SPLH 466 Example Article Structured Summary
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McGregor, K. K., Newman, R. M., Reilly, R. M., & Capone, N. C. (2002). Semantic representation and naming in children with specific language impairment. *Journal of Speech, Language, and Hearing Research, 45*, 998-1014. **[Ignore (1) Post Hoc Measures of Visual Complexity; (2) Post Hoc Analysis of Definition and Naming Mismatch; (3) Post Hoc Analysis of Definition & Drawing Concordance]**

Purpose: The purpose of this study was to determine why children make semantic and indeterminate errors during picture-naming and whether the underlying reason for semantic and indeterminate errors was similar for children with Specific Language Impairment (SLI) compared to their typically developing age-matched peers. Specific predictions were that children with SLI would make more naming errors than their typically developing peers and that drawings and definitions of misnamed objects would be poorer than drawings and definitions of correctly named objects for both groups of children.

Method: Sixteen children with SLI participated. Children with SLI were 5- to 8-years-old, were currently receiving speech-language pathology services, and scored more than 1.3 standard deviations below the mean on a nonword repetition test. Sixteen typically developing children also participated. These children were matched in age, gender, and race/ethnicity to the children with SLI.

The independent variables were group (SLI vs. typically developing) and type of naming response (correct vs. semantic error vs. indeterminate error). There were several dependent variables depending on the task, including the number of naming responses of each type (i.e., number of correct responses, semantic errors, phonologic errors, indeterminate errors, other errors), mean adult rating of the child's drawing (measured on a 7-point scale), the number of accurate information units in a definition, and the number of correct responses on a comprehension test.

In terms of the procedures, children first named 20 black and white line drawings that were selected to be age-appropriate but low frequency so that both errors and correct responses would occur. In the following sessions, children drew pictures and defined each of the 20 items. Children also completed a comprehension task for each item, where they had to select the target from a field of 6 picture choices.

Results: Naming responses were coded as correct, semantic error (associations, circumlocutions, novel derivatives, coordinate substitutes, superordinate substitutes), indeterminate (e.g., no response), phonologic, or other. The number of each type of response was submitted to an analysis of covariance (ANCOVA). This analysis showed that children with SLI made significantly fewer correct responses than their typically developing peers. Moreover, semantic errors were the most frequent error type for both groups followed by indeterminate errors.

Ratings of drawings of correctly named items, items named with semantic errors, and items named with indeterminate errors were compared using analysis of variance (ANOVA). Results showed that the drawings for items named with semantic or indeterminate errors were rated as poorer than the drawings of correctly named items. This result was true of both groups.

Correct information units of definitions of correctly named items, items named with semantic errors, and items named with indeterminate errors were compared using analysis of variance (ANOVA). Results showed that the definitions for items named with semantic or indeterminate errors contained fewer correct information units than the drawings of correctly named items. This result was true of both groups.

Accuracy in the comprehension task also was compared across correctly named items, items named with semantic errors, and items named with indeterminate errors using ANOVA. Results showed that comprehension accuracy for items named with semantic or indeterminate errors was lower than comprehension accuracy for correctly named items.

Lastly, a descriptive analysis of the response patterns between tasks showed that about a third of the items named with a semantic or indeterminate error were responded to accurately in the drawing, defining, and comprehension tasks. In contrast, about a third of the items named with a semantic or indeterminate error were responded to accurately in one or two of the non-naming tasks. Finally, about a third of the items named with a semantic or indeterminate error were *never* responded to accurately in the drawing, defining, or comprehension tasks.

Conclusions: Although children with SLI made more naming errors than typically developing children, the underlying reason for their naming errors appears to be similar. Specifically, about one-third of naming errors result from retrieval failures in the face of an intact representation, whereas about two-thirds of naming errors result from either sparse/incomplete representations or missing representations (i.e., a word learning issue). This differs from the pattern observed in adults where naming errors are more likely attributable to retrieval failures rather than sparse/incomplete or missing representations.

Impact & Application: These results suggest that there are two underlying causes of naming errors in children with SLI: (1) retrieval failures; (2) sparse/incomplete or missing representations. Clinically, children presenting with naming errors would need to undergo testing similar to that performed in the article to determine which potential source of errors was most responsible for a particular child's naming errors. Moreover, treatment will likely need to address both causes. That is, treatment goals would need to focus on retrieval of words as well as the creation of robust and detailed semantic representations of words.