Effects of Cognitive Individual Differences on Cross-Linguistic Effects in L3 Acquisition

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Introduction

- This study aims to examine the role of individual differences in cognition in L3/Ln acquisition, especially with regards to cross-linguistic influence.
- The study encompasses six sessions, measuring individual differences in cognition and language history in the initial session, followed by EEG sessions designed to explore the impact of core cognitive processes on L3 acquisition, and vice versa.
- Through a longitudinal approach, the study seeks to improve our understanding of the cognitive aspects involved in the multilingual learning journey.

RESEARCH QUESTION:
How do core cognitive domains impact cross-language effects and interference of similar and different language properties in the acquisition of a third language (L3)?

Methods

Groups

L1 Spanish – L2 English (Mini-Spanish)	L1 English – L2 Spanish (Mini-Spanish)
L1 Spanish – L2 English (Mini-English)	L1 English – L2 Spanish (Mini-English)

Figure 1. Overview of the bilingual groups in combination with the mini-language groups.

Details on bilingual groups

- **L1 English** (heritage) – (child) **L2 Spanish**
- **L1 Spanish** – (non-child) **L2 English**

Materials

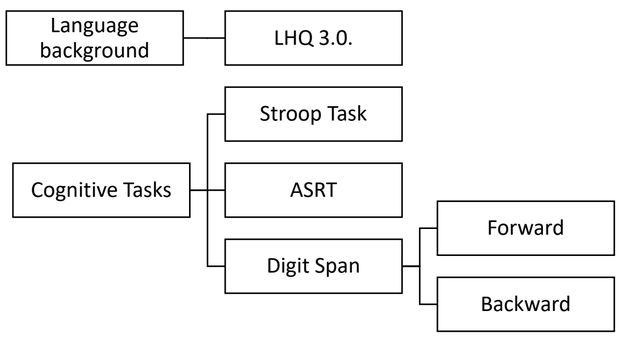


Figure 2. Overview of the individual difference measures.

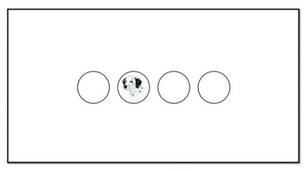
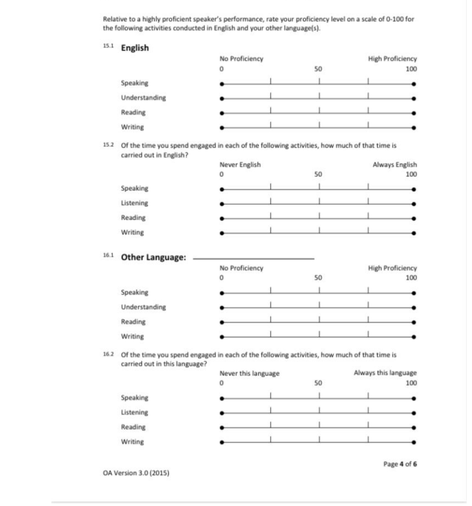


Figure 3. Screen from the ASRT task.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Relative to a highly proficient speaker's performance, rate your proficiency level on a scale of 0-100 for the following activities conducted in English and your other language(s).

15.1 **English**

No Proficiency 0 — 50 — 100 High Proficiency

Speaking
Understanding
Reading
Writing

15.2 Of the time you spend engaged in each of the following activities, how much of that time is carried out in English?

Never English 0 — 50 — 100 Always English

Speaking
Listening
Reading
Writing

16.1 **Other Language:** _____

No Proficiency 0 — 50 — 100 High Proficiency

Speaking
Understanding
Reading
Writing

16.2 Of the time you spend engaged in each of the following activities, how much of that time is carried out in this language?

Never this language 0 — 50 — 100 Always this language

Speaking
Listening
Reading
Writing

Page 4 of 6

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Figure 4. Language History Questionnaire.

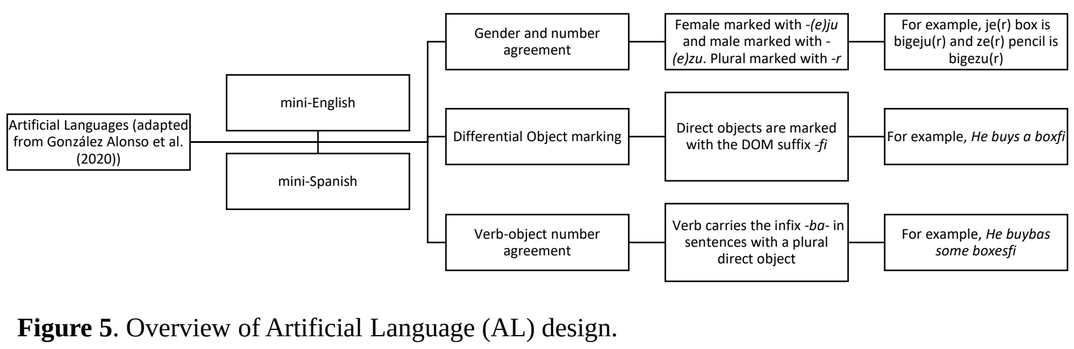
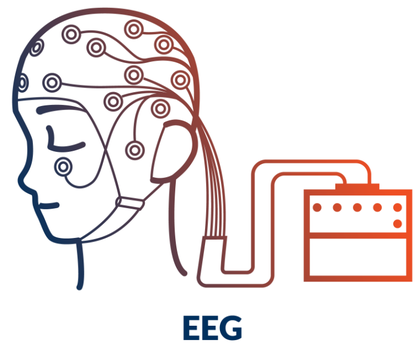


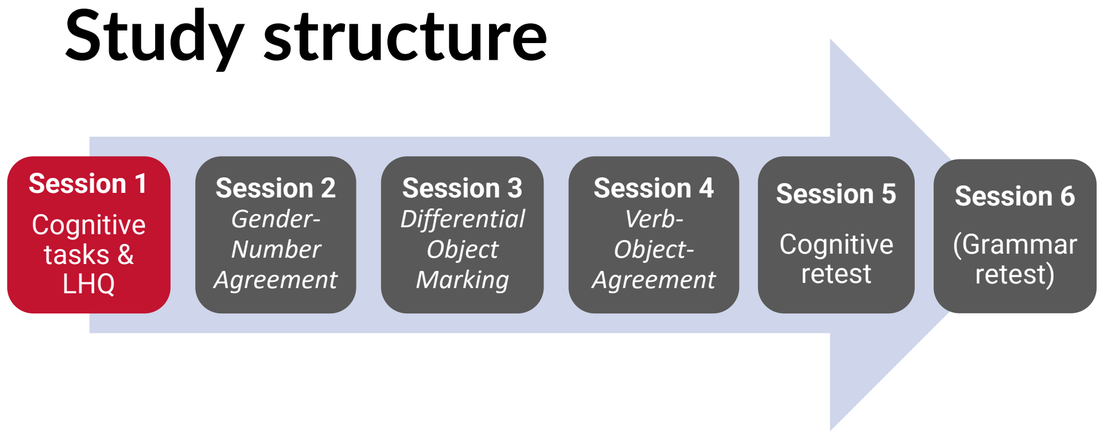
Figure 5. Overview of Artificial Language (AL) design.

EEG task

- After (implicit) training and testing in one of the ALs, subjects complete an ERP experiment.
- RSVP paradigm, grammaticality judgement at the end.
- Testing one (session 2), two (session 3) or all three properties (session 4, session 6).



Study structure



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