



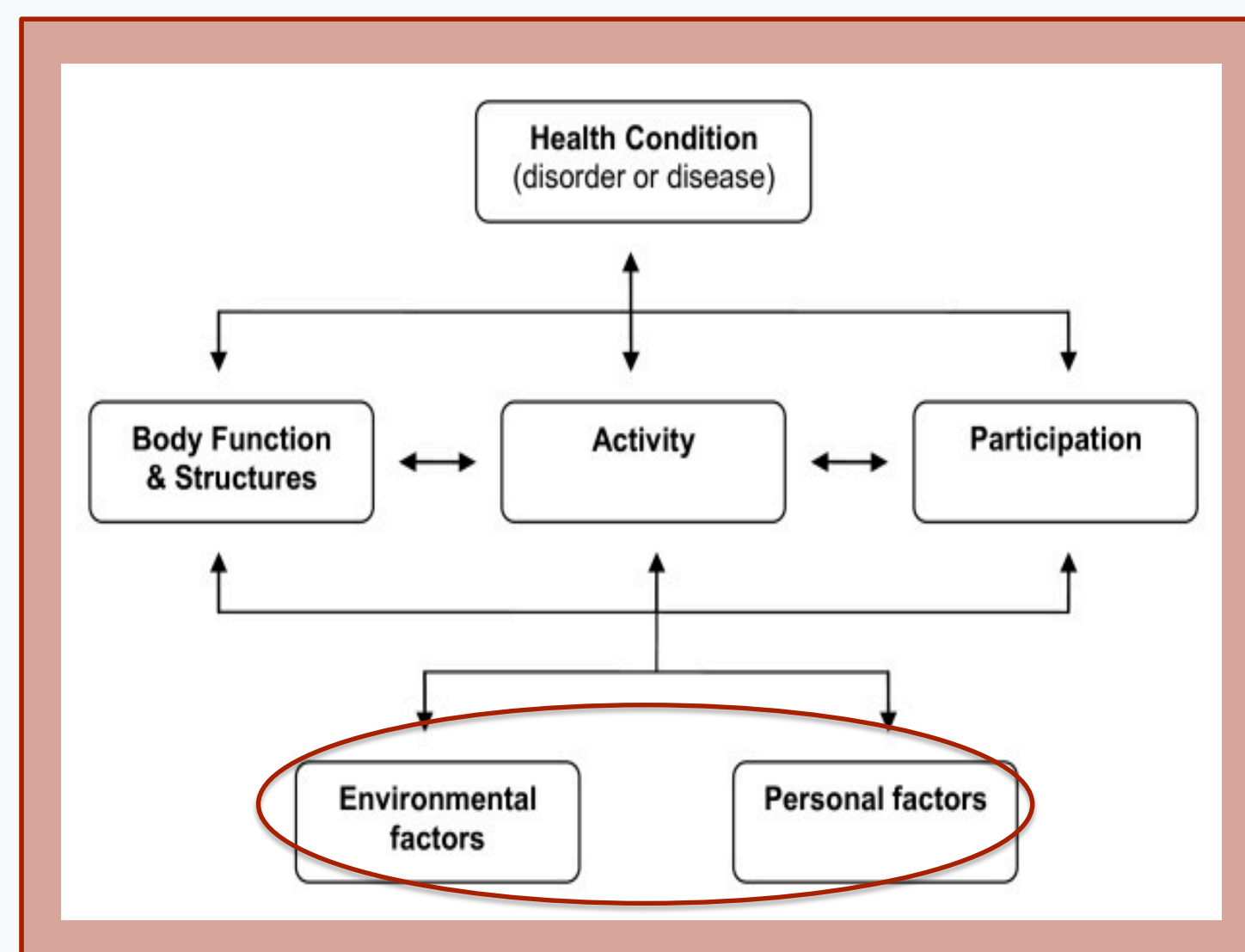
## INTRODUCTION

Peer interaction plays an important role in the development of relationships throughout one’s lifetime (Bukowski et al., 2009; Cartledge & Milburn, 1995). Basic social skills learned in the preschool years contribute to the development of complex ones, essential for developing and maintaining relationships, such as sharing and negotiating roles (Kennedy, 2013).

### The Problem:

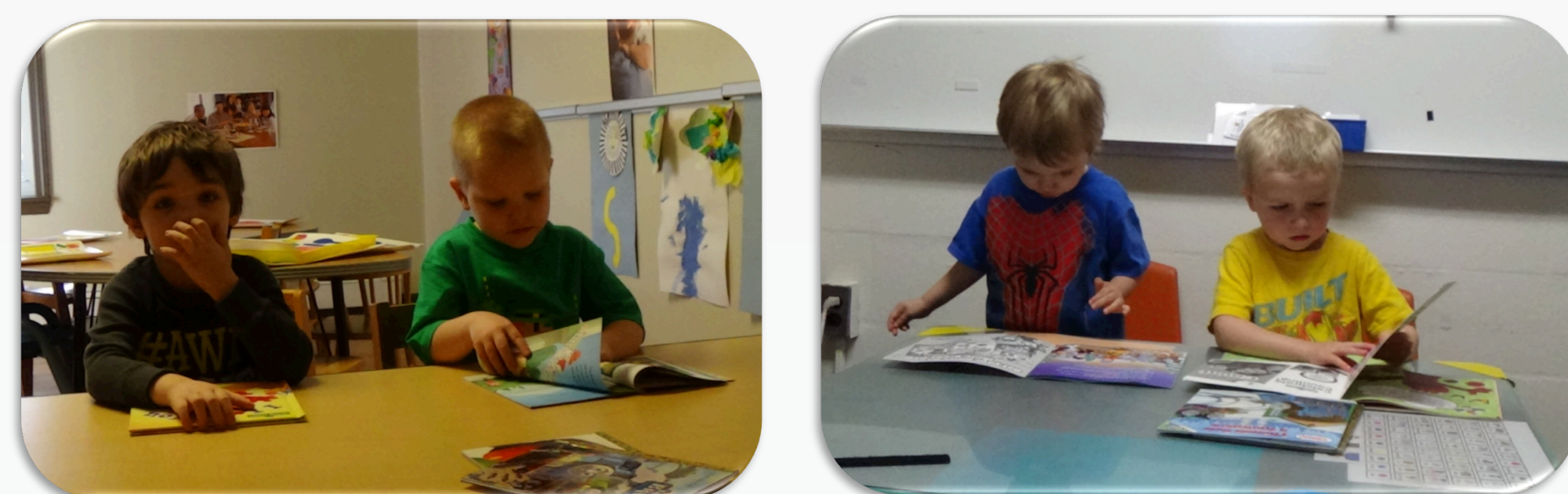
- Children with complex communication needs (CCN) are less well equipped to use language to establish and maintain friendships in early childhood (Gertner & Rice, 1994)
- Both quantity and quality of interaction are lower for children with autism spectrum disorders (ASD) than for children without disabilities (Lord & Magill-Evans, 1995; McGee, Feldman, & Morrier, 1997; Sigman & Ruskin, 1999)
- Children who struggle with foundational peer interactions are at a higher risk for social isolation, depression, and poorer school performance (Brown, Odom, & Buysse, 2002; Bukowski et al., 2009)

Figure 1. ICF Model of Disability (WHO, 1997)



Interventions with the greatest success are those that seek to mitigate the effects of some combination of barriers (Therrien, Light, & Pope, 2016).

The goal of this study was to provide children with both the tools and the skills needed to participate in a balanced communicative interaction.



## RESEARCH QUESTIONS

- What is the effect of intervention on the frequency of communicative turns of children with ASD in interactions with their peers?
- How does the intervention impact joint engagement?
- What are the views of stakeholders about this intervention?

## METHOD

Participant	Age	Disability	Comm. Matrix	CARS-2 severity	Peer
Alex	4;0	ASD	Mastered: 3 Emerging: 6	Mild/mod	Aaron, 4;8
Ben	3;9	ASD	Mastered: 3 Emerging: 6	Mild/mod	Bri, 4;8
Carter	5;2	ASD	Mastered: 3 Emerging: 6	Mild/mod	Chris, 4;11
Drew	5;3	ASD	Mastered: 3 Emerging: 7	Severe	David, 4;8
Eric	3;11	DD; older sib w/ASD	Mastered: 3 Emerging: 7	Under cutoff	Eli, 3;11



Figure 2. Sample VSD used in study



Hot spots: “Grover is flying! Wheeeee!” “Whoa! Be careful, Bert!” and “Ernie is helping!”

## Intervention

### AAC

**iPad:** Chosen for potential appeal to children and likelihood of decreasing stigma. Provided as a universal support for BOTH children.

**GoTalk NOW:** Easy to program and commercially available

**Visual Scene Displays:** Preprogrammed for each page or page spread of each book.

- VSD integrates communication and the activity.
- Young children have an easier time identifying vocabulary (Drager, Light, Speltz, Fallon, & Jeffries, 2003)

**Voice output:** 1-4 hot FUNCTIONal hot spots per page.

### Training

Children taught to “take one turn and wait for their friend to take a turn”

Used least-to-most prompting (Oh GOSH!)

- Oh – Zero prompt/natural cue
- G – gestural prompt (point to iPad screen)
- O – oral prompt (“It’s your turn!”)
- S – show/model taking a turn
- H – hand over hand – gently guide child to activate a hot spot

Provided feedback to participants during each communicative turn

Procedural Reliability: 99% over 30% of training sessions

## RESULTS

Figure 3. Impact of intervention on frequency of communicative turns

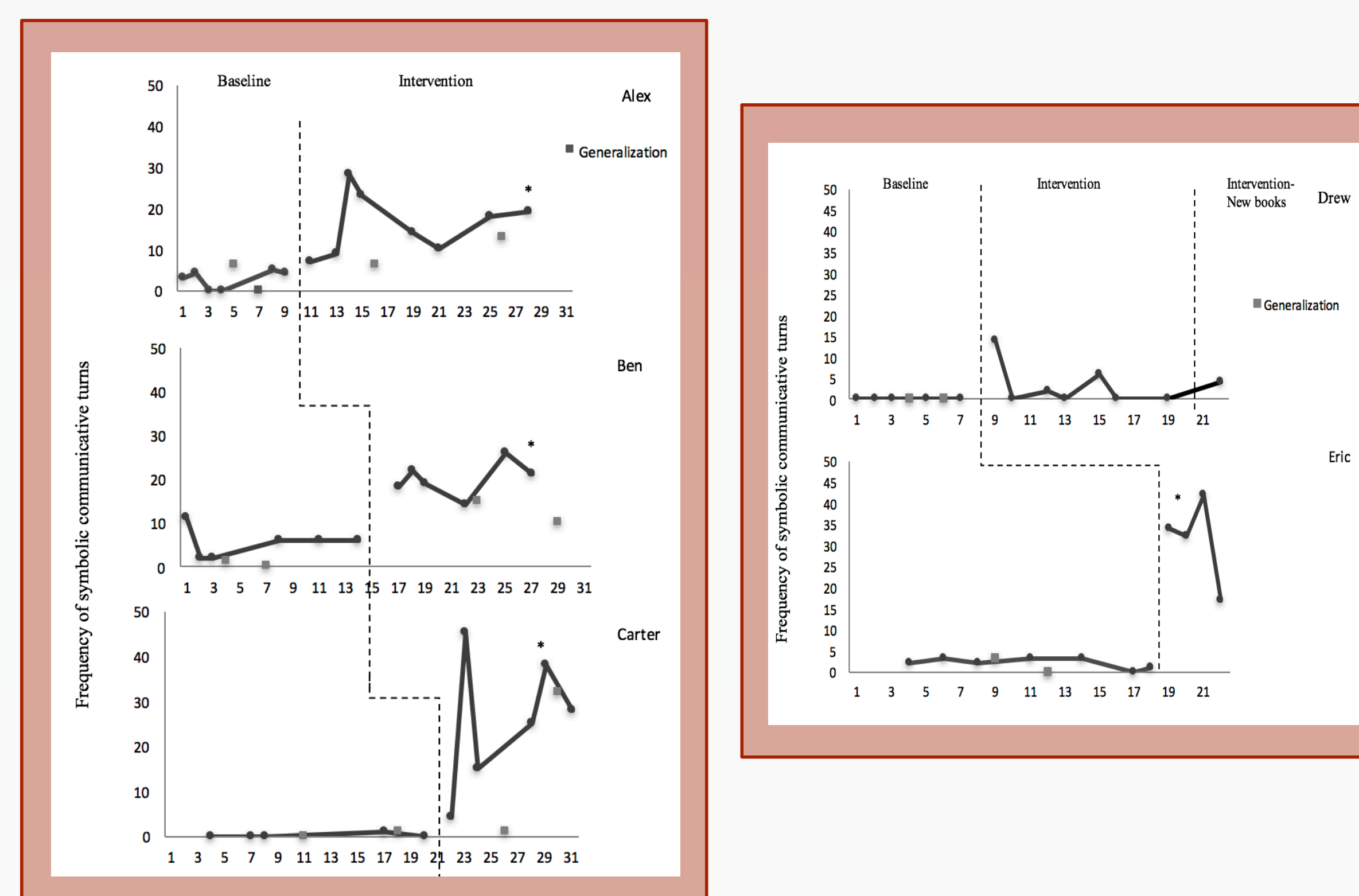
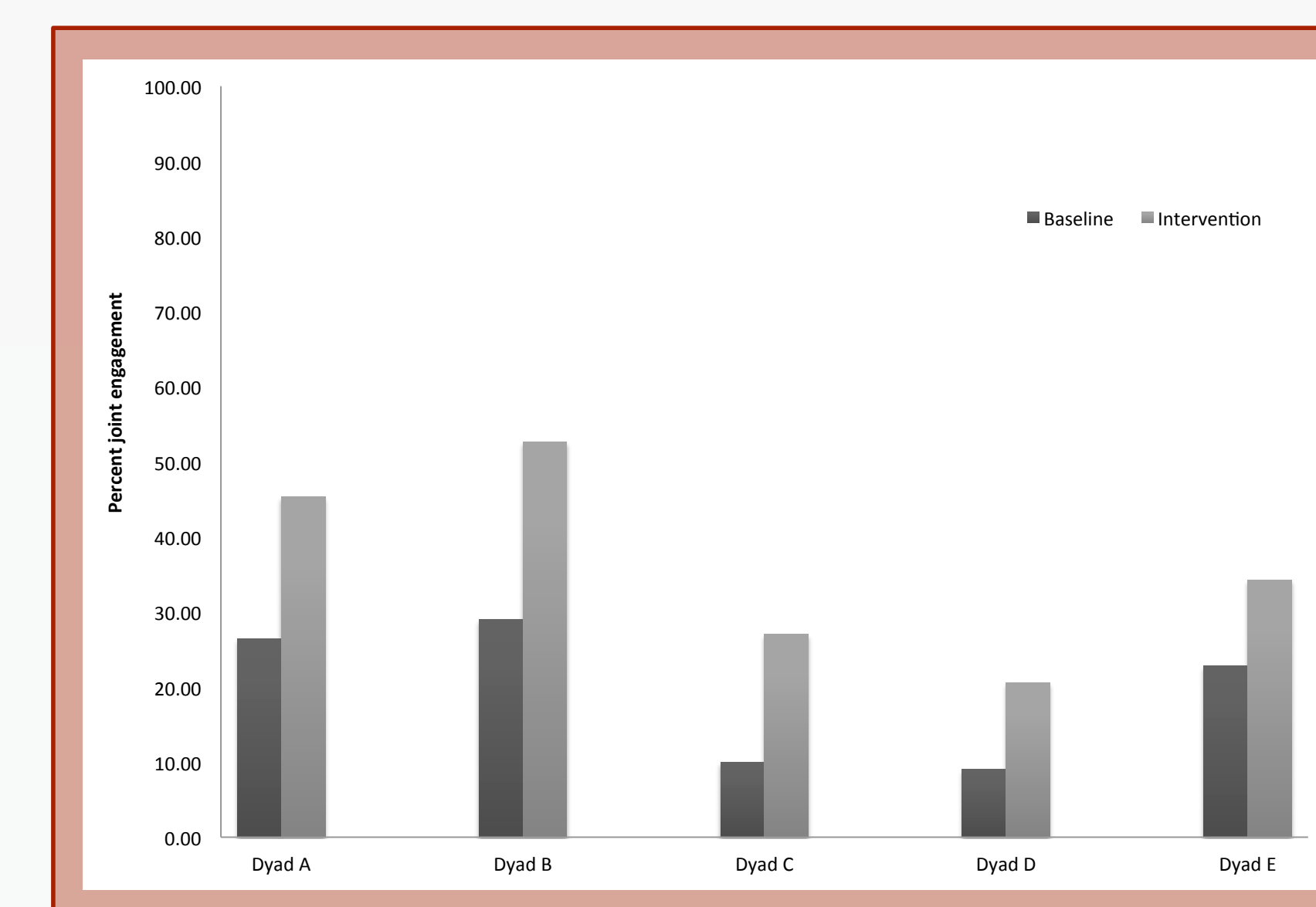


Figure 4. Average joint engagement across phases for each dyad



*“They both seem focused on the tablet and look to each other for a reaction. They are interacting much more than in the first video.”*

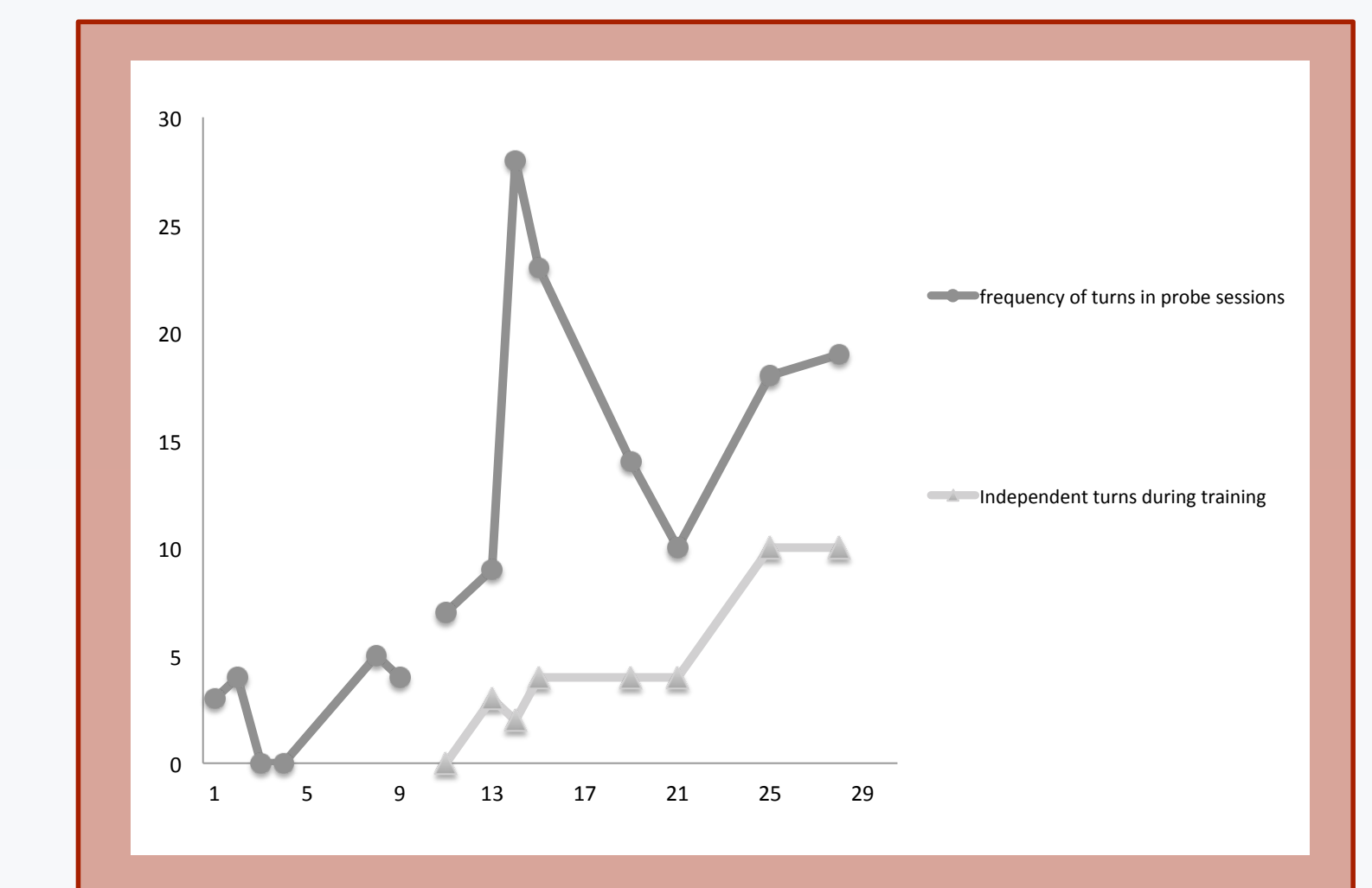
## DISCUSSION

### Efficiency of training:

- 4 of the 5 dyads met criterion for ending training after fewer than 10 training sessions
- 1 dyad did not meet criterion, but had to exit study due to end of school year. (had only received 90 minutes of intervention)



Figure 5. Contribution of intervention components



- Initial increase due to novelty of an interest in AAC
- Second increase due to learning the skills from the training

## CLINICAL IMPLICATIONS

1. Peers should be considered primary communication partners for preschool children
2. Peers can be included in intervention without being given the role of “helper”
3. Improvements in social communication & engagement can come as a result of a simple, efficient intervention that provides both the tools & skills necessary for interaction.



## ACKNOWLEDGEMENTS

This project was supported by a 2015 ASH Foundation Student Research Grant in Early Childhood Language Development.

This project was also supported, in part, by funding from the Penn State AAC Leadership Project, a doctoral training grant funded by U.S. Department of Education grant #H325D110008 and the Hintz Family Endowed Chair in Children’s Communicative Competence

Contact: mtherrien@fsu.edu



The authors disclose they have no financial or other interest in objects or entities mentioned in this presentation.