# Analysis of Phonemes, Graphemes, Onset-Rimes, and Words with Braille-Learning Children

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***Abstract:*** Six primary school–aged braille students were taught to name 4 to 10 braille letters as phonemes and another 4 to 10 braille letters as graphemes (Study 1). They were then taught to name 10 braille words as onset-rimes and another 10 braille words as whole words (Study 2). Instruction in phonemes and onset rimes resulted in fewer trials and a higher percentage of correct responses.

Decoding, or the phonological recoding of words, is one way of learning to read unfamiliar words (Ehri, 1994, 2005). It involves the transformation of graphemes (names of letters) into phonemes (sounds of letters) and the blending of phonemes into recognizable words. The phonemic skill is blending from decoding letters (Ehri, 1994, 2005; National Institute of Child Health and Development [NICHD], 2000). The correspondence between speech and print (Adams, 1990) and speech and braille (Millar, 1997) is possible because written English is based on an alphabetic principle that is the English language's set of grapheme-phoneme correspondences (Adams, 1990). Phonemic recovery mechanisms are not automatically and unconsciously available to reading processes as they are to language processes. Thus, reading acquisition must be managed separately from language acquisition, and phonemes must be brought to consciousness through explicit instruction (Adams, 1990; Liberman & Shankweiler, 1991). Letter-sound correspondence provides a powerful mnemonic system for young readers. Knowledge of the sounds of letters provides the substance that bonds the letters in written words to their pronunciation in memory, including the meanings of the words. Young readers then build a vocabulary of sight words during reading (Ehri, 1994, 2005).

During braille reading, unfamiliar words are decoded by transforming graphemes into phonemes and then blending the phonemes or syllabic units to form words with recognized meanings. Grapheme-phoneme correspondence is used during braille reading by beginning readers, less-skilled readers, and skilled readers when the text is relatively difficult. The reader's phonological

This research was approved by the University of Sydney Ethics Committee and was conducted in the Faculty of Education and Social Work at the University of Sydney, Australia. The research was based on a doctoral thesis by the first author under supervision of the second author. The authors thank the North Belmore Public School, Bert Oldfield Public School, Cambridge Gardens Public School, and Mawarra Public School and the families of two children for their participation in the studies.

 