Catts, Fey, Zhang, & Tomblin (1999).

Purpose of the study: Examine "the contributions of phonological processing and oral language abilities to reading and reading disabilities in young children" (p. 331).

Procedures:
1. 600+ kindergartners tested on measures of phonological processing (deletion tasks at the word, syllable and phoneme level; and rapid naming) and other aspects of language (standardized test of aspects of semantics and syntaxtics, and a retelling). Scores were statistically combined to create composites representing 3 components: phonological processing, receptive language, and expressive language (and refugured into composites of syntax, semantics, and narrative).
2. 2nd-grade reading measures: intelligence (WISC-III and PPVT), word recognition (Woodcock Reading Mastery -WRM word i.d. and word-attack subtests), reading comprehension (passage comp on WRM, and reading comprehension subtests of the Grey Oral and the Diagnostic Achievement Battery). Composites were statistically created.

Results:
1. Poor readers (performed at least 1 standard deviation below the mean on the reading-comprehension composite) performed significantly different than good readers (those not falling 1 or more sd below the reading-comprehension composite) on all phonological processing and other language measures.
2. When the domains of language were examined among poor readers:
   56% had deficits in grammar (9.8% among good readers)
   44% had problems with narrative (15.1% among good readers)
   39.3% had vocabulary deficits (9% among good readers)
3. Effects of IQ
   No significant difference between poor readers with low IQ and those without low IQ on phonological processing. Low IQ poor readers scored significantly lower on the other language composite scores than the normal IQ poor readers.

Note: Additional analyses were run (multiple regressions examining the role of aspects of language on word recognition and comprehension. See the paper for specifics.

Conclusions:
1. 73% of the poor readers had some sort of language problem in kindergarten.
2. Language deficits impacted not only comprehension but also word recognition.
3. While phonological processing was shown to be a strong predictor of reading achievement in this study (as many others), the other language composite (semantic, syntactic, and narrative) contributed more to reading achievement than phonological processing alone. This was true not only for comprehension, but also for word recognition.

Support for language-development instruction woven into Emergent Reader instruction and emphasis on multiple-cues when teaching word-recognition strategies:"oral language did explain 5.1% of the variance in word recognition over and above that accounted for by phonological processing. Although this was less than found for reading comprehension, it suggests that language factors other than phonological processing play a role in word recognition. This finding should not be surprising. Children with larger vocabularies or more advanced syntax or morphology should learn to recognize words more quickly than children with smaller vocabularies or less advanced grammars" (p. 352).


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