



Effects of the Rapid Motor Imitation Sequence on Vocal Imitation with Non-Vocal Children

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Introduction

- Many individuals with Autism Spectrum Disorder have an inability to express wants and needs. Augmentative and alternative communication devices (AAC) are commonly used, which can lead to less practice of spoken word (Paul et al., 2013).
- Skinner (1957) introduced verbal operants, and their separate and specific controlling variables creating expressive language.
- Sundberg & Michael (2001) suggested we make use of this in ABA programming.
- Ross and Greer (2003) introduced an antecedent intervention called: Rapid Motor Imitation

A series of 6 motor imitations, both gross and fine, presented at a fast pace prior to presenting a vocal prompt for a response.

- It was first used to induce vocal mands with 5 non-vocal participants. All participants successfully emitted prompted and independent mands by the end of the study, and at follow-up.
- Tsiouri & Greer (2003) successfully used this procedure with two preschoolers to evoke prompted and independent tacts.
- The purpose of the current study is to extend the research across another verbal operant, the echoic.

Methods

- **Participant:** A five year old male with Autism Spectrum Disorder and no vocal verbal behavior (e.g., no vocal mands, tacts, intraverbals, or echoics).
- **Materials:** two chairs, a data sheet, and a pencil. Reinforcers were used based on preference assessments conducted prior to each trial.
- **IOA** was conducted for 50% of sessions. Trial-by-trial agreement was 100%. 17% of the sessions were videotaped for procedural integrity measures yielding 86% compliance.
- **Procedure:** Ross & Greer (2003)
 - **Pre-baseline training:**
 - Phase 1: 10 motor imitations were taught using shaping and CRF
 - Phase 2: Participant imitated 18-36 motor responses within 1 minute for 3 consecutive sessions
 - Phase 3: Participant imitated six motor responses within 6-8 seconds.
 - **Baseline:** The target words were selected from the EESA. Instructor gained the participant's attention, held up two preferred items, participant selected one and instructor said the target word. Ten trials were conducted.
 - **Intervention:** Instructor gained the participant's attention, held up two preferred items, participant selected one and the instructor presented 6 motor imitations saying, "do this" prior to each. If the motor imitations were completed correctly the instructor presented the target word. If the child echoed the correct response (within 3 seconds) reinforcement was delivered. Ten trials were conducted during each session. Criteria for target word completion is three consecutive trials of correct echoic responses within 3 seconds of the instructor.

Results

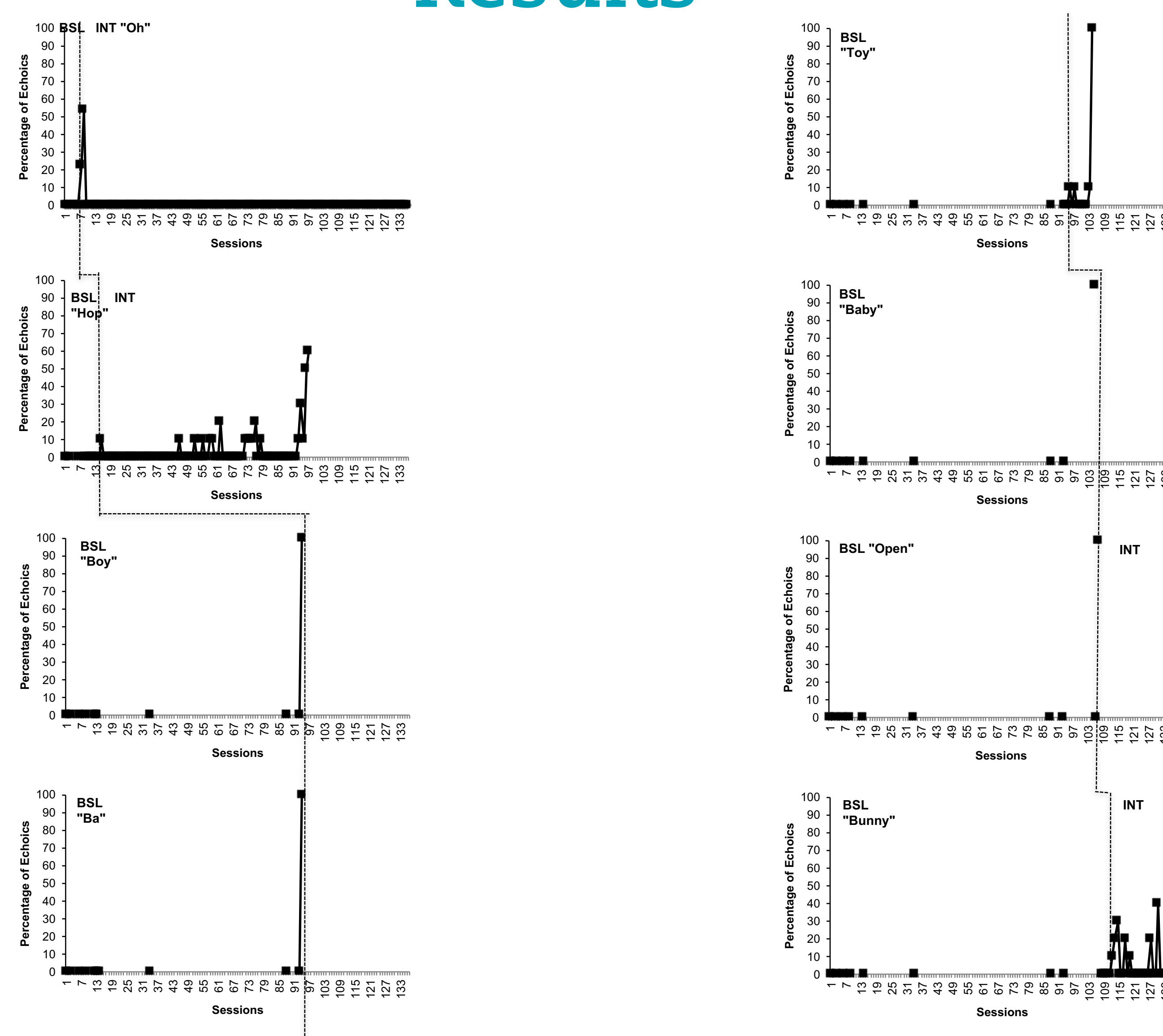


Figure 1. Multiple probe design across echoic responses (left side over right).

Discussion

- The first word, "Oh," met criteria within 4 sessions. It took 85 sessions for the second word, "Hop," to meet criteria. The following two words, "Boy" and "Ba," met criteria during baseline. The fifth word, "Toy," met criteria in 10 sessions. The sixth word, "Baby," met criteria during baseline. The seventh word, "Open," met criteria in two sessions. The final word, "Bunny," has not been met in 21 sessions.
- With the use of the Rapid Motor Imitation procedure a previously non-vocal participant echoed three target words. Three other words were echoed during the baseline phase following the start of the intervention.
- An interesting finding is that words similar to target words did not meet criteria during baseline ("Boy" vs. "Toy"), however words dissimilar, "Boy" and "Ba" following "Hop," met criteria in baseline.
- Another interesting finding is that "Boy" "Ba" and "Baby" met criteria during baseline, but "Bunny" did not.
- **Limitations:**
 - This procedure was used within a 30 hour-a-week treatment package, in which other verbal operants were being targeted. This procedure was effective, but with only one participant.
- The Rapid Motor Imitation procedure offers an alternative to stimulus-pairing procedures for evoking vocalizations. Future research is needed to replicate this finding across more participants, and to extend its use across older participants, other diagnoses (e.g., selective mutism), and other verbal operants (i.e., intraverbal, textual).