The effects of contextual diversity on word learning through reading in monolingual and bilingual adults

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Background

- Semantic diversity: the proportion of semantic overlap between the contexts in which a word appears. 
- Low diversity: high semantic overlap
- High diversity: low semantic overlap
- Encountering a word in diverse contexts drives its core meaning and semantic connections to be updated faster.
- Words learned in diverse contexts should be easier to generalise to new context.
- Bilinguals may use context to a greater extent than monolinguals.

Research questions

- Does learning words in diverse contexts lead to better generalisation of meaning? 
- Does experiencing words in diverse contexts lead to better learning of word forms? 
- Do bilinguals benefit from diversity to a greater extent than monolinguals?

Participants and Procedure

- 65 Bilinguals and 68 monolinguals
- Bilingual L1s: Polish, Spanish, Portuguese or Italian
- Learned the meaning of 8 pseudowords
- Pseudowords embedded in 10 non-diverse and 10 diverse sentence frames
- Old/New Task: assessed learning of word forms
- Cloze Task: assessed learning of meaning generalisation of knowledge

Methods

- Learning phase:
  - Example sentence stimuli (accumulated/invilled)
- Non-diverse (single context: Law/Evidence) 
- Diverse Context (different semantic contexts)
- Enough proof had invited so that the jury could make a fair judgement on the case.
- The witness statements invited and in the end he decided to plead guilty.
- Old/New task:
  - Is the word on screen one that has been learned?
- Cloze Task:
  - Choose the word that completes the sentence
- The police invited evidence against the suspect at a very rapid pace.
- The witness statements invited and in the end he decided to plead guilty.
- Results: Cloze Task
- Monolinguals performed significantly better than bilinguals.
- Significant three-way interaction between language status, cloze type and diversity.
- Monolinguals benefitted from learning words in diverse contexts when using these in informative sentences.
- Bilinguals did not significantly benefit from diversity.

Results: Old/New Task

- Bilinguals performed slightly worse than monolinguals but the difference was not significant.
- The effect of diversity was not significant in either group.
- Monolinguals were significantly faster than bilinguals.
- There was no main effect of diversity.
- There was no interaction between language status and diversity.

Conclusions

- The level of diversity in the contexts in which a word is learned has consequences for developing semantic representations.
- Diverse contexts support extraction of flexible meanings that are easier to generalise to unseen contexts.
- Non-diverse contexts support development of more ‘context bound’ representations that are used more effectively in the same context.
- Bilinguals and monolinguals benefit from contextual diversity differently.
- Bilinguals did not benefit from diversity to a greater extent.
- Current hypotheses of word learning through reading may not adequately account for bilingual learners.

References