Indirect Word Learning

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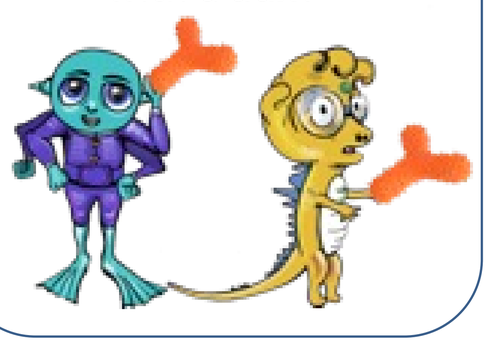
Introduction

How do we learn new words?

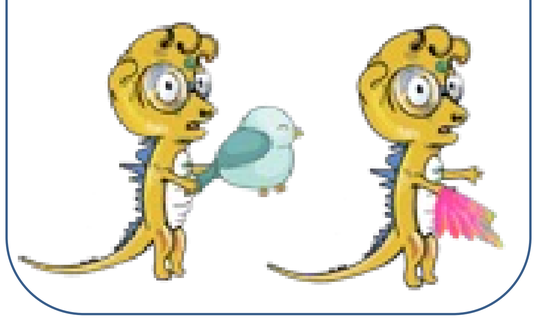
Direct Mapping
(no indirect language)

"Here's a dinosaur with a ***dax***!"



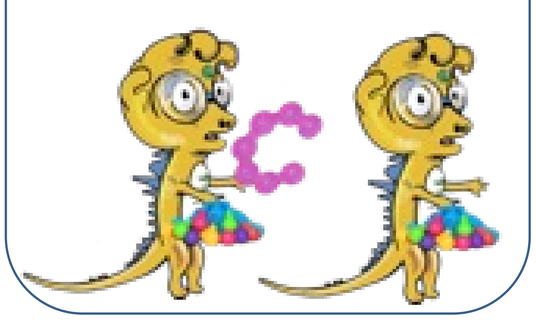
Mutual Exclusivity
(some pragmatic reasoning)

"Here's a dinosaur with a ***dax***!"



Scalar Inference
(high level pragmatic reasoning)

"Here's a dinosaur with a ***dax***!"



What affects indirect word learning?

Cognitive Mechanisms

Theory of Mind (Baron-Cohen et al., 1997) is the cognitive ability to understand and attribute mental states, such as beliefs, intentions, and desires, to oneself and others. ToM is associated vocabulary retention (Milligan et al., 2007) and is relied upon during pragmatic reasoning (Papafragou et al., 2018; Hornick & Shetreet, 2022).

Executive Function is a set of cognitive processes involved in managing behavior, such as attentional control, inhibitory control and working memory. Inhibitory control was shown to predict growth of receptive vocabulary (Kapa & Erikson, 2020), and working memory capacity can predict pragmatic interpretation (Antoniou et al., 2016).

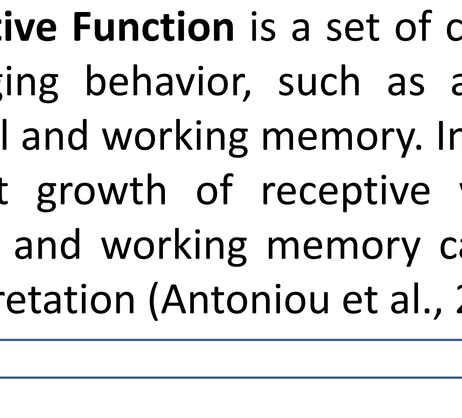
Language Group

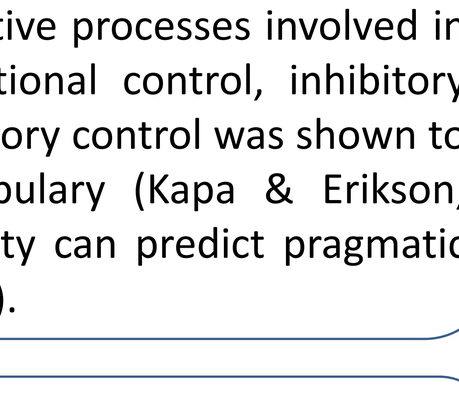
Bilinguals have been shown to have some advantage in utilizing the aforementioned cognitive mechanisms. Attentional control is involved in suppressing interference from the irrelevant language (Kroll et al., 2012) and ToM was shown to have facilitatory effects on vocabulary learning (Jeong et al., 2021).

Method

Participants: Monolingual English speakers and Bilingual speakers of Hebrew and English

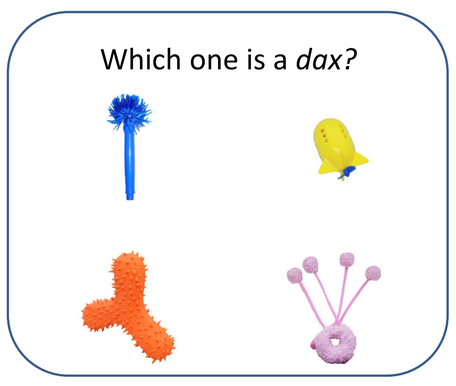
Cognitive Load Phase: Prior to learning new words, participants will be given a cognitive task to facilitate cognitive load on either their Theory of Mind mechanism (using a flanker task), their Executive Function mechanism (using a mind-in-the-eyes task) or neither.





Learning Phase: Participants will learn new nonce words by **Direct Mapping**, **Mutual Exclusivity** and **Scalar Inference,** by selecting the relevant picture.

Retention Phase: Participants will be tested to determine how well they retain learned words.



Predictions

Based on existing literature, we expect that retention of learned words will be highest for SI, followed by ME, with DM at the bottom. With regards to the effects of cognitive load, we expect that this will decrease retention of learned words for both groups in the SI and ME conditions. though this effect should be higher for bilinguals who rely on these mechanisms more than monolinguals.

References

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