How Effective are Spelling-Related Interventions for Children with Spelling Difficulties? A Meta-Analysis

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Introduction

• Spelling matters
  ▫ 100 % of respondents in a sample of State Human Resources directors tell us that spelling matters (National Commission on Writing for America’s Families, Schools, & Colleges, 2005).

• Problematic translation of ideas
  ▫ One of the reasons is due to spelling deficits (Singer & Bashir, 2007).

• Poor spellers may restrict what they write to words they can spell (Moats, 2005).

• Technological advances are limited in detecting errors (Moats, 2005).
Introduction

- Spelling is a high valued and highly difficult skill (Wanzek et al., 2006).

- One of the most common problems of children with learning disabilities is spelling (e.g., Berninger et al., 2008; Darch, Kim, Johnson, James, 2000).
Rationale

- We do not know of any meta-analysis conducted on spelling intervention among children with spelling difficulties / learning disabilities.
  - 3 other prior reviews are also synthesizes (Fulk & Stormont-Spurgin, 1995; Gordon, Vaughn, & Schumm, 1993; McNaughton, Hughes, & Clark, 1994).

- To provide researchers and policymakers with up-to-date estimates of gains made by children with spelling disabilities as a result of interventions.
Research Questions

1. How effective are reading and/or spelling interventions for ameliorating spelling difficulties in poor spellers?

2. What is the effect of duration on the effectiveness of interventions on spelling outcomes?

3. To what extent are variables related to study quality, namely, treatment fidelity, associated with study outcomes?
Our Search Strategies

**Phase 1**
- Descriptors
- Boolean combinations (Wanzek et al., 2006)
  - reading, spelling, spell*, writing, reading disabilities, writing disabilities, and writing dis*.
  - 34 records were found in this search.

**Phase 2**
- keywords
- Boolean combinations
  - spell* OR spelling AND learning dis* OR disorder OR dyslex* AND reme* OR inst* OR inter*.
  - 357 records.
Inclusion Criteria

1. Only peer-reviewed literacy-related publications on spelling and/or reading interventions were selected.

2. Participants were in Grades 1 to 12 or the participants’ age range was within the school-going age.

3. Participants included in this review were those who experienced spelling difficulties, were at risk, struggling, or learning and/or reading disabled.

4. Studies which did not specifically target at ameliorating spelling outcomes (i.e., reading) but provided clearly disaggregated spelling outcome data were included in the meta-analysis.

5. Statistical information for the calculation of effect size was present.
**Flowchart of Selection Process**

18 sources from Wanzek et al.’s (2006) synthesis paper were obtained and screened

- Excluded 10 with single-subject and 2 single group designs

6 sources from Wanzek et al.’s (2006) with randomized-control trial (RCT) design

- Included 2 sources with RCT designs from the 2nd phase of the search process
- Excluded 1 study (Lewis, et al., with insufficient data.

7 sources (5 RCT studies from Wanzek et al.’s synthesis and 2 RCT from 2nd phase search).
Selected Studies

- All are treatment-comparison studies.
- Common outcome: Spelling performance
- 38 effect sizes