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Derivational Morphology Training Improves Spelling in School-Aged Children

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Abstract : Morphological awareness contributes to the acquisition of reading and spelling in typical learners as well as in children with learning disorders. Indeed, the acquisition of phoneme-grapheme correspondences is not sufficient to master spelling, especially in inconsistent orthographic systems such as English or French. Several meta-analyses show the benefit of explicit training in derivational morphology on reading and spelling in old children (who have already learned the main grapheme-phoneme correspondences), but highlight the lack of studies with younger children, particularly in French. In this study, we chose to focus on the efficiency of an intensive training in derivational morphology on spelling skills in French-speaking four-graders (9-10 years of age). The training consisted of 1) learning how to divide words into morphemes (ex: para/pente in French, paraglider in English), as well as 2) working on the meaning of affixes in relation to existing words (ex: para/pente: to protect against – para - the slope -pente). One group of pupils (N = 37, M age = 9.5) received this experimental group training in morphology while an alternative training group (N = 34, M age = 9.6) received a visuo-semantic training based on visual cues to memorize the spelling difficulties of complex words (such as the doubling of “r” in “verre” in French -or "glass" in English-which are represented by the drawing of two glasses). Both trainings lasted a total of 15 hours at a rate of four 45 minutes sessions per week, resulting in five weeks of training in the school setting. Our preliminary results show a significant improvement in the experimental group in the spelling of affixes on the trained ($p < 0.001$) and untrained word lists ($p < 0.001$), but also in the root of words on the trained ($p < 0.001$) and untrained word lists group ($p < 0.001$). The training effect is also present on both trained and untrained morphologically composed words. By contrast, the alternative training group shows no progress on these previous measures ($p > 0.15$). Further analyses testing the effects of both trainings on other measures such as morphological awareness and reading of morphologically compose words are in progress. These first results support the effectiveness of explicitly teaching derivational morphology to improve spelling in school-aged children. The study is currently extended to a group of children with developmental dyslexia because these children are known for their severe and persistent spelling difficulties.

Keywords : developmental dyslexia, derivational morphology, reading, school-aged children, spelling, training
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