English second language learners’ nonword repetition performance: The influence of vocabulary size, length of L2 exposure, and L1 background

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Introduction

* Nonword repetition (NWR) tasks accurately differentiate between learners with typical and impaired language learning (e.g., Dobbel & Campbell, 1996; Galton et al., 2007; Gittus & Schwartz, 2007; Lang & Kramsch, 2003; Thordardottir, 2008).

* NWR tasks have been recommended for diverse populations of English-speaking children (e.g., Campbell et al., 1997; Elia Weinser et al., 2000).

* NWR tasks also hold clinical value for bilingual children (e.g., Gittus & Schwartz, 2008; Gathercole & Simon-Corneille, 2010; Paradis et al., in press; Weston-Kiehl, Liskin & Pfeifer, 2010).

Why do bilingual children perform differently on NWR tasks?

* For monolingual children, vocabulary and phonotactic knowledge influence NWR performance (e.g., Gathercole, 2006; Gathercole et al., 1992; Thorn & Page, 1995).

* For bilingual children, vocabulary and phonotactic knowledge may also impact bilingual children’s NWR performance (Thorn & Gathercole, 1999).

* NWR tasks have been recommended for diverse populations of English-speakers (e.g., Schwartz, 2007; Laing & Kamhi, 2003; Thordardottir, 2008).

* Nonword repetition (NWR) tasks accurately differentiate between learners with typical and impaired language learning (e.g., Dollaghan & Campbell, 1998; Gallon et al., 2007; Girbau & Wells, 1995).

Method

Participants:

- 175 English L2 children with typical language development
- 26 L2 children (15%) = standard PPVT raw score 10 or higher.
- 61 L2 children (35%) = standard PPVT raw score 10 or higher.
- 1SD from Monolingual Mean
- 2.85 (z-score) = average 73% correct (SD = 16%)

Research Questions

1. On typically developing child L2 learners meet age-based monolingual expectations in their NWR performance?

2. To what extent is NWR performance influenced by individual differences among the children in L1 background, L2 vocabulary size, and length of exposure to the L2?

3. Is the syllable position of consonants (onset vs. coda) related to errors? Does L1 influence NWR performance?

Results

Table 1: Optimal Logistic Regression Model for NWR Performance

<table>
<thead>
<tr>
<th>Participants</th>
<th>Independent Variable</th>
<th>Beta Coefficient</th>
<th>z-score</th>
<th>p-value</th>
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<tbody>
<tr>
<td>L1 Group</td>
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<tr>
<td>L1_NoCoda</td>
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<td>L1_Coda</td>
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<tr>
<td>MOE</td>
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<td>1SD from MonoL Mean</td>
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* L2 children’s average > 75% (SD = 19.6, range = 16-94).

Figure 1: Child L2 Learners Performance Compared to Monolingual Norms

Figure 2: Child L2 Learners’ NWR Performance by First Language and Exposure

Figure 3: Child L2 Learners’ Performance by English Receptive Vocabulary Size

Discussion

Because these nonwords are based on English sound patterns, and the English L2 children have had less exposure with English.

* L2 children with more experience (i.e., longer exposure) to English were more accurate in their NWR productions than children with less English experience (see Figure 2).

* There was a significant difference in NWR accuracy between children based on their L1 classification (L1 = Code or L1 = No Code).

* The interaction between L1 and exposure to English indicates that the L1 difference was larger in the early stages of English (L2) exposure (see Figure 2).

* There was a significant effect of L2 vocabulary knowledge on NWR performance (see Figure 2).

* The L2 children were less accurate with coda constraints compared to onset constraints.

* Children whose L1 had produced coda consonants more accurately reproducing coda consonants than children whose L1 had rich consonant inventories.

* The L2 children scored below the monolingual mean on this task, even though all children were typically developing L2 learners.

* A monolingual norm-reference for NWR performance with early-stage English L2 learners could lead to over-identification of language impairment.

* How early in L2 development children converge on monolingual NWR performance depends on L1 background.

Clinical Implications

* 10% of the L2 children scored below the monolingual norm on this task, even though all children were typically developing L2 learners.

* A monolingual norm-reference for NWR performance with early-stage English L2 learners could lead to over-identification of language impairment.

* How early in L2 development children converge on monolingual NWR performance depends on L1 background.