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Lexical Associations in a Native and Non-Native Language Affect Retrieval Induced Forgetting

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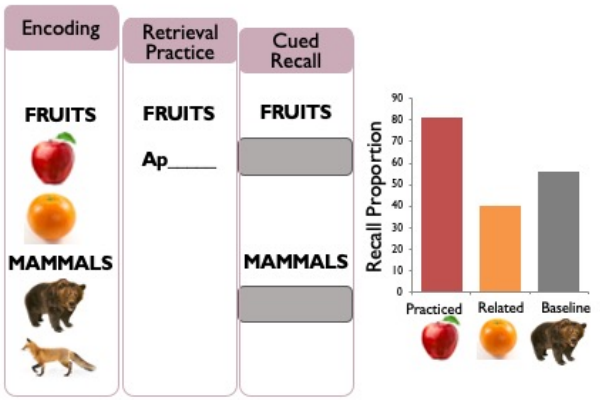
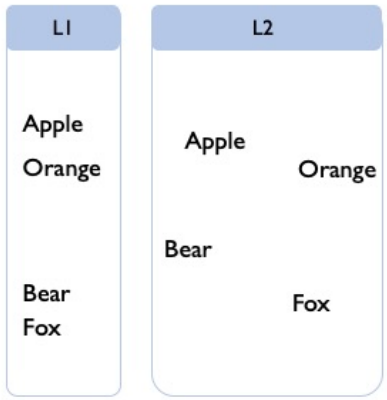
BACKGROUND

Retrieval-Induced Forgetting



Retrieved but unpracticed items are forgotten compared to baseline

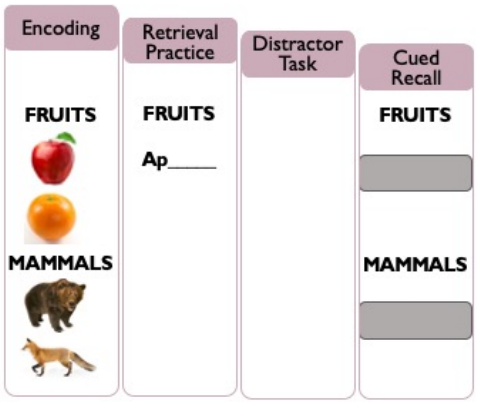
Lexical Association in L2



Lexical associations in L2 are less organized

METHOD

Design:



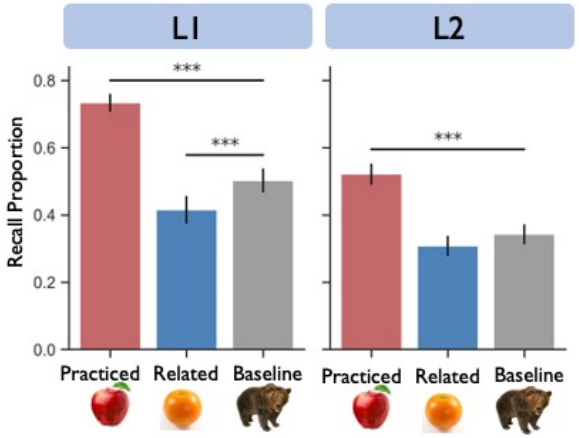
Participants:

- N=100
- Native English speakers who spoke Spanish as their L2
- M age=31.46; SD age= 9.19; 51% women

Stimuli:

- 8 categories, with 6 exemplars each
- Stimuli translated in Spanish for the L2 condition
- High frequency

RESULTS



Rehearsal effect found in both L1 and L2.

RP+ > Baseline

L1: $t(49)=8.19$, $p<0.001$, $d=1.15$, $CI[0.17, 0.28]$
($\beta=1.12$, $SE=0.17$, $z=6.42$, $p<0.001$)
L2: $t(49)=7.98$, $p<0.001$, $d=1.12$, $CI[0.13, 0.22]$
($\beta=0.91$, $SE=0.16$, $z=5.52$, $p<0.001$)

Retrieval-induced forgetting effect was significant in the L1 condition, but not in the L2 condition.

L1: RP- < Baseline items

L2: RP- ~ Baseline

L1: $t(49)=4.11$, $p<0.001$, $d=0.58$, $CI[0.04, 0.13]$
($\beta=-0.47$, $SE=0.17$, $z=-2.67$, $p=0.007$),
L2: $t(49)=1.71$, $p=0.093$, $d=0.24$, $CI[-0.075, 0.006]$
($\beta=-0.19$, $SE=0.17$, $z=-1.09$, $p=0.274$).

DISCUSSION

- No evidence for RIF in L2.
- Results consistent with a less organized L2 lexical network. (Borodkin, et al., 2016)
- Lexical associations affect memory retrieval and subsequent competition.
- Competition between-language may have made competition within-language (L2) less effective. (Tachihara & Goldberg, 2020)

FUTURE DIRECTIONS

- More sensitive measure of L2 proficiency.
- Investigate the neural substrates.
- Investigate the implications for the collective memory of second language speakers
  - Explore the socially shared retrieval-induced forgetting effect in a second language. (Cuc, Koppel, & Hirst, 2007)

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