Characterizing Novel Concept Learning in Poor Comprehenders

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Introduction

Poor comprehenders (PCs) have difficulties with comprehension despite age-appropriate cognitive skills and phonological processing.

Several researchers have proposed that Lexical-semantic weaknesses may be contributing to PCs' comprehension deficit1-5.

In this experiment, we investigate PCs' ability to construct novel semantic representations (categories), both nonverbally and verbally.

Questions:
1) Do PCs notice similarities to create categories?
2) Do PCs differ in their ability to link verbal labels to existing semantic representations?
3) Does directing attention to category-relevant features support category learning and label-mapping in PCs?

Methods

Participants: UConn participant pool students with a range of reading comprehension abilities. (n=29)

Behavioral Assessments: TOWRE, Woodcock-Johnson Word Attack, Nelson-Denny Comprehension and Vocabulary, and Raven's Advanced Matrices

Category Training Experiment: Eye movement data was collected using an Eyelink 1000 Plus desktop mounted eye tracker. E-Prime 2.0 was used to present the experiment and collect accuracy/reaction time.

Expected Results

1) Do PCs notice similarities to create categories?
   - If PCs have trouble creating categories, we would expect them to show poorer performance than TDs during the nonverbal task.

2) Do PCs differ in their ability to link verbal labels to existing semantic representations?
   - If PCs have trouble linking verbal labels to existing semantic representations, we would expect them to show poorer performance than TDs during the verbal task.

3) Does directing attention to category-relevant features support category learning and label-mapping in PCs?
   - If directing attention benefits PCs, we would expect them to perform better in the explicit tasks than in the implicit tasks.

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Thanks for your attention!