Evaluating the Picture Exchange Communication System (PECS) without a Second Instructor

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Introduction

- PECS is an alternative communication method in which a speaker gives a picture icon to a listener (i.e., a communicative partner [CP]) in exchange for a desired item or activity (Frost & Bondy, 1994).

- The PECS manual prescribes the use of a second instructor to deliver physical prompts to teach the communication response during Phases 1 and 2.

- In response to the ongoing COVID-19 pandemic, practitioners must consider how to adapt instructional techniques that reduce virus transmission (e.g., limiting number of individuals in room).

- The purpose was to develop and evaluate modifications to the PECS manual that do not include a second instructor.

Method

Participant and Setting: Bella is a 5-year-old female diagnosed with ASD. She did not have an echoic repertoire nor an established communication system. Sessions were conducted throughout her clinical appointments at a university-based autism center.

Dependent Variable: Icon exchanges defined as picking up icon, reaching to CP, and releasing icon into CP's open hand (see phase-specific additional criteria).

Procedures:
- **Baseline:** No consequences delivered for icon exchanges. Assessed responding across the six PECS phases across consecutive 2-minute sessions. (Cummings et al., 2012).

- **Phase 1:** 3s prompt delay to physical prompts delivered by CP.

- **Phase 2A:** Progressively increased the distance to exchange icon with CP using a changing criterion design (CCD).

- **Phase 2B:** Progressively increased the distance to the PECS book using a CCD. Added interspersed probes of traveling to the CP at 2, 4, 6, and 9 steps.
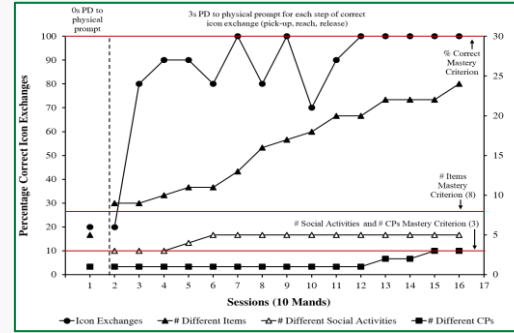
Results

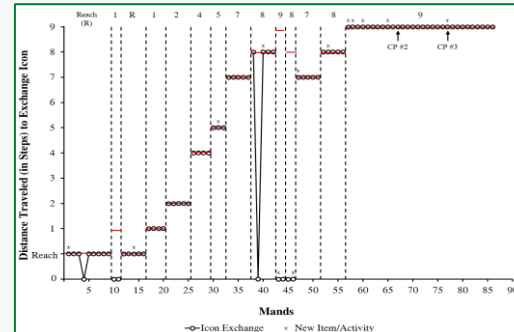*Figure 1.* Teaching the icon exchange (Phase 1).

Figure 2. Teaching the icon exchange at increased distances to the CP (Phase 2A).
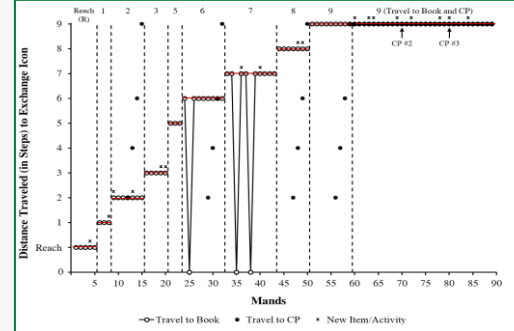

Figure 3. Teaching the icon exchange at increased distances to the PECS book. Probes conducted for traveling to the CP at 2, 4, 6, and 9 steps (Phase 2B).

Results (cont.)

- During baseline conditions (data not depicted), Bella engaged in an average of fewer than one correct response across Phases 1 and 2.

- During Phase 1, Bella's performance met the mastery criterion. She engaged in 100% correct icon exchanges across three CPs, eight items, and three social activities. There were 28 errors.

- During Phase 2A, Bella's performance met the mastery criterion. She engaged in 90% correct icon exchanges when the CP was across the room, across three CPs and with eight items. There were eight errors.

- During Phase 2B, Bella's performance met the mastery criterion. She engaged in 90% correct icon exchanges when the PECS book and the CP were across the room, across three CPs and eight items. There were three errors.

Discussion

- Bella acquired the communication responses in Phases 1 and 2 of PECS without a second instructor. This demonstrates the efficacy of the modified instructional procedures.

- Due to restrictions in response to COVID-19, limitations include:
  - We evaluated outcomes in only one environment (the child's classroom).
  - We assessed communication responses across three CPs, rather than five, as recommended in the PECS manual.

- This clinical evaluation is ongoing, and Bella is receiving Phase 3 instruction.

References

- Cummings, A. R., Carr, J. E., & LeBlanc, L. A. (2012). Experimental evaluation of the training structure of the Picture Exchange Communication System (PECS). *Research in Autism Spectrum Disorders, 6,* 32-45.
- Frost, L., & Bondy, A. (1994). *PECS: The Picture Exchange Communication System training manual.* Cherry Hill, NJ: Pyramid Educational Consultants.