Factors that Influence the Carry-Over Effects of Lexical Ambiguity Priming

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Effect of Feedback on Priming

2011 Study Method
- Accuracy feedback following each decision.
- Tested in Word Association task.

Results
- After an interval that averaged about 10 minutes between prime and test both materials showed significant increases in the number of secondary responses in word association as number of primes increased.
- Word Association: Effect of Prime

Current Study 1

- What role if any did accuracy feedback play in the effect that multiple sentences had on transfer to word association?

Method
- 64 unbalanced homographs presented in sentences priming secondary meaning (4 sets of 16 with 3 sentences for each homograph without obvious associate).
- Half of participants received feedback after each response; half only during 8 practice trials.
- Sentence Task
  - Each list contained 3 parts:
    - Part 1: 14 homographs and nonsense sentences
    - Part 2: 2nd occurrence of part 1 homographs in a different sentence, 16 1st occurrence of a different subset, and 32 nonsense sentences.
    - Part 3: 3rd occurrence of part 1 homographs, the 2nd occurrence of the part 2 homographs, 16 1st occurrence homographs and 48 nonsense sentences.
  - Within each part items presented in random order.
  - Across participants the subsets for each part and the particular sentences were counterbalanced.

Results
- These results are consistent with the Activation-Selection model (ASM). See Gorfein, Brown, & DeBlassi, 2007.

Effect on Long Term Priming

- Gorfein & Walters (1989) used picture priming task to show priming effects for non-homographic homophones (e.g., knight-night) over 24 hour interval.
- Gorfein (2012) priming effects for unbalanced homographs over 1 week interval.

Results
- Half of the items pictured on day 1 were tested on day 1 in a word association test approximately 15 minutes after their prime.
- Participants were tested one week later for word association to the 56 items that had been shown on day 1 and 28 that had not been shown (baseline).
- Items shown and tested on day 1 showed significant carryover.
- Items shown but not tested were above baseline.

Current Study 2

- We sought to explain the effect of day 1 testing.
- Several possibilities existed:
  1. A testing effect as currently studied in the education literature had occurred.
  2. The word-association test served as an additional prime for the meaning (ASM).
  3. Contextual retrieval might be occurring.

Tasks
- Day 1, Task 1: Picture Priming
  - Picture Set 1
    - 4 primacy items
    - 28 unbalanced homographs, 4/page
  - Picture Location Test (see adjacent poster Wear & Gorfein)
- Day 1, Task 2: Picture Priming (2nd Set)
  - Picture Set 2
    - 4 primacy items
    - 28 unbalanced homographs, 4/page
  - Picture Location Test

Conclusion
- Effect of feedback in the direction of feedback contributing to improvement in performance, but the main effect is that of priming repetition, consistent with ASM.

Additional Tasks Day 1

- Word Association Test
  - 8 primacy items
  - 16 critical items from priming
- "Comprehension Test" (see adjacent poster Wear & Gorfein)
  - Participants read 2 stories containing 16 other critical items from picture priming task and answered multiple-choice questions following each story.
  - Stories primed-secondary meanings.
- Order of word association and comprehension task counter-balanced across participants.

Hypothesis
- If effect of word association test is a testing effect than day 8 performance should be greater for word association than comprehension as we specifically did not test the critical homographs.
- If effect is due to extra priming both should be greater than untested controls.

Results
- This study is not yet completed but the results to date show a significant effect with respect to the day 1 association test as in Gorfein (2012).
- Contrary to the prior study there is substantially the same carry-over of priming for all 3 conditions: tested by word-association, comprehension day 1, shown in picture test but neither in the word association or comprehension task. All are significantly greater than baseline.

Conclusions
- Multiple priming did not enhance carry-over.
- Can results be explained by contextual retrieval? Not likely as a test of contextual retrieval using the same picture task as Gorfein (2012) showed no context effects: see poster 3138 by Wear & Gorfein.
- Of course: further research is necessary.

References
- All papers and presentations used are available on the website: http://bbs.utdallas.edu/lexical/