Exploration of a Clinically Relevant Approach to Spelling Analyses in Typically Developing Intermediate Grade School Children

Sarah Walker and Anthony D. Koutsoftas
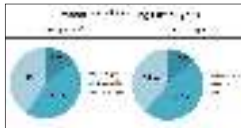*Seton Hall University*

Introduction

• Spelling is a necessary skill for school-aged children to gain as part of their compulsory education in order to become proficient writers. According to the American Speech-Language-Hearing Association (ASHA), speech-language pathologists (SLP) play a critical and direct role in the development of such literary milestones. SLPs are prepared to provide intervention to students in a variety of ways to enhance their development of reading and writing skills, including spelling (ASHA, 2001).

• Spelling develops as children read more complex material and write for a variety of purposes. Research suggests that children utilize five specific spelling based patterns, including phonologic, orthographic, morphologic, mental graphemic representations (MGR), and semantic aspects (Alt & Plante, 2006; Bahr et al., 2012; Berninger et al., 2010; Wolter & Apel, 2010).

• Triple Word Form Theory (TWFT) and POMAS theoretical spelling frameworks include three categories of spelling errors: phonological, orthographic, and morphological (Daffern, Mackenzie, & Hemming, 2015; Bahr et al., 2012).

Figure 1. Results of spelling analysis using Triple Word Form Theory from Koutsoftas (2014).

• The purpose of this study was to examine the utility of a 15 category spelling coding system for analyzing children's spelling patterns. The coding system used for the current study accounts for TWFT, POMAS, and other spelling considerations including MGRs and semantic aspects. This allowed for a broader linguistic approach to understanding spelling errors in intermediate grade children.

• The specific research questions were:
  • Do children in 4th and 6th grades differ in the number and type of spelling errors on first drafts and final copies?
  • Do the patterns of spelling errors differ from first drafts to final copies?
  • What is the relationship between spelling, reading, and writing quality and do these relationships differ by grades?

Sample

N = 53	4th Grade (n = 40)	6th Grade (n = 13)
Age in Years*	9.55 (0.50)	11.85 (0.38)
Mother's years of education	14.80 (1.73)	14.17 (1.70)
Gender (Female : Male)	22 : 18	4 : 9
GRADE Reading Test (Williams, 2001)		
Total Test, Standard Score	110.55 (11.16)	110.38 (10.25)
Writing Measures – First Drafts		
Total Number of Words*	283.10 (98.93)	377.31 (152.55)
Proportion of Spelling Errors	0.02 (0.02)	0.02 (0.02)
Writing Measures – Final Copies		
Total Number of Words*	306.15 (127.26)	429.00 (169.22)
Proportion of Spelling Errors	0.02 (0.02)	0.02 (0.01)
Quality Writing Score	3.60 (1.85)	3.38 (1.76)

* *p* < .05

Procedures

• Fourth and Sixth grade students completed a writing task in response to a narrative generation prompt about their backpack turning into a pair of wings. Students produced an outline, first draft, and final copy on three separate days.

• First Drafts and Final Copies were coded for spelling errors according to the table below.

Results

Correlations between Spelling Accuracy on Final Copies and Selected Measures	
Reading; Total Test, Standard Score	- 0.48*
Writing Quality Score	0.02
Spelling Accuracy Rough Drafts	0.90*

* *p* < .01

Discussion

• The purpose of this study was to capture the linguistic approaches that intermediate grade children use for spelling purposes. To achieve this, scoring guidelines that accounted for Triple Word Form Theory (Daffern, Mackenzie, & Hemming, 2015), POMAS (Bahr et al., 2012), MGRs (Wolter & Apel, 2010), and Semantics (Alt & Plante, 2006) were combined to capture a multi-linguistic approach to spelling analyses.

• Findings indicated no statistically significant differences in spelling between fourth and sixth graders on first drafts and final copies. The 15 category scoring system showed more variety in the types of spelling errors than prior coding systems which only accounted for phonological, orthographic, and morphological errors. Notably, the proportions of types of errors were similar from first drafts to final copies.

• Spelling accuracy on final copies was significantly related to reading ability but not writing quality scores. This suggests that reading and spelling share underlying language skills that need to be explored. The low percentage of spelling errors (2%) did not relate to writing quality scores.
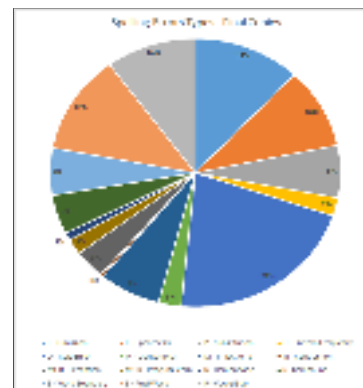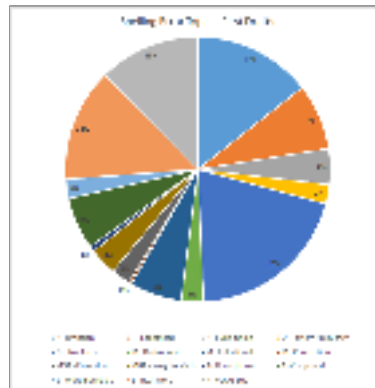
• The 15 category spelling coding system allows for a more comprehensive approach to determining and intervening upon students' spelling errors. Subsequently, SLPs and classroom teachers can develop specific spelling interventions to target spelling errors and the underlying linguistic patterns therein. This can be clearly observed when comparing pie charts from prior research (Koutsoftas, 2014) to the current study.

• As evidenced by the current study, reading and spelling are closely linked language skills. Therefore, including reading activities as part of speech language therapy and bringing attention to spelling patterns, may prove beneficial to students' spelling acuity and support Common Core State Standards (National Governors Center for Best Practices, 2010).

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