Determining the extent to which L1 learner choices influence the L2: exploring semantic and syntactic choices.

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Introduction

• Models (e.g. Levelt, 1989; Jiang 2000) imply semantic and syntactic component related to lexical development.
• L2 word forms are mapped to L1 semantic structures’ Jiang (2004, P.426)
• L1 learners consistently do worse in their L2 compared to their L1
• Is lexical development universal?
• Is there L1 (semantic / syntactic) influence?

Research Questions

1. Are L1 subjects, whose L2 follows a different syntactical structure to their L1, slower in their judgement of L2 strings than L1 subjects whose L2 follow(s) the same or a similar pattern to their L2?
2. Are L1 subjects, whose L2 follows a different syntactical structure to their L1, less accurate in their judgement of L2 strings than L1 subjects whose L2 follows the same or a similar pattern to their L2?

88 subjects

• L1 English (n = 31)
• L1 European (n = 30), Norwegian, Spanish, Greek, Italian, Ukrainian, Portuguese, German, other
• L1 Japanese (n = 27)

L2 proficiency levels

Vocabulary shown to be a ‘good predictor’ of overall proficiency (DeJong, Steinel, Florijn, Schoonen, and Hulstijn 2012)

No significant difference (t(57) = 1.339, p = .186) on vocabulary size measure (X&Y-Lex)

L1 European (M = 5695, SD 1805); L1 Japanese (M = 5168, SD 1121)

Procedure

• DMDX: response time and accuracy are interpreted to draw inferences about cognitive processing.
• Words selected from BNC 1k
• Strings identified by pilot testing with different L1 groups (E,F,J).
• L2 responses compared with L1 English control group, evaluated for:
  • reaction time (RQ1)
  • accuracy (RQ2)
• DMDX presented semantic / syntactic strings in random order – subjects required to judge whether correct (c) or incorrect (ic).

Example sets:

- **Semantics:**
  - nouns: brother, mother, sister (c); brother, village, room (ic)
  - mixed: dead, kill, shoot (c); accept, talk, school (ic)
- **Syntax:**
  - SVO: my sister married a doctor (c); she a doctor shot (ic)
  - mixed: one plus two (c); seven six plus (ic)

Results

Semantic categories – reaction time (RQ1)

• Multiple comparisons of group reaction time shows that there is no difference between L1 Europeans and L1 Japanese.

Semantic categories – accuracy (RQ2)

• Japanese L1 fewer items judged correctly compared to L1 European, and L1 English
  \[ F(2, 85) = 5.88, p = .004 \]

Syntax – reaction time (RQ1)

• Overall effect for first language groups, \[ F(2, 85) = 21.738, p < .001 \]
• L1 English speakers and L1 Europeans: no significant difference between reaction times
• L1 Japanese: significantly slower to react

Syntax – accuracy (RQ2)

• An effect for L1 group, \[ F(2, 85) = 4.612, p < .05 \]
• Pairwise comparisons show the L1 English more accurate than L1 Europeans overall but not different from L1 Japanese.
• L1 European most inaccurate judgements

Summary

Semantics:

• L1 Japanese least accurate
• L1 Japanese & L1 European reaction time – no sig. diff.

Syntax:

• L1 European most inaccurate
• L1 Japanese significantly slowest

Tentative implications

• How to explain less semantic L1 Japanese judgements:
  • L1 Japanese – topologically more distant to English than European languages

• How to explain less accurate L1 European:
  • competition / syntactical interference between L1 & L2

• How to explain slower syntactic L1 Japanese judgements:
  • different L1 & L2 word order: SVO (IC/C) difficult to judge

• Do lexical development models (e.g. Levelt, 1989; Jiang, 2000) need refining to incorporate L1 To L2 differences?
• Other possible explanations / need for further study:
  • L2 level might impact upon response times i.e. threshold effect (rather than L1 effect)
  • Cultural factors related to testing environment, etc.

References


Acknowledgements

We would like to thank the students at Hiroshima University and Kingston University for their participation in the experiments presented in this paper.

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