

The Importance of Concept of Word in Text as a Predictor of
Sight Word Development in Spanish

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Abstract

The goal of the current study was to determine whether Concept of Word in Text (COW-T) predicts later sight word reading achievement in Spanish, as it does in English. COW-T requires that children have beginning sound awareness, automatic recognition of letters and letter sounds, and the ability to coordinate these skills to finger point accurately to words in memorized text. Participants in the current study ($n = 90$) were students in bilingual or dual-language schools in Minnesota, Missouri, Virginia, and Washington D.C. who were receiving literacy instruction in Spanish. Students were administered six early literacy tasks (i.e., alphabet and digraph recognition, letter sound knowledge, beginning sound awareness, rhyme awareness, spelling, and COW-T) in spring of kindergarten, followed by measures of automatic sight word reading in fall and spring of 1st grade. Multiple regression analyses revealed that of the six early literacy tasks administered in kindergarten, COW-T had the highest correlation with both fall and spring 1st grade sight word reading, even when controlling for fall sight word reading in predicting spring sight word reading.

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Purpose and Theoretical Framework

The goal of the current study was to determine whether Concept of Word in Text (COW-T) is a robust predictor of later sight word reading in Spanish, as it is in English. A concept of word in text has been described as a “pivotal event” in the development of early reading. COW-T requires the application of beginning sound awareness, automatic recognition of letters and letter sounds at the beginning of word boundaries, along with the ability to coordinate these skills to finger point accurately to words within multiple lines of text in a memorized rhyme or highly familiar/predictable text without getting off track on two syllable words, without lumping together the article before the noun, and without pointing to a different word than is being pronounced (Invernizzi, 2014). Research has shown that until children have a firm concept of word in text, they are unable to remember words when seen in isolation (Flanigan, 2007; Morris, Bloodgood, Lomax, & Perney, 2003; Morris, Bloodgood, & Perney, 2003). The acquisition of a COW-T is therefore essential to acquiring a sight word vocabulary, defined as the ability to identify words “at first sight” without needing to resort to decoding (Ehri, 2005; Metsala & Ehri, 2013). Theories of developmental word knowledge, which include the idea of COW-T and Ehri’s theory of sight word learning in beginning literacy, provide the theoretical framework for this study that explores the viability of such theories among Spanish-speaking Kindergarten and first-grade children being taught to read and write in Spanish.

Method

The sample for this study was a cohort of students ($n = 90$) followed from spring of kindergarten through spring of first grade. All were receiving literacy instruction in Spanish in bilingual or dual-language schools in Minnesota, Missouri, Virginia, or Washington D.C. Students were administered the Phonological Awareness Literacy Screening in Spanish for Kindergarten (PALS español K; Ford & Invernizzi, 2014a) in spring of kindergarten and the Phonological Awareness Literacy Screening in Spanish for Grades 1-3 (PALS español 1-3; Ford & Invernizzi, 2014b) in fall and spring of first grade. Both assessments have established reliability and validity within acceptable ranges (Ford & Invernizzi, 2014c; Ford & Invernizzi, 2014d). Data were gathered from an archival dataset consisting of fall and spring scores on PALS español K and PALS español 1-3.

We conducted two regression analyses using six PALS español K tasks (Alphabet and Digraph Recognition, Letter Sound Knowledge, Beginning Sound Awareness, Rhyme Awareness, Spelling, and Concept of Word in Text) as predictors of fall first-grade sight word reading and the same six tasks, controlling for fall first-grade sight word reading, to predict spring first-grade sight word reading.

The Alphabet and Digraph Recognition task requires students to point to and name 29 lower-case letters and digraphs presented in random order (maximum score = 29). The Letter Sound Knowledge task requires students to point to and name 25 upper-case letters and digraphs presented in random order (maximum score = 25). For both the Beginning Sound Awareness and Rhyme Awareness tasks, children match pictures, based on their phonological attributes (maximum score = 10 for each task). For the Spelling

task, students are asked to write five words made up entirely of open syllables, the syllable pattern that children typically master first in Spanish. Points were awarded for providing phonetically acceptable representations of each sound in a word. Another point was given for each word spelled conventionally (maximum score = 21). The Concept of Word task consists of three sub-tasks measuring children's accuracy in fingerpoint reading to a memorized text, identifying words within a line of text, and remembering those same words outside of text after the fingerpoint reading procedure (maximum score for the three subtasks combined = 22).

The dependent variable of interest in this study was the PALS español 1-3 Word Recognition in Isolation (WRI) task, administered in fall and spring of first grade. The WRI task measures students' automatic word recognition, or sight word recognition. Students are required to identify words quickly without stopping to decode. Only words that are identified in less than one second are counted correct. Each list has 20 words, and one point is awarded for each word read correctly. For the current study, we used the word lists that represent grade-level expectations for fall of first grade (the preprimer list, maximum score = 20) and spring of first grade (the first-grade list, maximum score = 20).

Results

Our primary area of interest in this study was the relationship between concept of word development in kindergarten and sight word reading in first grade. Multiple regression analysis resulted in an unstandardized B of .592 for the Concept of Word task predicting fall first-grade sight word reading and an unstandardized B of .378 for predicting spring first-grade sight word reading. This suggests that for each one-point increase in the concept of word score, the fall sight word reading score increases by .592,

and the spring sight word reading score increases by .378. The standardized Beta for the Concept of Word task was .465 for predicting fall first-grade sight word reading and .309 for predicting spring first-grade sight word reading. This indicates that for each standard deviation increase in Concept of Word, the fall sight word reading score would increase by .465 standard deviations, and the spring sight word reading score would increase by .309 standard deviations. Tables 1 and 2 report the correlations between the predictor variables and sight word reading in fall and spring of first grade. For both time frames, Concept of Word was the variable with the highest correlation with the dependent variable, even controlling for fall sight word reading in predicting spring sight word reading.

It should be noted, too, that the linear combination of independent variables was significantly related to sight word reading in fall of first grade, $F(6,83) = 34.56, p < .01$, and spring of first grade $F(7,77) = 16.84, p < .01$. The sample multiple correlation coefficient was .85 for fall of first grade, indicating that approximately 71% of the variance in sight word reading in the fall can be accounted for by the linear combination of kindergarten measures. For spring of first grade, the sample multiple correlation coefficient was .78, indicating that approximately 61% of the variance in sight word reading in the spring can be accounted for by the linear combination of kindergarten measures and fall first-grade sight word reading.

Conclusion

The findings of this exploratory study replicate the findings of Morris et al. (2003) and Flanigan (2007) in showing the power of COW-T at the end of Kindergarten to predict sight word acquisition at the end of first grade among Spanish-speaking children

in bilingual and dual-language classrooms. Since COW-T requires the coordination and application of beginning sound awareness with automatic knowledge of grapheme-phoneme correspondences at the beginning of word boundaries, this study also validates and extends Ehri's theory of sight word acquisition to word recognition in beginning literacy in Spanish. These findings are particularly important as it is generally believed that transparent orthographies such as Spanish require little more than learning letter-sound correspondence. Our data suggest that COW-T may also be needed for children to remember words they have seen before. When teachers teach early literacy skills (alphabet recognition, letter sound, print concepts, initial phoneme isolation) **and** provide children daily opportunities to finger-point read to known ditties, rhymes, songs, and/or predictable texts, they are teaching them the prerequisite skills for learning sight words.

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Table 1

Correlations: Independent Variables and Fall First-Grade Sight Word Reading

	PP WRI	COW	ABC Rec	Let Sounds	Spelling	Beg Sounds	Rhyme
PP WRI	1	.80	.64	.61	.72	.57	.45
COW	.80	1	.63	.55	.72	.55	.42
ABC Rec	.64	.63	1	.68	.59	.45	.35
Let Sounds	.61	.55	.68	1	.62	.36	.36
Spelling	.72	.72	.59	.62	1	.52	.43
Beg Sounds	.57	.55	.45	.36	.52	1	.48
Rhyme	.45	.42	.35	.36	.43	.48	1

Note. PP WRI = Preprimer Word Recognition in Isolation, COW = Concept of Word, ABC Rec = Alphabet and Digraph Recognition, Let Sounds = Letter Sound Knowledge, Beg Sounds = Beginning Sound Awareness, Rhyme = Rhyme Awareness.

All correlations statistically significant ($p < .001$)

Table 2

Correlations: Independent Variables and Spring First-Grade Sight Word Reading

	1st WRI	COW	ABC Rec	Let Sounds	Spelling	Beg Sounds	Rhyme	PP WRI
1st WRI	1	.72	.62	.55	.63	.50	.32	.71
COW	.72	1	.63	.56	.72	.54	.43	.79
ABC Rec	.62	.63	1	.67	.59	.45	.34	.64
Let Sounds	.55	.56	.67	1	.63	.36	.34	.61
Spelling	.63	.72	.59	.63	1	.54	.44	.71
Beg Sounds	.50	.54	.45	.36	.54	1	.48	.57
Rhyme	.32	.43	.34	.34	.44	.48	1	.45
PP WRI	.71	.79	.64	.61	.71	.57	.45	1

Note. 1st WRI = 1st Grade Word Recognition in Isolation, COW = Concept of Word, ABC Rec = Alphabet and Digraph Recognition, Let Sounds = Letter Sound Knowledge, Beg Sounds = Beginning Sound Awareness, Rhyme = Rhyme Awareness, PP WRI = Preprimer Word Recognition in Isolation.

All correlations statistically significant ($p < .001$)