

THE RELATIONSHIP BETWEEN SPELLING ABILITY AND READING FLUENCY AND  
COMPREHENSION IN ELEMENTARY STUDENTS

by  
Mandi M. Johnson

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DATE:

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**Abstract**

Many elementary students struggle with spelling; therefore, those students also struggle with their reading fluency and reading comprehension. As students go through their adolescent years, those students need to develop spelling skills that will help improve their reading fluency and comprehension. Once students are able to develop these skills, those students will be able to recognize words quicker to improve their reading fluency. Once their reading fluency improves, these students will then be able to comprehend the material because they are not stumbling over unknown words.

## Chapter I: Introduction

Reading fluency and comprehension weigh strongly on whether students are going to be successful throughout their adolescent years and into adulthood. If students cannot read fluently, they will have a difficult time comprehending the reading. If students cannot comprehend the reading, those students will have a difficult time obtaining an education and leading a successful life. A major factor in reading fluency and reading comprehension lies in students' ability to spell accurately. One reason for the relationship between reading and spelling is the shared role of phonological awareness (Ritchey, 2008). Students' spelling abilities play a factor in their reading fluency, as well as, reading comprehension.

Since reading fluency and comprehension are so important in education, students need to be able to spell accurately in order for spelling not to take a negative effect on their fluency and comprehension. The relationship between spelling development and reading comprehension has been shown to exist in individuals, beginning at a young age and through adulthood (Fairbanks & Hobbs, 1982; Morris & Perney, 1984; Robinson, 1990). Spelling and reading comprehension skills from grade one to grade six were highly correlated, therefore, the relationship became stronger as the age of the children increased. These correlations between spelling and reading comprehension were higher than the correlations between decoding speed and reading comprehension (Katzir, Kennedy, Kim, Lovett, Morris, & Wolf, 2006).

The relationship between spelling and reading is so close that investigators believe that learning about spelling tends to enhance a student's reading proficiency. Learning about spelling contributes to reading development, including children's ability to pronounce words correctly and decode unknown words (Adams, 1990). Spelling contributes to reading development by

shaping children's knowledge of phonemic awareness, strengthening their grasp of the alphabetic principle, and making sight words easier to remember (Ehri, 1987, 1989).

Spelling is a vital component of reading. For young children, research clearly indicates that spelling supports learning to read, and for older children, it's likely that learning about the meaningful relationships between words will contribute to vocabulary growth and reading comprehension (Moats, 2005/2006). Spelling is an essential and complex skill involving multiple components, including visual memory, phoneme-grapheme awareness, as well as, orthographic and morphophonemic knowledge (van Hell, Bosman, & Bartelings, 2003; Alber & Walshe, 2004). Although important in connecting numerous components in a language arts curriculum, the repetitive practice of mastering new spelling words has been characterized by teachers and students as boring, and one of the least favorite of the academic areas (Grskovic & Belfiore, 1996; Bos & Reitsma, 2003). The perception of spelling practices as unattractive, creates a potentially critical situation in the classroom, in that learning difficulties in spelling performance may impact (a) clarity in writing, (b) verb morphology, (c) writing fluency, (d) early reading development, (e) perceptions of writing ability, and (f) written expression (Alber & Walshe, 2004; Boynton Hauerwas & Walker, 2003; Graham, Harris, & Fink-Chorzempa, 2003).

### **Statement of the Problem**

Students who struggle with beginning reading benefit from instruction that emphasizes and strengthens both phonological awareness and alphabetic understanding (Coyne, Santoro, & Simmons, 2006). Much has been learned about reading and the underlying cognitive processes that are associated with success or struggle in acquiring literacy. For example, there is strong support for the link between phonological processing skills and the development of reading (Christo & Davis, 2008). When students' reading fluency and comprehension levels are much

lower than the average of the class, the ability to spell may play a leading role in the lack of reading fluency and comprehension.

Additionally, the world has become so much more technology related and because of this, students tend to rely on computers with spell check. These students consider spelling less of a priority due to all of the technology in the world today. In most cases, spelling is taught the same way in most elementary classrooms. Teachers identify a group of words at the beginning of the week, possibly give a pretest, have students practice the words throughout the week, and test the students on the words at the end of the week. Therefore, trying to determine the best and most effective way to teach spelling is essential.

The development of this research is to present a theoretical model integrating identification between the ability to spell with reading fluency and reading comprehension. The stages of spelling development are incredibly similar to the stages of reading development. Invented spelling actually provides a snapshot of what children know about letters and sounds. The reason why spelling helps reading is that spelling instruction helps to cultivate students' knowledge of the alphabetic system that benefits processes used in reading (Ehri, 1997). Teaching students how to read and how to spell should be done simultaneously. Since comprehension is the ultimate goal of reading, helping children reach this goal as soon as possible is crucial. One special ingredient able to promote and develop the meaningful integration of word recognition, accuracy, fluency, and expressiveness is rhyming poetry (Rasinski, Ryley, & Nichols, 2008). Why? Common spelling patterns, such as word families, have consistent pronunciations. Knowing several word families can help readers partially decode thousands of words in which these word families regularly appear (Rasinski, Ryley, & Nichols,

2008). Constructivist Theories suggest a close association between spelling ability and reading fluency and reading comprehension, which proposes research questions to consider.

### **Research Questions**

1. To what extent does accuracy in spelling influence student achievement in reading fluency and comprehension?
2. What are the most effective strategies for students to learn how to spell?

### **Definition of Terms**

The following terms pertain to the topic of the connection between spelling ability and reading fluency and comprehension. The definitions to the following terms are provided to support further understanding that will be discussed later on in detail. The definitions acquired have come from different sources listed after each term.

**Spelling.** A crucial component of successfully expressing oneself in written communication (Davenport, Erion, Hardy, Rodax, & Scholl, 2009).

**Fluency.** Speed, prosody, and accuracy in reading connected text (Higgins & Raskind, 2004).

**Reading comprehension.** Intentional, active, interactive process that occurs before, during and after reading (Higgins & Raskind, 2004).

**Phonemic awareness.** A burgeoning awareness that a word is made up of segments of sound (Tangel & Blachman, 1992).

**Automaticity.** Rapid, automatic naming of single words (Higgins & Raskind, 2004).

**Phonological awareness.** Explicit knowledge of our language's sound system (Coyne, Santoro, & Simmons, 2006).

**Alphabetic understanding.** Knowledge of the relationship between the letters of written language and the individual sounds of spoken language (Coyne, Santoro, & Simmons, 2006).

**Orthographic learning.** The process whereby words' spelling patterns are committed to memory such that they can be retrieved automatically rather than decoded from grapheme-phoneme correspondences (Corley, DeFries, Hulstender, Olson, Wadsworth, & Willcutt, 2008).

## **Chapter II: Review of Literature**

To determine the effects spelling has on reading fluency and reading comprehension, various studies must be analyzed and discussed to identify the most effective practices elementary teachers can incorporate into their classrooms. Teachers who implement effective practices into their classrooms should see improvements throughout their students' spelling skills. As spelling skills improve, reading fluency and comprehension should improve. Different methods and strategies have also been analyzed to see which are the most effective for elementary students.

### **Effects Spelling has on Reading Fluency and Comprehension**

A moderate to high correlation between spelling skills, phonological skills, and reading skills have consistently shown in studies (Ehri, 1997; Morris & Perney, 1984; Robinson, 1990). Spelling appears to have a large impact on students' reading fluency and reading comprehension. Stage models of spelling development often parallel stages of word reading development (Ritchey, 2008). For example, children progress through parallel, although not identical, stages for sight word reading and spelling development (Ehri, 1997 & 1998).

Hundreds of investigations have been conducted to examine factors that influence reading and writing and that, in turn, can be used to explain and predict children's performance on measures of text-literacy (reading comprehension and writing comprehension) and word-level literacy (word-level reading and spelling) (Apel, 2009). Word-level reading and spelling develop earlier than, and provide support for, text-level literacy (Ehri & Snowling, 2004).

Although spelling is defined as recognizing or reproducing a correct sequence of letters in an oral or written form, the actual process of spelling involves the critical integration of phonological and alphabetic skills of beginning reading (Coyne, Santoro, & Simmons, 2006).

The participants of this research study consisted of 116 kindergarten students from seven elementary schools in the Pacific Northwest that were identified as at risk of experiencing reading difficulties. The methods that took place in this study consisted of the summarization of the literature that supports beginning spelling as an ideal method for strategically integrating the beginning reading bid ideas of phonemic awareness and alphabetic understanding. As well as, the summarization of the literature on effective instructional principles for students at risk of reading disability took place. The data analysis included DIBELS letter naming fluency and initial sound fluency, a modified version of Tangel and Blachman's (1992, 1995) spelling measure, and the Berninger et al (1997) letter writing dictation measure. Spelling instruction that is integrated carefully and intentionally into a beginning reading program can help students improve both spelling and reading skills. Supporting and extending beginning reading intervention with spelling instruction that is explicit, systematic, and intensive is one promising way to accomplish this goal.

### **Improvements in Spelling Skills Increase Reading Fluency and Comprehension**

Spelling and reading are closely linked in the findings that children who are good readers are usually good spellers. Knowledge of a word's spelling almost always aids the reading of that word (Foorman & Francis, 1994). This correlational data are buttressed by experimental studies showing that spelling instruction improves reading performance (e.g., Berninger et al., 1998; Ehri & Wilce, 1987; Uhry & Shepherd, 1993).

Spelling recognition contributed a large percent of the variance explained in reading fluency (Katzir, Breznitz, Shaul, & Wolf, 2004). The participants that took place in the research consisted of 291 second-grade students in 12 classrooms from four elementary schools located in urban middle-class neighborhoods outside of Washington, D. C. The test administered was the

spelling subtest from the Wechsler Individual Achievement Test (WIAT). The WIAT measures children's ability to spell correctly when writing words that are dictated by an examiner, then used to identify children as at risk in spelling. Out of 291 students tested, 67 of them were identified as at risk. Out of those 67 students, 60 of their parents granted informed consent for participation in the study. Students participated in 48 twenty-minute sessions over six months to help improve their spelling skills. After instruction, students participating made great improvements on norm-referenced spelling measures, a writing-fluency test, and a reading word-attack measure. Children's word-attack skills improved as a result of spelling instruction that included activities designed, in part, to strengthen their phonological awareness skills, their grasp of the alphabetic principle, or both (Graham, Harris, & Fink-Chorzempa, 2002). These findings are consistent with previous research showing that spelling instruction can enhance reading performance (e.g., Berninger et al., 1998; Ehri & Wilce, 1987; Uhry & Shepherd, 1993).

Increased spelling knowledge helps children make sense of the words read, making it easier to remember, as it allows children to make more complete connections between spelling and pronunciations of words in memory (Ehri, 1987 & 1989). Increased spelling knowledge also was associated with improvements in word-recognition skills. Overall, spelling is an instructional tool that can help students understand the alphabetic writing system and its' relationship to spoken language.

### **Most Effective Spelling Techniques**

In many cases, spelling has been taught in a nearly identical fashion in most elementary classrooms. Teachers identify a base of words at the beginning of each week, administer a pretest, have children practice the words during the week, and test the words on Friday. This method is not always the best approach to teach spelling in an effective manner. In one particular

study, the participants consisted of two 3<sup>rd</sup> grade students, one boy and one girl. These two students were identified as having a learning disability. The two spelling strategies or methods that took place in this study were the copy-only method and the cover-copy-compare (CCC) method. The copy-only method required the students to say the word, point to the word, repeat the word, and print the word. The CCC method required the students to say the word, point to the word, repeat the word, cover the word, print the word, compare the word to the correct model, and correct errors in necessary. These methods were used over a three-week period with the two students. The experimental students showed gain and progress in their retention of the spelling words that were used in the study. The CCC method was more effective than the copy-only method in words retained. Teachers may improve the spelling performance in their classrooms by incorporating a simple self-management component to spelling instruction.

### **Chapter III: Results and Analysis Relative to the Problem**

After reading and analyzing various studies to determine the effects spelling has on reading fluency and reading comprehension, many factors come into play. The different studies that have been done give elementary teachers the most effective practices and techniques to incorporate into their classrooms. Elementary teachers who integrate these techniques and strategies into their teaching should see improvements throughout their students' spelling skills that will then lead to improvements in reading fluency and reading comprehension.

#### **Effects Spelling has on Reading Fluency and Comprehension**

Researchers have identified that spelling appears to have a large impact on students' reading fluency and reading comprehension. It has been known that children develop spelling and word recognition at the same time in parallel stages, but not necessarily in identical stages. If spelling instruction is integrated into a beginning reading program carefully, it can help students improve both their reading and spelling skills.

#### **Improvements in Spelling Skills Increase Reading Fluency and Comprehension**

Researchers have identified that children who are good readers are often good spellers because spelling and reading are so closely related, therefore, studies have shown that spelling instruction improves reading performance. It is shown that students who improve in spelling instruction, also improve in writing fluency and reading word-attack skills. These findings show that spelling instruction can boost overall reading performance. If students have a higher knowledge of spelling, they are able to make more sense of the words that they are reading; therefore, it is easier for them to remember what is being read.

### **Most Effective Spelling Techniques**

Most studies have shown that spelling has been taught in the same way for numerous years in elementary classrooms. This way consists of giving a list of words at the beginning of the week, possibly administering a pretest to the students, practicing the words throughout the week, and testing the words at the end of the week. This has not been found to be the best approach to teach spelling in an effective manner. The studies that have shown to be effective are the cover-copy-compare method that consists of students saying the words, point to the words, repeat the words, cover the words, print the words, compare the words to the correct model, and correct the errors that are necessary. By incorporating a simple self-management component to spelling instruction, teachers have the ability to improve their students spelling performance in their classrooms.

## **Chapter IV: Recommendations and Conclusion**

### **Recommendation**

Teachers should continue to focus on spelling in their curriculum due to the fact of how closely related spelling ability is with reading fluency and reading comprehension. Some teachers feel that spelling is not an essential component in the curriculum. Doing some research, spelling is a critical element not only in reading fluency and comprehension, but also across the curriculum in all subject areas.

When teaching spelling, teachers tend to wonder what the best and most effective approach is for their students. Teachers argue that traditional spelling books have outlived their usefulness and should be abandoned, whereas, others believe traditional spelling books are useful tools if used appropriately. Some other recommendations for educators are that spelling instruction could be integrated into other subject areas, as well as, teaching spelling systematically through word study sequences created to fit students' varying developmental levels.

If teachers are using spelling books in their classrooms, these spelling books must be meaningful learning that takes place within real world tasks. Some examples may consist of articles from newspapers or writing letters. These examples could help improve our students spelling skills, therefore, the improvement in spelling skills will also help improve our students reading fluency and reading comprehension skills.

### **Areas for Further Research**

Possible further research to determine what extent accuracy in spelling influences students' achievement in reading fluency and reading comprehension might consist of a study of second and third grade students. The students who would be selected would be students who are

having difficulty learning to spell, as well as, students who struggle with reading fluency and reading comprehension. These students would be struggling in all three areas of spelling, reading fluency, and comprehension because this way we would be able to determine if spelling accuracy has an influence on students reading fluency and comprehension.

The methods of this study would consist of assessing the students in the following areas of spelling skills, reading fluency, and reading comprehension. The assessment that could take place for spelling would consist of quizzing students on the spelling of sight words that the students should be familiar with seeing and using on a daily basis. The assessment that could take place for reading fluency would consist of using the DIBELS testing to determine the students' accuracy. The final assessment that could take place for reading comprehension would consist of a STAR Reading Test and having the student read a book and take a comprehension test to see what the student remembered from the book. After completing all of these tests, you would be able to determine where each of the students are according to their spelling ability, reading fluency, and reading comprehension levels.

Once the tests have been completed, you can work specifically with those students who are struggling with spelling the most. Different strategies can be used such as the cover-copy-compare (CCC) method to practice spelling skills with those struggling students to help them improve. After working with these struggling students on their spelling skills for a period of time, revisit those same assessments for spelling, reading fluency, and reading comprehension to analyze and determine if the spelling accuracy helped improve the students reading fluency and reading comprehension levels.

**Summary and Conclusion**

Students who tend to struggle with spelling also tend to struggle with reading fluency and reading comprehension. Since spelling is closely linked to both reading fluency and comprehension, students need to strive to improve their spelling skills. Once these spelling skills have improved, students will see an improvement in their reading fluency because they will be able to recognize more words without hesitation. Once the students see an improvement in their reading fluency, the students will also see an improvement in their reading comprehension. These students will be able to comprehend the text better because they will not have to concentrate on sounding out the words, as much as, concentrating on the importance of the text.

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