Adaptation to Interference in a Naming Task

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Introduction

Speaking requires choosing the right words, but sometimes we experience interference from other words or from attentional distractions.

- The present study used a picture naming task to investigate how two different kinds of interference impact word retrieval: lexical-semantic and attentional interference.
- Colored pictures were preceded by a word from one of six conditions: object names either matched the picture, came from the same semantic category, or came from a different semantic category. Color words either matched or mismatched the color of the picture. The control condition consisted of 5 X’s.
- We hypothesized that participants would adapt to both types of interference over the course of the experiment (4 blocks).
- We also hypothesized that participants would overcome interference more quickly for repeated pictures in comparison to the first time they name the pictures.
- This study aims to report initial findings on how speakers adapt to interference to improve performance on a picture naming task.

Research Questions

1. Do participants adapt to lexical and attentional interference over the course of the experiment?
2. Does repetition of the picture minimize interference?

Tasks

- **Language History Questionnaire (LHQ):** Assesses the linguistic background of participants including self-reported proficiency on a scale from 1 (poor) to 10 (excellent).
- **Naming task:** Measures word retrieval ability for colored pictures preceded by distractor words.
  - Participants were instructed to name the object.
  - Six distractor conditions were used. The task consisted of four blocks of ninety trials each.
  - 180 items were named one time and 30 items were named 6 times in 6 different colors (following each of the six distractors).

Methods

- We found evidence that participants adapted to the interference caused by the distractors over the course of the experiment: facilitation related to object-match distractors increased and semantic interference decreased.
- Color-word distractors did not appear to interfere much with naming, suggesting there was little attentional distraction.
- Response times became faster after the first and second presentations of a picture, but plateaued after that. Facilitation from object-match distractors decreased after the first presentation, perhaps because the facilitation from repetition created a floor effect (i.e., response times couldn’t get much faster).
- Semantic interference was highest for the first two presentations and was reduced after that. This suggests that the participants learned to optimize their performance over the course of the experiment.

Discussion

- We next plan to compare performance between bilingual and monolingual speakers to see whether language experience affects their response to interference during word retrieval.

Future Explorations

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