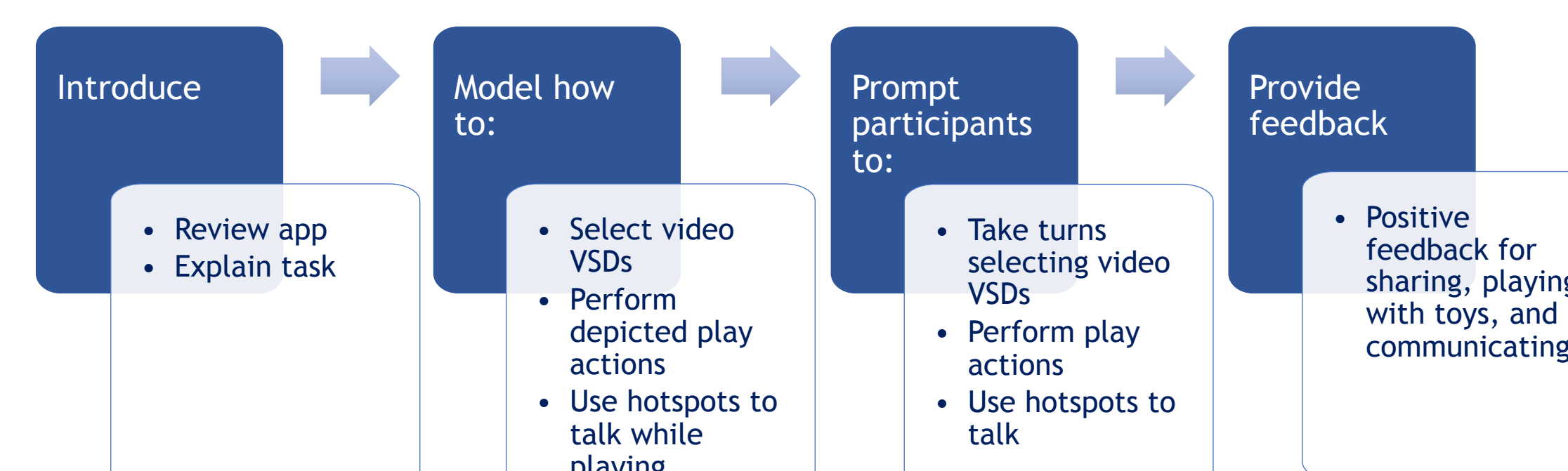


Procedures

Probes:

- 5-minute probe sessions
- Baseline: low-tech VSDs provided; no tablet available
- Intervention: Tablet with video VSDs provided

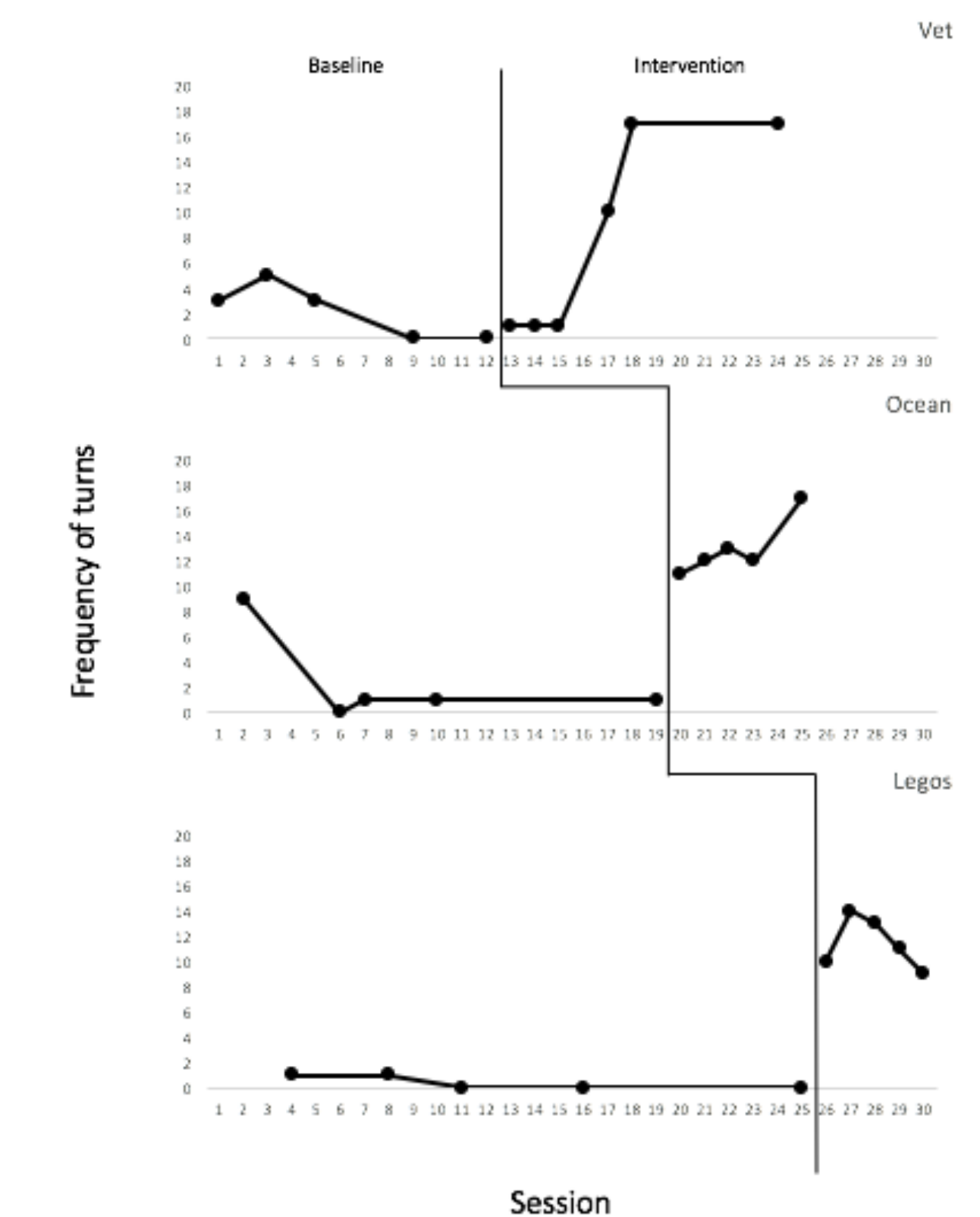
Instruction provided following each intervention probe:



Results

	Average Baseline Frequency	Average Intervention Frequency	Average Gain Score
Activity 1	2.2	7.8	+5.6 turns
Activity 2	2.4	13	+10.6 turns
Activity 3	0.4	11.4	+11 turns

Increase in average frequency of symbolic communicative turns observed across all three activities



Discussion & Implications

- The participant with ASD demonstrated an increase in frequency of symbolic communicative turns across all three play activities.
- This study provides preliminary evidence that videos with integrated VSDs can facilitate communication during pretend play with typically developing peers for children with ASD and limited speech.
- Videos with integrated VSDs may help to increase opportunities for children with ASD to build peer relationships and practice social communication skills within enjoyable, naturalistic activities.
- Future research should replicate the results with a larger number of participants and explore generalization to additional activities. Future studies should also investigate use of video VSDs to support both play skills and communication a) within more naturalistic settings (e.g., classrooms, homes) and b) with larger groups of children.

References:



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