Patterns of Phonological Processes in Spanish-English Bilingual Children

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Webinar BILINGUISTICS

Disclosure Statement

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One in five school children speak a language other than English at home.
Separate, but interacting systems

*Interactional Dual Systems Model* of phonological representation suggests that bilingual children possess two separate phonological systems with mutual influence. These systems are separate, yet non-autonomous (Paradis, 2001).

Unified Competition Model

- **Positive transfer**
  - Occurs when forms/structures are consistent across two languages.

- **Negative Transfer**
  - Occurs when forms/structures are not consistent across two languages.
**Worse than monolingual peers**

- Bilinguals with TD compared to English monolingual peers 3 year olds
  - Lower intelligibility
  - Higher percentage of Phonological Processes
  - More uncommon patterns
  - Gildersleeve-Neumann, Kester, Davis & Peña, 2008
- 4-y.o. bilinguals with TD compared to monolingual peers in both languages
  - Bilinguals were less accurate than monolinguals in Spanish on three sound classes
  - Gildersleeve & Washington, 2001
- Bilingual English-Spanish 3-year-olds produced lower consonant accuracy than monolingual Spanish speakers
  - Fabiano-Smith & Goldstein, 2003
- Cantonese-English bilinguals compared retrospectively to monolingual peers
  - Bilinguals lagged behind monolingual peers
  - Dodd, So, Li, 1996

**The same as monolingual peers**

- Bilingual 3 year olds with TD no different than monolingual English speakers on overall consonant accuracy
  - Fabiano-Smith & Goldstein (2008)
- Simultaneous and sequential bilingual 3-4 year olds had patterns of sound acquisition similar to monolingual peers
  - Arnold, Curran, Miccio, & Hammer, 2004
- 4-year-old bilinguals did not differ from monolingual peers in consonant accuracy or phonological processes.
  - Goldstein & Washington, 2001
- 5-year-old bilinguals did not differ from monolingual peers in consonant accuracy or phonological processes
  - Goldstein, Fabiano, & Washington, 2005

**Better than monolingual peers**

- Bilingual Maltese-English children ages 2-6 demonstrated more advanced phonological skills than monolingual Maltese children.
  - Grech & Dodd, 2008
- Bilingual German-Spanish-speaking children had a higher rate of coda productions than monolingual Spanish speakers.
  - Kehoe, Trujillo, & Lleó, 2001
  - Lleó, Kuchenbrandt, Kehoe & Trujillo, 2003
Why such variation in findings?
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The Current Study

• Identify frequencies of patterns of phonological processes in Spanish-English bilingual children.
• Provide data that can be used to support diagnostic decisions.
• Identify patterns not captured in other studies
Bilingual Profile

- Spanish
- English

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Procedures

The Tool: Bilingual Articulation & Phonology Assessment

- Spanish
  - 49 words
  - 109 phoneme & consonant cluster opportunities
  - Evaluates each phoneme in each position at least 2 times
  - Multisyllabic words

- English
  - 58 words
  - 150 opportunities to produce phonemes & consonant clusters
  - Evaluates each phoneme in each position at least 2 times
  - Multisyllabic words
Results - Spanish
Bilingual Children’s Use of Phonological Processes in Spanish - All Participants

- "fadl"/falc (face)
- "bagal"/bagal (dragon)
- "gadl"/gall (gall)
- "tadl"/talal (talal)
- "dadl"/dall (dall)
- "padl"/pall (pall)
- "sulal"/sall (sall)
- "halal"/hala (hala)

Average Frequency of Occurrence

Bilingual Children’s Use of Phonological Processes in Spanish - All Participants

"nadiz"/"nariz" (nose)
"dagón"/"dragón" (dragon);
"loques"/"bloques" (blocks)
"cabaza"/"calabaza" (pumpkin)
"payed"/"pared" (wall)
"peyota"/"pelota" (ball)
"tofá"/"sofá" (sofa)
"llorano"/"llorando" (crying)
Results - English
Bilingual Children's Use of Phonological Processes in English - All Participants

Average Frequency of Occurrence

Bilingual Children's Use of Phonological Processes in English - All Participants

Results

Bilingual Children's Use of Phonological Processes in English - All Participants
Results – English (adjusted)
Bilingual Children’s Use of Phonological Processes in English Adjusted for Spanish-Influenced Processes - All Participants

Substitution Processes - Spanish

Syllable Structure Processes - Spanish
Bilingual children in this study:

- Demonstrate a decreasing use of phonological processes over time. By age 8 processes are suppressed
- Use more processes and a higher frequency of processes in English than in Spanish
- Greater interference/influence of Spanish on English productions than the reverse

Clinical Implications

- Understanding of processes not expected in English of bilinguals to prevent underidentification
Clinical Implications

- Frequency and types of processes differ
  - Closer look at differentiated treatment to reduce processes expressed differently in each language

Additional Resources