Effects of Combining Echoic and Picture Prompts During Receptive Training with Children
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- Receptive identification training addresses comprehension of spoken language. A teacher presents a spoken word or a sentence (referred to as a sample stimulus), and the learner responds by selecting an object or a picture from an array of stimuli (referred to as comparison stimuli).
- Receptive identification training occupies a large proportion of early intervention curricula for children with autism (e.g., Lovaas, 2003).
- Successful performance requires acquisition of auditory-visual conditional discriminations. These types of discriminations often present problems for children with autism (e.g., Perez-Gonzalez & Williams, 2002) as well as for young, typically developing children (e.g., Pilgrim, Jackson, & Gallow, 2000).
- One way to facilitate acquisition is to present picture prompts following error responses (Carp, Peterson, Arkel, Petursdottir, & Ingvason, 2012; Fisher, Kodak, & Moore, 2007). Picture prompts consistently result in faster acquisition than modeling prompts, possibly because they promote attention to the comparison stimuli.
- Attention to the auditory sample stimulus is also important for the successful acquisition of auditory-visual conditional discriminations. A possible way to promote it is to require the learner to echo (repeat) the spoken instruction (Charlop, 1983).
- Can we enhance the effects of picture prompts on acquisition during receptive identification training by combining them with a requirement to echo the auditory sample stimulus following error trials?

**Method**
- Participants were two typically developing 3-year-old children.
- Sessions were conducted 3 times per week in a preschool library and lasted approximately 20 min.
- Children earned tokens that they placed on a token board and exchanged for a small reward at the end of each set of teaching sessions.
- An adapted alternating treatments design was used to compare the effects of (a) the combination of echoic response requirements and picture prompts with the effects of (b) picture prompts alone, and (c) a trial-and-error control condition.
- One session in each condition conducted per day.

**Results**
- Both participants met the acquisition criterion first in the PP condition.
- Sally met the acquisition criterion in the PP condition after 112 trials. After 160 trials, her performance was stable at 56% correct in the EPP condition and accuracy in the TE condition remained at chance level.
- Greg met the acquisition criterion after 48 trials in the PP condition and 112 trials in the EPP condition, at which time accuracy in the TI condition still remained at chance level.

**Discussion**
- Contrary to our prediction, picture prompts alone resulted in faster acquisition than when they were combined with echoic response requirements.
- Possible explanations:
  - The echoic response requirement results in a delay between the error response and the picture prompt; thus delaying corrective feedback.
  - The echoic response may evoke additional verbal behavior that creates interference between the presentation of the auditory stimulus and the prompted selection of a comparison stimulus.
- Due to an accident of randomization, both participants' very first teaching session was in the PP condition. It is conceivable that this affected their performance. This possibility will be addressed with additional participants.
- Future research should address the first two possibilities by examining the effects of delaying the echoic response requirement until after the picture prompt is presented, or after the participant has made a prompted selection.

**References**