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This critical review examines the evidence regarding early phonological awareness intervention and its effects on literacy development for children with a speech and/or language impairment. Study designs include two mixed (between and within) nonrandomized clinical trials and one single group, pre-post treatment. Overall, research findings indicate that providing early phonological awareness intervention facilitates literacy development in this population. Recommendations for future research and clinical implications are also discussed.

There is widespread agreement in the literature that phonological awareness, the ability to analyze the sound structure of language, lays the foundation for successful literacy development (Al Otaiba, Puranic, Ziolkowski, & Montgomery, 2009). Phonological awareness is a multi-level skill that encompasses skills that appear to draw from the same knowledge base (Scheuele & Boudreau, 2008). Scheuele and Boudreau (2008) describe skills such as rhyming, syllable awareness, and matching words with the same beginning sounds, to be at the simplest, most shallow level of phonological awareness. While at a deeper, more complex level, phonological awareness skills require isolation and manipulation of phonemes, called phoneme awareness. Skills at the phoneme level have been found to be the most critical for literacy development (Gillon, 2005). The more sensitive a child is to the phonological structure of words, especially at the phoneme level, the better the reader he or she is capable of becoming (Al Otaiba et al., 2009). As children begin to develop awareness that spoken words are composed of individual phonemic segments independent of their meaning, phoneme to grapheme relationships or decoding abilities will be more easily associated and learned.

Phonological awareness ability, as early as preschool, is a powerful predictor of later literacy success (Gillon, 2005). Children with communication disorders are often among the children identified with poor phonological awareness, putting them at risk for literacy difficulties (Scheuele & Boudreau, 2008). Research on children with language impairments has shown that they are at a far greater risk for reading disability than typically developing children and those early literacy deficits will persist throughout later school years. Moreover, children with speech impairments, especially severe and persistent disorders of articulation and phonology, in the absence of language impairment, are also at risk of a literacy disability (Gillon, 2005).

Given the strong relationship between phonological awareness skills in the emergent literacy stages and future literacy ability, intervening with phonological awareness training as soon as possible should

this review provide unique analyses in that they are all longitudinal in design and assess literacy skills specifically. The secondary objective of this paper is to propose evidence

training appeared to have advanced the children with a language delay to the level of the typically developing children in reading both real words and non-words.

Study 2: Gillon (2005) conducted a study that examined the long-

Results suggested that participants with phonological disorders could improve their phonological awareness skills. However, performance on tasks was highly variable. Even when participants had similarities in their phonological productions, they performed differently on phonological awareness tasks in unpredictable ways. Additionally, nine of the children improved their phonological awareness skills after the phonological intervention alone. Bernhardt and Major suggested that focused practice on phonology might indirectly influence the acquisition of phonological awareness skills.

Three years later, Bernhardt and Major (2005) followed 12 of the participants from their earlier study to document their speech, language, and literacy skills, while trying to determine potential relationships between different factors. Participants were given a comprehensive assessment that included phonology, word discrimination, metaphonology, language comprehension, language production, verbal memory, non-verbal skills, reading, spelling, and arithmetic. No control group was used so standardized tests served as normative references. Only descriptive statistics were reported, meaning that the analysis of the data was not as strong as if statistical analysis had been employed. However, it was appropriate for this study

All 12 participants scored average to low average on vocabulary language measures, 7/12 had average or above average scores on tests of articulation, 9/12 scored within one standard deviation on metaphonology, 10/12 scored average or above average on reading recognition (decoding) and reading comprehension, and 7 scored average or above average on spelling

Pearson correlation coefficients were derived between early scores and scores at the follow