Influences of Writing Systems on Young Children’s Spelling in English and Portuguese

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Introduction

Studies have demonstrated differences between English and other languages in:

Accuracy and Learning Rate
- English-speaking children take longer to become accurate readers (Seymour, Aro, & Erskine, 2003).
- Reading accuracy in English is much lower than in other languages (Aro & Wimmer, 2003).

Stages of Spelling

Syllabic stage reported in:
- Spanish: Ferreiro & Teberosky (1983)
- Portuguese: Martins & Silva (2001)

Little or no evidence of syllabic stage in English-speaking children.

Acquisition of Consonants and Vowels

Anecdotal evidence for all-vowel spellings in:
- Spanish: ao, sapa
- Portuguese: AAUA, tartaruga
- Italian: IAEA, primavera

All-consonant spellings in English (Kamii et al., 1990)

How can we explain these early differences?

Letter Names
- Children are more likely to include vowels in their spellings when the vowel is a letter name.
- Number of words that have letter names varies across languages: Portuguese has more vowel letter names in its words than English.
- “Syllabic” spellings may result adventitiously from attempts to represent letter names that children hear in words.

Letter Patterns
- Children may be more inclined to use the letters and letter patterns they have seen more often in their language.
- Number of vowel letters per word might vary between languages.

Research Questions

Study 1: What are the differences between English and Portuguese in their letter name systems and letter patterns?
Study 2: Do children take advantage of letter names when spelling words, and do children differ in the use of consonants and vowels across languages?

Study 1: Methods and Results

Corpora:
- Brazil: Pinheiro, 1996 (3,621 words)
- U.S.: Zeno et al., 1995 (6,232 words)

Procedure:
- Calculated the number of letter names and consonant-vowel ratio in Portuguese and English words.

Letter Name analysis: More Vowel Letter Names in Portuguese

Graph showing the average number of letter names across languages.

Letter Type analysis: More Vowel Letters in Portuguese

Graph showing the proportion of vowel letters in Portuguese and English.

Study 2: Results

Mean Number of Consonants and Vowels per Spelling

<table>
<thead>
<tr>
<th></th>
<th>Portuguese</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>One letter name</td>
<td>1.89</td>
<td>1.42</td>
</tr>
<tr>
<td>Two letter names</td>
<td>2.11</td>
<td>2.30</td>
</tr>
</tbody>
</table>

Proportion of Phonetically Plausible Letters in Children’s Spellings

<table>
<thead>
<tr>
<th></th>
<th>Portuguese</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>One letter name</td>
<td>0.71</td>
<td>0.49</td>
</tr>
<tr>
<td>Two letter names</td>
<td>0.66</td>
<td>0.68</td>
</tr>
</tbody>
</table>

Study 2: Conclusions

Are children influenced by letter names?
- Yes: In both languages, the presence of vowel letter names in the words leads children to use more vowels. Letter names also made spellings more phonologically accurate in English and in Portuguese.

Do we find differences in spelling between English- and Portuguese-speaking children?
- Yes: Portuguese-speaking children used more vowels. The higher exposure to vowels by Portuguese-speaking children may explain the higher usage of vowels by Brazilian children compared to American children.

General Conclusions
- Portuguese-speaking children rely on a letter-name strategy when trying to spell.
- Letter names can influence children to a greater or lesser amount depending on the writing system.
- All-vowel spellings (e.g., /A4 for sapa) may reflect children’s use of letter names rather than being evidence for a syllabic stage of spelling development.
- Other factors besides consistency of sound-letter relationships influence and distinguish children in their early spellings, providing an additional explanation of the difficulty of acquiring English spelling.