Orthographic facilitation of spoken word learning in children with hearing loss

Andrea Salins
Macquarie University

Learning spoken words can be challenging for deaf and hard-of-hearing (DHH) children who communicate orally (Houston, Carter, Pisoni, Kirk, and Ying, 2005). To learn a new spoken word, a child must retain the sound sequence (phonology) of the new word in short term memory for long enough to link it to the relevant meaning. As a consequence of their phonological deficits an additional cognitive load is placed on DHH children, when they are attempting to learn a new spoken word which results in the failure to form the phonology-semantics link and failure to learn the word. Orthography is known to facilitate spoken word learning in school-aged children (Ricketts, Nation & Bishop, 2009; Lucas et al., 2014; Mengoni et al., 2013; Ricketts et al., 2015, Baron et al., 2018). The main aim of this study was to establish the orthographic facilitation effect during spoken word learning and retention in DHH children. The participants were 17 children from grades 2-6 (*M* age = 8 years; 4 months, *SD* = 1 year; 5 months) who had varying degrees of hearing loss ranging from mild to profound. All the children used hearing aids or cochlear implants in both ears and communicated orally. Participants were taught 16 non-word picture pairs with or without spellings. Word learning and retention were assessed using behavioural and eye tracking data from naming and picture-word-matching tasks. Results revealed a strong orthographic facilitation effect for spoken word learning in children with hearing loss. Additionally, the benefits of learning with orthography were maintained across the one-week testing period. This is evidence for a strong orthographic facilitation effect on word retention and subsequent retrieval. The results of this study have important implications for classroom instruction and vocabulary instruction strategies for DHH children.