

Preschooler's Comprehension of Spatial Terms

by Elsa Bravo | Rosalie Odean | Shannon M. Pruden

Abstract ID: 14

Abstract Details

This study aims to understand individual differences in preschooler's early comprehension of spatial language. Spatial language is defined as terms describing location, direction, shape, dimension, features, orientation, and quantity (e.g. location, shape). Spatial language is considered to be one of the important factors in the development of spatial reasoning in the preschool years (Pruden, Levine, & Huttenlocher, 2011). In recent years, research has shown spatial reasoning is an important predictor of successes in STEM (Science, Technology, Engineering, and Mathematics) fields (e.g. Shea, Lubinski & Benbow, 2001; Wai, Lubinski & Benbow, 2009). The current study focuses on when children begin to comprehend spatial terms, while previous work has mainly focused on production of spatial language. Identifying when children begin to comprehend spatial terms could lead to a better understanding of how spatial reasoning develops. We use the Intermodal Preferential Looking paradigm (IPLP) to examine three-year-old children's ability to map spatial terms to visual representations. Fourteen spatial terms were used to test these abilities (e.g. bottom, diamond, longer). For each test trial children were presented with two different stimuli simultaneously on the left and right sides of a television screen. A female voice prompted the child to find the target spatial relation (e.g. "can you find the boy pointing to the bottom of the window"; Figure 1). A Tobii X60 eye-tracker was used to record the child's eye gaze for each trial. For each child the proportion of looking to the target image divided by their total looking during the trial was calculated; this served as the dependent variable. Proportions above .50 indicated that the child had correctly mapped the spatial term to the target image. Preliminary data shows that the number of words comprehended in the IPLP task is correlated to parental report of the child's comprehension of spatial terms ($r[14] = .500, p < .05$).

Event Information

Event: FIU Undergraduate Research Conference

Topic: Psychology

Author Information

Author: Elsa Bravo | Rosalie Odean | Shannon M. Pruden

Email: ebrav012@fiu.edu, rosalieodean@gmail.com, sdick@fiu.edu

Affiliation: Florida International University, Florida International University, Florida International University

Presenter Information

Presenter: Elsa Bravo

Email: ebrav012@fiu.edu

Preference: Both