The Naming Hypothesis (Horne & Lowe, 1996) is a theory of children’s language learning, as it is rooted in Skinner’s (1957) analysis of verbal behavior and assumes that stimulus control over vocal or other verbal responses is a product of primarily operant (as opposed to Pavlovian) conditioning. The theory focuses on explaining why such stimulus control is often observed in the apparent absence of prior reinforcement.

The Naming Hypothesis has generated practical applications in the area of teaching language and associative concepts to children with autism spectrum disorder (e.g., Lees, Miguel, Danery, & Jerling, 2013). It has been observed empirically that children with autism spectrum disorder often exhibit stimulus control over their vocal responses even if they have not been explicitly taught to do so.

The purpose of the present study was to replicate Petursdottir et al. (2014) with an additional control condition in which the children had to make a color naming response, unrelated to the acquisition target, in each trial. The purpose of this manipulation was to interfere with any covert echoic responding that might occur in the learning trial. If echoic responding is crucial to correct production in naming probes, probe performance should be relatively poor in the interference condition.

Method

Participants. So far, two children have been enrolled in the study. Participant 1 was 4 years, 2 months old at the beginning of the study, and Participant 2 was 4 years, 4 months old. The study was conducted at the participants’ preschool in a quiet area away from other children.

Procedure. Visual stimuli were three sets of images of national flags; each set contained four flags (see Figure 1). The primary dependent variable was the participants’ vocal production of the name of the country associated with each flag.

For each participant, the three stimulus sets were randomly assigned to three receptive instruction conditions: echoic, interference, and NRR. In the echoic condition, the participant had to repeat the country name in order before receiving feedback on his or her flag selection; in the interference condition, the participant had to name the background color of the flag before receiving feedback on flag selection; in the NRR condition, the only required response was flag selection.

Results and Discussion

Data collection is currently in progress. Participant 2 excused himself from the study after 11 sessions, apparently due to being bored with the task. At this time, naming performance in the echoic condition was superior to the NRR condition, which in turn was superior to the interference condition. These results are consistent with the predictions of the Naming Hypothesis. These data, however, mirror the rate of receptive acquisition in the three conditions, so it is possible that interference primarily disrupts receptive acquisition but has no specific impact on subsequent vocal naming. In order to assess specific impact on naming performance it is necessary to have information on the accuracy of naming performance at the point mastery is achieved in each condition of receptive instruction. Additional data from Participant 1 and future participants are expected to shed light on this issue.

At this time, Participant 1 is responding at chance level in all conditions of receptive instruction and has made any correct responses in naming probes. Instruction will continue for several more sessions to determine if learning will occur with continued exposure to the task.

References