Spelling with a language impairment: A meta-analysis across European languages

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Introduction
Language Impairment (LI) impacts on the development of written language, with particular difficulties reported in spelling, which can in turn affect writing productivity and quality (Connelly, Dockrell, Walter & Crittan, 2012).

A meta-analysis of the relevant research literature was completed to examine patterns of spelling difficulties for children with LI across orthographies and spelling tasks.

Research objectives
1. Do children with LI experience difficulties with spelling across a range of European orthographies?
2. Do children learning to spell English experience more difficulties than their peers learning to spell in other European languages?
3. Do children with LI differ from their peers of the same language level (LA)?
4. To what extent does the spelling task influence spelling performance?
5. Do individual learners’ characteristics impact on spelling performance?

• Phonological difficulties?
• Literacy difficulties?

Methods
Studies selection
Studies were selected from databases using a Boolean search. Their title, abstract and full text were screened to assess relevance for the review. 52 studies were retained for data extraction, of which 36 could be included in the meta-analysis.

Data coding
123 findings from the 36 studies were coded for characteristics of the study and outcomes.

Results
1. The difference between children with LI and age-matched controls was large (p < .0001). Children with LI performed more poorly than their peers on tasks of
   a) word dictation (p = .17, 95%CI [-1.17, -1.80])
   b) written text production (p = .18, 95%CI [-1.35, -1.45])

2. There was a trend towards a language difference: the spelling of English children with LI was marginally more affected than that of their peers learning to spell French in Dutch in word dictation (p = .001, SE df=0.294, Z = 1.79)

3. Spelling performance was commensurate with LA-matched peers in both word dictation and written text production (p = .128, 95%CI [0.483, -0.213]), df= 0.179, SE df=0.454, Z = 0.394, p = 0.694).

Conclusions
1. Primary school children with LI have significant problems in spelling.
2. Children with LI spelling in English have greater difficulties than their European peers
3. Spelling performance is commensurate with LA
4. The type of task did not explain significant variance in the overall sample.
5. Literacy levels explained significant variance in performance, but not phonological disorders, although these analyses included few studies.

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Statistical analysis
A random effects model was used to compute the overall effect size for each group of studies. Subgroups were also formed and t-tests conducted to assess the variance explained by language, task, and individual learner’s characteristics, using the EPPI-4 reviewer software (Thomas, Brunt, Gramer, 2010).

Only results from primary school students are reported in the present analysis.

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References