**Abstract**

Vocabulary acquisition and literacy skills of 26 pairs of bilingual (English & Mandarin) and trilingual (English, Mandarin and a second Chinese Language) pre-school children were compared longitudinally. Results showed quantitative equivalence but qualitative differences in the processes underlying expressive vocab, reading and spelling of trilinguals and bilinguals.

**Introduction**

Research on young trilinguals has focused on those who speak three European languages, and it has taken the form of case-studies.

**Question 1. Quantitative differences**

Any quantitative differences in single-word receptive, single-word expressive vocabulary, reading and writing of bilinguals and trilinguals?

Debate in bilingual/monolingual and trilinguals?

- Bilingualism deficit theory (Oller et al., 1997) and bilinguals have poorer receptive vocabulary (Bialystok et al., 2001)
- Learning additional language does not have adverse effects on vocab acquisition (de Houwer et al., 2013; Griesler, 2001)

**Question 2. Qualitative differences**

Any qualitative differences in the contribution of semantic knowledge and phonological short term memory to reading and spelling of bilinguals and trilinguals?

- Stronger correlation of digit span with receptive and expressive vocabulary in bilingual than monolingual adults (Kaushanskaya et al., 2012)
- Mixed ESL bilingual children attained equivalent reading skills compared to monolinguals: expressive vocabulary predicted reading only for bilinguals (Geva & Yaghoub Zadeh, 2006)

**Methods**

- **Participants**
  - Simultaneous multilingual pre-schoolers (Time 1: 4 years; Time 2: 6 years)
  - Matched for age, nonverbal intelligence, mother’s education, first language
  - Bilinguals (N=26) English & Mandarin 50% (13 children) with English L1
  - Trilinguals (N=26) English, Mandarin and second Chinese Language 50% (13 children) with English L1

- **Materials at Time 1 (4 years old)**
  - Receptive vocabulary (N=60 items): Locally developed BLAB test (tested in both English and Mandarin, on separate days) (Zadeh, 2006)
  - Expressive vocabulary (N=140 items): Modified OANB picture naming test (tested in both English and Mandarin, on separate days) (Druks & Masterson, 2000)
  - Digit recall (forward) (N=21 items): Followed the format and instructions of WISC-IV (tested in both English and Mandarin, on separate days) (Wechsler, 2003)
  - Material at Time 2 (6 years old)
  - Reading and Spelling test: WRAT reading and spelling tests – single words (tested on separate days) (Wilkinson & Robertson, 2006)

**Results (Quantitative Differences)**

No quantitative differences on all measures between bilinguals and trilinguals

**Results (English variables)**

Partial correlation (controlling for age at T1)

- **Bilinguals (top right):** Digits & Reading/Spelling
- **Expressive Vocab (English) & Reading**

- **Trilinguals (bottom left):** Expressive Vocab (English) & Reading/Spelling

**Results (English reading)**

- **Bilinguals:** Strong predictors: Digit recall & Expressive vocabulary (English)
- **Trilinguals:** No clear predictor

**Results (English spelling)**

No difference quantitatively for vocabulary size between bilingual and trilingual preschool children, but their underlying cognitive processing is qualitatively different.

**Possible reason for group differences?**

Nature of phonological loop activity: trilinguals have more diverse phonological representations and this results in more demands on processing during early spelling.

**Implication:**

Learning a third language has a qualitative impact on early literacy development, and may adversely affect spelling/writing skills in the longer term.

**Discussion**

No difference quantitatively for vocabulary size between bilingual and trilingual preschool children, but their underlying cognitive processing is qualitatively different.

**References**

Krombholz, K., & Ziegler, J. (2011). For The J. Int. of Bilingualism, 15, 572-596