The case of case: Children’s knowledge and use of upper- and lowercase letters

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Spelling is phonological

Pre-school children’s knowledge of English phonology

Children’s categorization of speech sounds in English
Spelling is not just phonological

Even young children tend to follow certain graphotactic patterns
Treiman 1993 and others: first graders make few errors like “ckak” for cake

Even young children use simple morphological relationships among words, to some extent, to aid their spelling
Treiman, Cassar, & Zukowski, 1994: hitting-hit
When do children begin to use nonphonological information in spelling?

Treiman and others: Early

Stage theories: Late

It depends …
Children’s use of upper- and lowercase letters

WET for *went*

notational convention?

or how young children actually write?
Children’s experiences with upper- and lowercase letters

I sat there with Sally.
We sat there we two.

Sam
Retrospective look at use of case in spellings of 390 U.S. children

<table>
<thead>
<tr>
<th>Testing time</th>
<th>Mean proportion of phonemes represented in spellings (AMPR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>First half kindergarten</td>
<td>.30</td>
</tr>
<tr>
<td>Second half kindergarten</td>
<td>.54</td>
</tr>
<tr>
<td>First half first grade</td>
<td>.79</td>
</tr>
<tr>
<td>Second half first grade</td>
<td>.90</td>
</tr>
<tr>
<td>Second grade</td>
<td>.97</td>
</tr>
</tbody>
</table>
AMPR: **Automated Measure of Phoneme Representation**

Proportion of phonemes represented in spellings of *cat*:

“kat” = 1.00 (3/3)

“tka” = .67 (2/3)

“kqls” = .33 (1/3)

Correlates highly (> .90) with measures that use hand scoring
Proportion of spellings with various capitalization patterns
Effects of children’s own names

Spellings with noninitial uppercase letter
  “wrD” for word

Tendency for the uppercase letter in the spelling to be the first letter of the speller’s first name

Who wrote “wrD” for word?
  Dayna
Study 2

Case specificity in learning about letters?

298 kindergartners

Naming of upper- and lowercase letters as a function of whether letter appears in child’s name and, if so, the case in which it appears in name
## Proportion of correct responses in letter naming task

<table>
<thead>
<tr>
<th>Position of letter in child’s name</th>
<th>Uppercase form presented</th>
<th>Lowercase form presented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter appears in child’s name in uppercase</td>
<td>1.00</td>
<td>.83</td>
</tr>
<tr>
<td>Letter appears in child’s name in lowercase</td>
<td>.92</td>
<td>.81</td>
</tr>
<tr>
<td>Letter does not appear in child’s name</td>
<td>.89</td>
<td>.70</td>
</tr>
</tbody>
</table>
Conclusion 1: Computerized scoring of children’s spelling has promise

AMPR captures young children’s ability to represent phonemes in reasonable ways

http://spell.psychology.wustl.edu/AMPR
Conclusion 2: Children’s own names influence early literacy

Name provides a stock of letters that children use, and overuse, in writing

Young children sometimes capitalize noninitial letter in a spelling when it is first letter of their name

Children’s performance on tests of letter shape–letter name associations is affected by whether a letter is in their name and, if so, its case
Conclusion 3: Beginners’ spelling is not just phonological

Some types of nonphonological information are acquired early, including knowledge that uppercase letters are more likely to occur at the beginnings of words than later in words.

Use of “orthographic” to cover all types of nonphonological knowledge may obscure important differences.
tHe enD
Proportion of uppercase letters in various positions of spellings