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International Perspectives on Spelling and Writing in Different Orthographies: Introduction to the Special Series

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Abstract

This article serves as an introduction to the special issue on spelling and writing in different orthographies. Most studies and theoretical models of writing are based on the English language, and it is generally assumed that what is true for English is also true for other languages. Further, there are more studies on reading compared to studies of writing and spelling. Considering that 80% of the world's population speaks a language other than English, we need more studies on writing and spelling in languages other than English. With this intention, we are presenting 6 papers on writing and spelling in different languages of different orthographic depth, from highly transparent orthographies like Spanish and Italian to highly opaque orthography like Cantonese.

Keywords

orthography, spelling, writing

Background

This special issue was prompted by three recent findings. First, according to the Social Sciences Citation Index (SSCI), there were 12,726 papers published relating to reading during the past five years but only 4,430 papers on writing; even more striking was that there were only 1,873 papers published on spelling. Second, spelling performance may be a better indicator of one's orthographic knowledge compared to reading, as reading may be accomplished by partial cues (Ehri, 2014). For instance, if the child knows the letters S, T, P in the sequence of a 4-letter sequence, we know that generally it can be either the word STOP or STEP while reading. However, to spell correctly the words STOP or STEP, the child would need to have all four letters in the correct order. Third, most of the studies of spelling have been conducted in English orthography, which according to Share (2008), has an outlier orthography because of the many anomalies in its sound-spelling correspondences. While English is an alphabetic orthography, it is different from Spanish and Finnish orthographies in terms of their regularities. Thus, we should not consider that what is true for English is also true for Spanish or Finnish. For instance, English-speaking children make more errors on vowels than on consonants because 5 vowel letters in English make 18 sounds, whereas a majority of consonant letters make only one sound (Daniels & Share, 2018). According to Kessler and Treiman (2001), vowel spellings in English are quite variable. For instance, on a consistency scale of 0 to 1 (1 being sound is always spelled the same way), the probability of spelling vowels correctly is 0.53, or about 50% of the time. On the other hand, most English-speaking children represent the beginning consonant sound correctly and the probability is about 0.91, which is more than 90% of the time. In contrast, Spanish speaking children make more errors on consonants than on vowels, as 5 vowel letters in Spanish make 5 sounds (Zhang et al., 2021).

The writing system is generally divided into three broad categories: (a) *alphabetic*, where a letter is the basic unit of writing; (b) *syllabic*, where a syllable is the basic unit of writing; and (c) *morpho-syllabic*, where a morpheme is the basic unit of writing (Coltheart, 1984). Examples of alphabetic writing systems include English, Spanish, and Arabic. Syllabic writing systems are further classified into those with phonemic representation, like many Indian languages such as Hindi and Tamil; and those without the phonemic

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representation, like Japanese Kana. Examples of morpho-syllabic systems include Kanji in Chinese (Joshi & Aaron, 2006). However, all alphabetic writing systems are not the same. Seymour et al. (2003) classify the alphabetic writing system based on the depth of its orthography and the syllable structure. Based on this classification system, Finnish has a very shallow orthography and a very simple syllable structure, and English, at the other extreme, has a complex syllable structure and a deep orthography, with German, Spanish, and Italian lying in between. However, this classification seem to be also simplistic and recently Share and Daniels (2015) and Daniels and Share (2018) suggested classifying orthographies on different dimensions such as linguistic distance, visual complexity, spelling constancy despite morphophonemic alternation, omission of phonological elements, allography, dual purpose letters, ligaturing, and inventory size. These complexities of the relationship between orthographies and literacy acquisition are also exemplified by Orthographic Depth Hypothesis (ODH) (Katz & Frost, 1992) and Psycholinguistic Grain Size Theory (Ziegler & Goswami, 2005).

Based on this brief review, it is quite clear that until now we have mainly based our literacy models on reading in English (Share, 2008). Spelling might at least provide similar information for developing literacy models, if not give a better picture for developing them. Also, because 80% of the world's population speaks a language other than English, investigating models of spelling and writing in different orthographies is warranted. This special series was aimed at examining writing and spelling development in different orthographies, with various orthographic depth, other than English. The orthographies considered are Spanish, Italian, and German, fairly transparent alphabetic orthographies; Korean, which has a syllabic structure but highly transparent orthography; and Cantonese Chinese, a highly opaque morpho-syllabic writing system. Thus, by considering all three writing systems, the special issue provides a glimpse of spelling and writing development in different orthographies and sheds light on developing models of spelling and writing in different orthographies.

Description of the Special Series

Just as much of what we know about literacy and literacy development has been based on studies of reading conducted in English, much of what we know about how teachers adapt literacy instruction for students who struggle is based on research conducted in English in the United States (e.g., Gilbert & Graham, 2010; Graham et al., 2016). Therefore, the special issue opens with Graham and colleagues' survey of intermediate-grade teachers in Chile. The authors surveyed 254 teachers of Grades 4 to 6 in urban Chilean schools. The survey asked teachers about themselves (e.g., age, years teaching), their students (e.g., class size, number of students receiving special education services), their instruction (e.g., amount of time each week spent teaching writing; self-efficacy for teaching writing), and their adaptations for weaker, or struggling, writers in their classrooms. Graham and colleagues found that the Chilean teachers they surveyed made frequent adaptations to their writing instruction (e.g., individual mentoring, additional instruction, alternate assignments) for struggling writers and grade level taught was not statistically related to the frequency of writing adaptations. Furthermore, teachers' perceptions of their own undergraduate preparation to teach writing, their self-efficacy to teach writing, and the proportion of students with disabilities in their classrooms all made unique and statistically significant contributions to predicting their increased frequency of writing adaptations for struggling writers. Of importance, compared to studies conducted in the United States, Chilean teachers made more and more frequent adaptations to their writing instruction for struggling writers in their classrooms.

In the next three articles in the special issue, authors examined students' spelling in transparent alphabetic orthographies: Italian, Spanish, and German. Both Italian and Spanish have a simple syllable structure and a shallow orthography, while German has a shallow orthography but a complex syllable structure (Seymour et al., 2003). Arfé and Zancato compared learning to spell in Italian, a shallow orthography, to learning to spell in English, an opaque orthography. They taught 120 native-Italian students in Grades 2 to 4 to spell 48 Italian words and 42 English words with integrated phonological, visual, and writing instruction. This instruction was based on Berninger et al. (1998) mind's ear and eye training but altered to focus on multiletter/syllabic units within each word taught. Arfé and Zancato found that students improved significantly after intervention in spelling both the Italian and English words they had been trained to spell but demonstrated generalization to only untrained English words, not untrained Italian words. The authors reasoned that because students learned to spell multiletter units during intervention (a feature of English orthography), they were better able to generalize these skills to untrained English words than to untrained Italian words, as Italian spelling relies predominantly on individual phoneme-grapheme units.

Lindner and colleagues examined the spelling errors of native Spanish-speaking English language learners (ELLs) in the United States. They scored the English writing samples of 569 Spanish-speaking ELLs in Grades 4 to 6. Each writing sample was scored for consonant and vowel addition, omission, sequence, and substitution errors. The authors found that at each grade level (i.e., 4, 5, and 6), students made slightly over half of their errors with vowels and the remaining errors with consonants. Latent class analysis revealed two classes, but student profiles were similar for both. Overall, student spelling improved as students

progressed through Grades 4 to 6, but students continued to demonstrate spelling errors, particularly with the omission of vowels and consonants. The authors suggested that future instruction aimed at decreasing these omissions would be beneficial for Spanish-speaking ELLs.

Zhang and colleagues also performed spelling error analyses but with German elementary and secondary students. They examined the same spelling errors as Lindner and colleagues (i.e., consonant and vowel addition, omission, sequence and substitution) with 506 students in Grades 3 to 7, comparing students at the elementary and secondary levels as well as comparing students who spoke German as their native language (L1) and students who had learned German as their second language (L2). Zhang and colleagues found that both German elementary and secondary students tended to make more consonant errors than vowel errors, with consonant substitution as the most frequent errors at both grade levels. Through latent class analysis, the authors showed that elementary and secondary students with stronger decoding skills tended to make fewer spelling errors. In addition, secondary L2 students were more likely to demonstrate spelling errors than secondary L1 students.

Like Zhang and colleagues, Cho and McBride examined the spelling of L1 and L2 learners. Cho and McBride analyzed both the spelling and cognitive skills of 94 L1 Korean kindergarteners and 41 Chinese college students learning Korean Hangul as a foreign language (FL). For Korean kindergartners (L1) in their sample, coda awareness and orthographic working memory skills predicted spelling of phonologically consistent syllables, while syllable and coda awareness, orthographic knowledge, orthographic working memory, and vocabulary all predicted spelling of inconsistent syllables. For Chinese college students, only orthographic working memory predicted spelling of consistent syllables, and only vocabulary knowledge predicted spelling of inconsistent syllables. For both groups of students, spelling accuracy was higher in phonologically consistent syllables than in inconsistent syllables.

In the final article of the series, Ye and colleagues examined predictors of the Chinese spelling skills of 294 Cantonese-speaking kindergartners in Hong Kong, with a specific focus on examining pure and delayed copying during students' spelling development. The researchers found that delayed copying, morphological awareness, motor coordination, orthographic awareness, phonological awareness, and rapid automatized naming all explained variance in students' Chinese spelling skills after controlling for other predictors (i.e., cognitive and linguistic skills). Through path analysis, they showed that pure copying, visual-orthographic judgment, and vocabulary knowledge had indirect effects on spelling through delayed copying. Ye and colleagues discussed that spelling models rooted in alphabetic writing systems do not always predict spelling development in Chinese. Furthermore, they advocated for the consideration of delayed copying as a potential task for predicting difficulties with Chinese spelling acquisition and development in the future.

The papers in this special issue are written by experts in the field. We hope the special issue opens up new research directions relating to spelling and writing in different orthographies so we no longer need to apply the predominantly English models to all orthographies. We want to thank all of the contributors and reviewers for their help and contributions and to thank Dr. Stephanie Al Otaiba for her encouragement and support throughout the preparation of this special issue. If this special issue raises awareness of spelling and writing development in other orthographies, we will be happy.

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