Jump Start Vocabulary: Teaching Shape Bias to Increase Expressive Vocabulary

Early word learning

Unfortunately, not all children are as adept at word learning as Nicole. Between 10 and 15% of two-year-olds have identifiable difficulties expressing language (Fabrik, Taylor, Bice, & Stiger, 2007). Can the expressive vocabularies of toddlers with language delays be improved by an intervention that does not directly teach new words?

Late Talkers

Young children with: below average expressive vocabularies (< 50 words or < 15 percentile, and/or no two-word combinations)

Lexical Principles & Shape Bias

Lexical principles are mental constructs that help children become more effective and efficient word learners (e.g., Goldzof et al., 2000; Markman, 1990). They are predictions that guide children towards potential meanings and referents for new words. They may be the result of Statistical Learning: the ability to identify patterns within the normal language exposure, make predictions based on those patterns, and use those predictions to become more efficient language learners.

Mutual Exclusivity (Markman, 1990) - Objects have only one name. Lead to a prediction that a novel word should be associated with an object with a different shape that matched one of the target object’s color and the other’s texture.

Shape Bias (Landau, Smith, & Jones, 1998) - Here is a Wif.

Results & Discussion

In two months time, the expressive vocabularies of the children in the experimental group were 1.5 and over 3 times higher than at the start. In comparison to the results from Smith et al’s study, Nigel and John’s vocabulary changes were consistent with the average changes of the experimental group. Jeanine and Derek made changes that were below the average of their experimental group, but above that of their control group (17-month-olds who started with expressive vocabularies ~ 40 words and did not receive the intervention). Derek’s improvements matched those of their control group. Despite this progress, all of children in our experimental group continued to have expressive vocabularies below the average range at the end of the intervention. Only Nigel increased his expressive vocabulary enough to show an improvement in his post-intervention percentile score (from < 5 to < 15). None of the children in the experimental group matched the progress of Eric, the control case. His development may not be typical, however, as his percentile score performance on the CDI increased in the two months from > 40 to > 60.

Derek, David, and John’s improvements followed the predicted pattern of nouns over other word types. Nigel and Jeanine showed growth across categories. These results suggest that an intervention that addressed an underlying skill related to word learning, without directly teaching vocabulary items, can have a positive affect on expressive vocabulary development. The next steps in this research will focus on the inclusion of control measures/participants, exploring alternative forms of the intervention (e.g., video game presentation), increasing and expanding the dosing, and including multiple lexical principles and/or other semantic features.
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Selected References


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