

2012


Invented spelling and its value in kindergarten

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Invented spelling and its value in kindergarten

Abstract

This review examined the purpose of invented spelling in kindergarten, and what invented spelling can tell us about a child's development of letter/sound knowledge, phonemic awareness skills, concepts of print, and language skills. Additional examination of literature on invented spelling in a comprehensive literacy program focused on the connection between reading and writing. Several studies included comparisons of writing instructional methods. Invented spelling has value as an assessment tool for various literacy skills. Criticisms and controversies were reviewed, as well as recommendations for the use of invented spelling to optimize its value in the kindergarten curriculum. Findings of the review suggest that invented spelling is indeed a valuable component to the kindergarten classroom.

INVENTED SPELLING AND ITS VALUE IN KINDERGARTEN

A Graduate Review

Submitted to the

Division of Early Childhood Education

Department of Curriculum and Instruction

In Partial Fulfillment

Of the Requirements for the Degree

Master of Arts in Education

UNIVERSITY OF NORTHERN IOWA

by

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July 2012

This Review by: Michelle J. McDonald

Titled: Invented Spelling and Its Value in Kindergarten

has been approved as meeting the research requirement for the
Degree of Master of Arts of Education.

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ABSTRACT

This review examined the purpose of invented spelling in kindergarten, and what invented spelling can tell us about a child's development of letter/sound knowledge, phonemic awareness skills, concepts of print, and language skills. Additional examination of literature on invented spelling in a comprehensive literacy program focused on the connection between reading and writing. Several studies included comparisons of writing instructional methods. Invented spelling has value as an assessment tool for various literacy skills. Criticisms and controversies were reviewed, as well as recommendations for the use of invented spelling to optimize its value in the kindergarten curriculum. Findings of the review suggest that invented spelling is indeed a valuable component to the kindergarten classroom.

TABLE OF CONTENTS

INTRODUCTION.....	1
Description of the Topic.....	1
Rationale.....	3
Purpose of Review Results.....	5
Importance of Review.....	6
Review Questions.....	7
Terminology.....	7
METHODOLOGY.....	9
Procedures to Review Literature.....	9
Location of Sources.....	9
Selection of Sources.....	9
Criteria to Include Literature.....	10
Procedures to Analyze Sources.....	10
REVIEW OF LITERATURE.....	11
Purpose of Invented Spelling for a Kindergarten Teacher.....	12
Invented Spelling and a Child’s Literacy Development.....	18
Invented Spelling and a Comprehensive Literacy Program.....	26
Invented Spelling Used as an Assessment.....	31
Invented Spelling Critics and Controversies.....	34
CONCLUSIONS AND RECOMMENDATIONS.....	36
Conclusions.....	36
Identify and Synthesize Insights.....	36

Recommendations.....	38
Future Projects and Research.....	39
Educational Policies.....	40
Teacher Practices of Self and Others.....	40
REFERENCES.....	43

LIST OF FIGURES

Figure 3.1 Emergent Spelling/Pre-Communicative Stage.....	13
Figure 3.2 Early Letter Name-Alphabetic Spelling/Semiphonetic Stage.....	14
Figure 3.3 Phonetic Stage.....	15

CHAPTER I

Introduction

Description of the Topic

Children are capable of expressing themselves before they can learn to spell, and even very young children can use gestures and sign language to communicate.

Kindergarten aged children can use invented spellings to write quickly without worrying about how a word is spelled. Invented spelling is writing words based on how they sound. For the educator, invented spelling can show the development of phonemic awareness, letter-sound association, and concepts of print. All of these components have an impact on learning to read. “Learning to write and spell begins early, and it is the result of acquiring knowledge of the phonological and orthographic rules of written language” (Ritchey, 2008, p. 44). The invented spelling samples may be used to assess a child’s knowledge, understanding, and acquisition of phonemic awareness. “Today, the encouragement of invented spelling for young developing writers is considered good teaching practice” (Gentry, 2000, p. 318).

More than thirty years ago, Charles Read and Carol Chomsky began to examine the study of developmental spelling (Bear & Templeton, 1998). Through their studies and others, models depicting the developmental stages of writing were created. Although various models exist, they contain basic similarities. Bear and Templeton (1998) described six developmental writing stages beginning with the *prephonemic spelling* stage which is characterized by scribbling and strings of random letters. The second stage is referred to as the *semiphonemic* or *early letter name spelling* stage. Consonant sounds emerge as representations of written words. The third stage is called the *letter*

name spelling stage. Children's understanding of the alphabetic principle is evident as they begin to use vowel sounds. The fourth stage is described as *within-word pattern spelling*. The children can experiment with long vowels and more complicated letter patterns. The fifth stage is the *syllable juncture spelling* stage, and it is characterized by confusions regarding the spelling of multi-syllabic words at the junction between syllables. The sixth stage is referred to as the *derivational constancy spelling* stage. Bear, Invernizzi, Templeton, and Johnston (2012), authors of the book, *Words Their Way*, described how this stage is characterized by the knowledge that “from a single base word or word root, a number of related words are derived through the addition of prefixes and suffixes” (p. 273). The spelling in this stage becomes more sophisticated. The stages of development begin with children one year of age through grade twelve and beyond.

According to Gentry (2000):

Each stage represents how the speller conceptualizes inventing a spelling in qualitatively different ways throughout his or her spelling development. The stages of writing development describe what the speller apparently knows or does not know and does and does not do. (p. 318)

Understanding the stages can assist educators in individualizing instruction for each child, thereby supporting educators in making meaningful decisions that can support literacy development in reading and writing. “Teachers accept the various forms of writing that kindergartners typically use (scribble, random letters, invented spelling) and, as appropriate for individual children, scaffold their writing attempts, thereby moving them toward more conventional writing systems” (Teale & Yokota, 2000, p. 10).

Spelling development is a component of a comprehensive literacy program. This

method of instruction encompasses the areas of shared reading and writing, guided reading and writing, and independent reading and writing. It does not favor phonics instruction over a more holistic method of instruction, but rather it incorporates a combination of the two. “In order to learn to read effectively, children need a balanced instructional approach that includes learning to break the code and engaging in meaningful reading and writing activities” (Xue & Meisels, 2004, p. 222). When kindergarten students are engaged in writing activities, their teachers need to decide whether to spell out words for the children or to allow the children to sound the words out. By understanding the value of young children's spelling development, educators can make informed instructional decisions regarding the use and purpose of journals, writer's workshop, word walls, writing centers, shared writing, and interactive writing.

Understanding invented spelling and its purposes, its role in writing development, its relationship to reading acquisition, classroom practices utilizing invented spelling, and the controversies surrounding its use are the main points examined in this literature review. Jones, Reutzler and Fargo (2010) concluded:

The task of writing serves as a natural bridge from a child's early literacy experiences to formal literacy instruction in kindergarten. Effective writing instruction is not built from stolen moments, but as an essential component of early literacy. Perhaps, in kindergarten it is most important that we *do* writing. (p. 338)

Rationale

Students in kindergarten vary greatly in academic ability, so the intent of this literature review is to assist educators in making informed decisions for writing

instruction, not only for an entire class, but for individual kindergarten students as well. When kindergarten teachers instruct their students on writing, it means that they are teaching strategies, such as phonemic awareness and word study to develop meaningful writing that progresses in sophistication over time. Iowa Common Core Standards (Iowa Department of Education, 2011) require kindergarten students to draw, dictate, or write opinion pieces {Writing Kindergarten} (W.K.1.), create an informative message (W.K.2.), narrate a single event or several connected events (W.K.3.), and compose a responsive message (W.K.5.) Since the No Child Left Behind Act of 2001 (United States Department of Education, 2001), much emphasis has been placed on reading acquisition with little or no emphasis placed on writing. Kamii and Manning (2002) commented on the need to rethink the importance of writing with beginning readers:

Many researchers thus emphasize reading over writing, but it may be better to shift the focus of attention to children's writing. Their writing is highly informative when we want to assess their phonemic awareness. It is also important to encourage beginning readers to write because, while writing, children analyze their own speech, thereby becoming better able to differentiate phonemes. (p. 45)

However, invented spelling use is not without skeptics. Parents who are uninformed may be worried that their child may not be able to spell correctly, or whether the child may develop bad habits. As Gentry (2000) described:

Controversies over invented spelling have often irritated teachers and administrators, but they may be deftly sidestepped if efforts are made to keep parents and those outside the classroom well informed. In addition to careful

clarification of stages, a key to ending controversy may be better communication.

Teachers must communicate which skills and knowledge children should be acquiring at young ages and how invented spelling is balanced with

developmentally appropriate instruction for conventional spelling. (p. 328)

Educators also may wonder if invented spellings create poor spellers. They may even question how long one should allow children to use invented spelling. According to a study by Morris and Templeton (1999):

there is value in letting children invent their own spellings because they are applying phonics in a truly authentic context and as children have attained full phonemic awareness, usually by the middle of first grade, then we can begin the exploration of conventional spelling. (p. 108)

So to offset any criticisms, educators need to inform parents of what invented spelling is, what it will look like, and then how parents can encourage its development with their child.

Purpose of Review Results

Currently much emphasis is placed on reading instruction in kindergarten, and much less on writing instruction. This review can assist the educator in understanding the benefits of spending quality time on writing with the use of invented spelling to reading acquisition. Understanding how spelling develops can help educators and parents see the value of invented spelling in regard to literacy development. Learning to read is crucial and allowing children opportunities to write using what they know about letters, letter sounds, and concepts of print can enhance reading acquisition. Ouellette and Senechal (2008a) commented: “Invented spelling, therefore may allow children to

explore and analyze the written code and begin to make these proposed important associations between phonological and orthographic representations” (p. 900). Educators can then use students’ writing samples to assess the various literacy concepts. This review will assist the reader in understanding the need for a comprehensive approach to literacy instruction that includes time spent on writing. In addition, the review will help facilitate the question of when invented vs. conventional spellings may be used and how to instruct kindergarten children appropriately to foster their spelling and writing development.

Importance of Review

Examining research on writing in the kindergarten classroom is important to inform educators about the importance and worth of invented spelling. The research can enable educators to make appropriate instructional decisions regarding writing activities. This review can help educators recognize the importance of using invented spelling in a comprehensive literacy kindergarten program, and they will realize that time spent on writing is just as valuable as time spent on reading instruction. This review can help educators see not only the written letters and words on a page, but also the relationship between phonemic awareness skills, concepts of print, and oral language skills in their students’ writings. “Invented spelling administered in early kindergarten may be an even better predictor of subsequent decoding skills than are traditional phonological awareness tasks, for American school children” (McBride-Chang, 1998, p. 147). Using invented spelling samples as an assessment tool can provide insight into whether the child understands consonants and vowel sounds, initial, medial and final sounds, and concepts of print such as spacing in between words. This review can also assist in dispelling the

controversies surrounding invented spelling. When educators understand the value of writing using invented spelling, they therefore can minimize any concerns parents may have about their child's writing development.

Research Questions

To analyze the research in regard to writing in kindergarten with particular interest in invented spelling, I considered the following questions:

1. What is the purpose of invented spelling for a kindergarten teacher?
2. What can invented spelling tell us about a child's development of letter/sound knowledge, phonemic awareness skills, concepts of print, and language skills?
3. Where does invented spelling fit in a comprehensive literacy program?
 - 3a. What role does invented spelling play in reading acquisition?
 - 3b. How can invented spelling be used as an assessment tool?
4. What are the controversies surrounding the use of invented spelling?

Terminology

For the purposes of this paper I am using the following definitions to support the reader in understanding this review:

Alphabetic Principle—Understanding that “letters represent sounds in a systematic way, and words can be segmented into sequences of sound from left to right” (Bear et al., 2012, p. 11).

Comprehensive Literacy—A comprehensive approach to literacy is one that not only includes a balance with instruction in reading and writing through the use of shared, guided, and independent experiences, but also it encompasses a broader range of goals where learners construct meaning through reading, writing, listening, and speaking.

Raskinski and Padak (2004) discussed a comprehensive literacy program as one that uses various groupings for instruction, uses a variety of text types and genres, develops a student's love and appreciation for reading and writing, provides differentiated instruction, understands that reading and writing should be of equal importance, integrates with other curricular areas, addresses literacy in the home and provides support for parents in how to help their child learn to read.

Invented Spelling—According to Ouellette and Senechal (2008a), invented spelling “is a developmental progression in which spelling attempts increase in phonological and orthographic accuracy over time” (p. 899). It is allowing students to write words as they think the words are spelled.

Conventional Spelling—Correct spelling of words.

Concepts of Word—“The beginning reader's ability to match spoken words to printed words in reading a sentence” (Morris, Bloodgood, Lomax, & Perney, 2003, p. 309). Also, it is the ability to attend to concepts such as spaces in between words, and initial, medial, and final letter sounds in words.

Phonemic awareness—“The ability to recognize that a spoken word consists of smaller components such as syllables and phonemes and that these units can be manipulated” (Lombardino, Bedford, Fortier, Carter & Brandi, 1997, p. 333).

Orthographic Awareness—Ouellette and Senechal (2008b) define orthographic awareness as “the visual recognition of allowable characters and permissible sequences in print” (p. 198). This is different than phonemic awareness in that it is a visual recognition of letters and patterns in print, not the awareness of letters and their sounds

CHAPTER II

Methodology

This chapter explains the procedures I used to locate and select sources for review. It will also define the criteria I used for including and analyzing the sources.

Procedures to Review Literature

I conducted my search for research on invented spelling by first looking for research on the use of invented spelling in kindergarten. I began to look at the benefits and controversies of using invented spelling. I sought out articles on writing instruction in a balanced literacy kindergarten program.

Location of Sources

Through on-line searches using the University of Northern Iowa's Rod Library I secured mostly peer reviewed research. Most of the sources came from on-line data base searches from ERIC(EBSCO), PsycInfo(EBSCO), Academicone File, and Google Scholar. I searched using the terms or phrases: *invented spelling*, *temporary spelling*, *kindergarten spelling*, *writing in kindergarten*, *developmental stages of writing*, *writing in a comprehensive literacy program*, *phonemic awareness*, *developmental spelling*, and *kindergarten writing*.

Selection of Sources

Initially, I chose to look at research from the last fifteen years, but I felt the need to go back twenty-five years to see the progression of research on writing in kindergarten. Of the articles, many of them referred to research conducted in the late 1960s and early 70s, which also helped to provide a historical perspective on invented spelling. I chose to include sources that pertained especially to invented spelling and its impact on writing

and reading development, instructional methods, and any controversies around the use of invented spelling. Additionally, I decided to include a few articles on invented spelling to be used as background information.

Criteria to Include Literature

To decide upon what literature to include, I determined a set of criteria which included finding recent research (mainly within the past fifteen years), peer reviewed articles, articles from well-known journals, articles from leading experts in the field of literacy, research with kindergarten participants, and research that answered at least one of my questions. Some of the articles older than fifteen years were chosen to help gain a historical perspective on invented spelling, and to learn about opinions presented by leading experts in the field of literacy.

Procedures to Analyze Sources

Upon locating research on the subject of invented spelling, I read the abstract and discussion section of each article and then decided if the content was related to invented spelling's impact on a kindergartner's writing development and subsequent reading skills. I also reviewed the articles for any components on writing instruction as it relates to a comprehensive literacy program. Additionally, I wanted to find information on any controversies with the use of invented spelling. Taking a chronological look at the research, I sought to see a progression of content that built one research study upon another. Finally, I sorted the articles based on content. I used categories to organize the research into two groups: Invented spelling (benefits and controversies of its use), and methods of kindergarten writing instruction using invented spelling.

CHAPTER III

Literature Review

Recent research discussed the implications of writing instruction. Invented spelling is more than a way young children convey ideas through print. It is a window into their thinking about print, and letter/sound knowledge. Through the use of writing activities, students can demonstrate letter/sound knowledge, phonemic awareness skills, print awareness, language skills, and creativity. Artifacts of students' writing can be a measure of what they know about words. Studies show writing instruction that includes both invented spelling opportunities, along with conventional or correct spelling instruction is more effective (Rieben, Ntamakiliro, & Gonthier, 2005).

Learning to read is a critical skill for all students, and learning how to write is just as critical. "Over the past twenty years invented spelling had a powerful effect on how our thinking about literacy develops. Researchers and practitioners are making good use of developmental spelling models to bring developmentally focused engaging literacy into the classrooms" (Gentry, 2000, p. 331).

To understand the role of invented spelling in the kindergarten classroom, we need to look at its definition and reasons why educators encourage this way of writing with kindergarten aged students. Children begin to create their first attempts at written communication through drawings that over time, change to include more details, some letters, and then words. Emergence of letters and words shows evidence of letter/sound knowledge. This progression of writing development continues to more sophisticated forms of writing. "Invented spelling is a pre-reading skill that young children exhibit before they have received any formal instruction in reading and/or writing" (Ahmed &

Lombardino, 2000, p. 19). Children attempt to write words based on how they sound by inventing spellings. An educator can examine these attempts at writing and see into the child's development of letter/sound knowledge, phonemic awareness, concepts of print, and language skills. Early reading skills are enhanced when educators devote instructional time to writing and allow kindergartners to engage in meaningful writing activities. This review will examine various research studies and articles regarding the purposes of why invented spelling is an important component of the kindergarten curriculum. Instructional practices and controversies will also be examined.

Purpose of Invented Spelling for a Kindergarten Teacher

For the kindergarten teacher, invented spelling provides evidence of a child's phonological awareness, concepts of print, and language skills. It is a valuable component of reading and spelling instruction. Using invented spelling as an assessment is helpful in differentiating instruction, and creating interventions for children performing at a lower level. For the kindergarten student, invented spelling gives the child an opportunity to write freely. Jones et al. (2010) stated:

Young children quickly learn that lines and scribbles carry meaning. Sharing thoughts and getting their needs met through writing is important to young children, and so they begin to modify their writing to more closely resemble the written text they experience in their environment. (p. 327)

When kindergartners engage in writing activities they are using their alphabetic knowledge. In order to understand and value the development of writing for a kindergartner, knowledge of the developmental stages is critical for the educator so he or she can tailor instruction to meet the needs of his or her students. The book, *Words Their*

Way, by Bear et al. (2012), describes two early stages of writing: The *emergent spelling stage* and the *letter name-alphabetic spelling stage*. In the beginning of the emergent stage, children may use drawings, scribbles, and some letters, but rarely connections between letters and sounds are made. “Most of the emergent stage is decidedly **prephonetic**, which means there is little if any direct relationship between a character on the page and an individual sound” (Bear et al., 2012, p. 10). Gentry (1982) also described this stage as the *pre-communicative stage*. Notice in fig. 3.1 the use of random letters to convey a message.

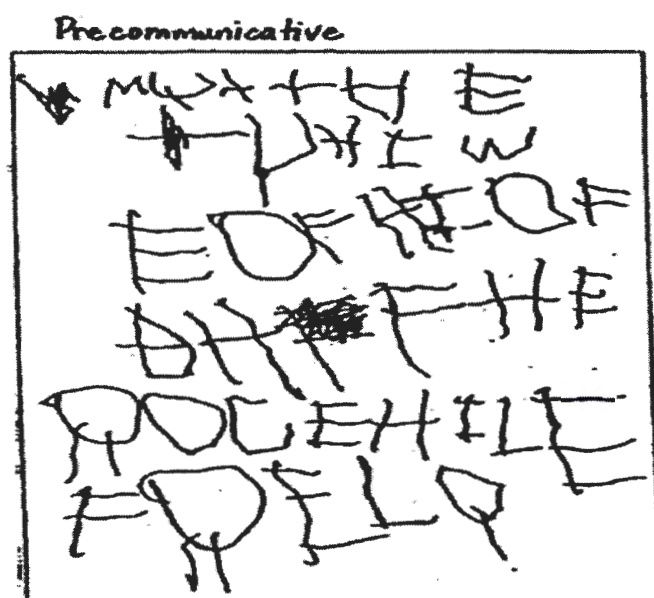


Figure 3.1 (Gentry, 1982)

Emergent Spelling/Pre-Communicative Stage: Notice in Figure 3.1 no relationship between letters and sounds, but an apparent understanding of letters in a linear sequence demonstrates an understanding of script being used to tell a story.

At this stage, children may be preschoolers, kindergartners, or even beginning first graders. “Throughout the emergent stage, children begin to learn letters, particularly the letters in their own names, and begin to pay attention to the sounds in words” (Bear et al., 2012, p.10). Toward the end of this stage, children begin to memorize words such as *mom*, *dad*, and *cat*. When they have learned the alphabetic principle, the children then move to the letter name-alphabetic stage. This stage can appear in kindergarten, first grade, and second grade. During this stage, formalized reading instruction has begun, and students begin to make connections between letters and their letter names to form words, such as: *Y* for *why* and *B* for *bee*. In the early letter name-alphabetic spelling stage, consonants are represented in the initial and final position of a single syllable word, and medial sounds (usually vowels) are left out. Words may be written with one, two, or three letters. This part of the stage “is **semiphonetic** because only some of the sounds are represented” (Bear et al., 2012, p. 11).



Figure 3.2 (Gentry, 1982)

Early Letter Name-Alphabetic Spelling/Semiphonetic Stage: Notice in Figure 3.2 that there are no spaces between words, vowels are not represented, but there are connections made between spoken language and letter names (*m* for *am*).

The middle part of this stage is characterized by the understanding of initial and final sounds in words as well as the correct spelling of high frequency words. Long vowels are present, while short vowels are confused. Spaces between words are usually included. “Because middle letter name-alphabetic spellers can segment and represent most of the sound sequences heard within single-syllable words, their spelling is described as **phonetic**” (Bear et al., 2012, p. 11). Gentry (1982) also described this stage as phonetic because “letters are assigned strictly on the basis of sound, without regard for acceptable English letter sequence or other conventions of English orthography” (Gentry, 1982, p. 195). The last part of the letter name-alphabetic stage represents a child’s understanding of phonemic awareness. The “spellers are able to consistently represent most regular short vowel sounds, diagraphs (two consonants, but produce one sound), and consonant blends” (Bear et al., 2012, p. 12).



Figure 3.3 (Gentry, 1982)

Phonetic Stage: Notice in Figure 3.3 the spaces between words, correct spelling of some words, and vowels are represented, but not necessarily correct.

The purpose for a kindergarten teacher to understand and identify these early writing developmental stages is to inform them on what, when, and why they need to teach certain skills and concepts related to writing. In the emergent stage, kindergarten teachers may instruct their students on letter recognition, letter formation, letter sounds, initial consonant sounds in words, syllable segmenting, and concepts of print, such as spacing between words. In the letter name-alphabetic spelling stage, the educator continues to work on the previously mentioned skills, but incorporates long and short vowels, initial, medial, and final sounds in words, phoneme segmentation of words, and sight words. Scaffolding the learning is more efficient when an educator understands the stages of writing, and values the writing attempts of his or her students.

A study conducted by Brasacchio, Kuhn, and Martin (2001) investigated the encouragement of invented spelling on later conventional spelling. The subjects were first graders. Even though this literature review pertains mainly to kindergarten students, this particular study is noteworthy because of invented spelling use in kindergarten. There were three classrooms with approximately fifteen to twenty-five students. The teachers used scripted lessons to compare instruction that encouraged the use of invented spelling to instruction that encouraged conventional spelling. For each lesson, the children were read a story, and then prompted to write about the story from one of the characters' perspectives. The children's writings were scored in two ways: the number of words written and the number of words spelled correctly. Several students were chosen to discuss their spelling strategies. Results showed that in each classroom, students' who were encouraged to use invented spellings produced more words written and more words spelled correctly than students who were taught lessons that encouraged conventional

spellings. From this small research study, the encouragement of invented spelling seems to allow children the freedom to write and convey their thoughts without hesitating to spell words correctly. The results of this study also suggested that invented spelling does not impact the amount of words students spell correctly.

In a study conducted by Molfese et al. (2010), 286 Head Start students participated in a longitudinal study from the time they were in preschool through their kindergarten year. Name writing and letter writing in preschool were compared to letter and word reading in kindergarten. Two rubrics used for scoring were compared to see whether a rubric with many writing components would better represent preschool and kindergartners' writing knowledge than a rubric with just one component. It was found that preschool and kindergarten children's evidence of alphabetic knowledge was connected to their letter and word identification skills. When writing activities, such as writing dictated letters, were more conceptual in nature ("e.g., graphic representations of letter names or sounds, the communicative role of writing, language and speech conventions" (Molfese et al., 2012, p. 134)), this was more effective than just randomly copying a letter or a word. Procedural writing activities ("e.g., motor skills, mechanics of letter formation, perceptual features of writing [letters arranged on a horizontal line, sequential arrangement]" (Molfese et al., 2012, p. 134)) did not enhance the reading and writing connection; conceptual activities provided more meaning thus creating a link to the purpose of writing. "Children learn to write through experimentation and instruction" (Invernizzi & Hayes, 2004, p. 24). Not only do kindergartners gain in alphabetic knowledge when using emerging writing, but they also are improving their

reading skills. Several studies linking writing abilities with reading acquisition have been done and will be discussed in the next section.

Invented Spelling and a Child's Literacy Development

A child's invented spelling may be like a window into their cognitive and linguistic development (Ouellette & Senechal, 2008b, p. 195). As a kindergarten teacher peers through that window, he or she can see many components of literacy development such as phonological awareness, concepts of print, and language skills. Several studies tested phonemic awareness instruction and its impact on kindergarten children's invented spelling (Ball & Blachman, 1991; Kamii & Manning, 2002; Richgels, 1995; Tangel & Blachman, 1992).

Ball and Blachman (1991) wanted to know if training in phonemic awareness would impact kindergartners' early word recognition and developmental spelling. The researchers divided 89 kindergarten students into three groups. The children were selected for the study based on scores they received on a vocabulary and word reading test. Students who were identified as non-readers were included. The students came from six different kindergarten classrooms from three different elementary schools. Pre-tests, in addition to the vocabulary and word reading test, included a phoneme segmenting test, as well as a letter name and letter sound assessment. Children were then randomly assigned to one of the three groups. Ball and two certified teachers administered the instruction to the groups. The first group was the *training group* who received instruction in phoneme segmenting as well as correspondence with letter names and their sounds. The second group, called the *language activities group*, was trained in letter names and their corresponding letter sounds. The third group was the *control*

group who received no training. After seven weeks, post-tests were given in phoneme awareness, letter names and letter sounds. Additional tests used as posttests were a list of 21 phonetically regular words to read, and a list of five words to spell. A developmental scale was used to score the invented spellings, as well as a score for the number of correctly spelled words. “We used the developmental scale to evaluate the extent to which an unconventional spelling captured the phonetic structure of the word” (Ball & Blachman, 1991, p. 58). For the training group, the scores were analyzed using an ANOVA, and comparisons were made indicating the treatment group outperformed the other two groups. For letter names, no significant differences were found between the three groups; however, the letter sounds knowledge did show significant differences, with the training group and the language activities group outperforming the control group, but not differing from each other. The regular word reading test showed significantly higher scores for the phoneme awareness group in comparison to the other two groups, who did not differ from one another. For the spelling assessment, the phoneme awareness group significantly differed from the language activities group and the control group. They did not show any differences among themselves either. The study concluded that phonemic awareness training administered to kindergartners is an effective way to teach children how to segment words thus enabling them to perform better on regular word reading and spelling assessments. When instruction begins early in phoneme segmenting, this can help prevent poor beginning readers and writers.

A similar study was done by Tangel and Blachman (1992). The subjects were chosen from eighteen all-day kindergarten classes housed in four low-income, inner city schools. There were 77 children in the treatment group, and 72 children in the control

group. Pre-tests and post-tests were given in the areas of phoneme segmentation, sound counting, letter names, and letter sounds. Additional post-tests in the areas of reading two and three phoneme real and non-words, as well as the developmental spelling test, where the children were asked to spell five words, were part of the methodology. The developmental spelling test was scored using the same 0-6 point scale mentioned in the previous study. This scaled proved to be highly reliable with a 93% agreement. A random string of letters would receive zero points and the correct spelling of a word would warrant a score of six. In the final three months of the school year, the treatment children were instructed in phonemic awareness. Results of the study concluded that the treatment group performed significantly better on phoneme segmentations, knowledge of letter names and letter sounds, and ability to read words and non-words phonetically. The developmental spelling test results were “significantly higher for the treatment group ($M=11.6$, $SD=6.8$) than the control group ($M=6.0$, $SD=5.0$), $t(147)=5.76$, $p<.0001$ ” (Tangel & Blachman, 1992, p. 243). This study reinforced the connection of phonemic awareness instruction and the use of invented spelling which impacts early literacy development.

Kamii and Manning (2002) wanted to replicate a study done by Vernon and Ferreiro to examine the connection between a child’s phonemic awareness, particularly phoneme segmentation, and level of writing. There were 68 kindergartners who were interviewed in October and early November. Each child was individually given a writing task. Four pairs of words were spoken to the child, who then repeated the words orally. The child was then asked to write the words. The words were familiar to the children, and each word pair included a longer word containing the shorter word such as “ham”

and “hamster”. The children’s spellings were categorized into six levels. Level I included pictures, strings of random letters, and written words with almost all the same amount of letters. Level II consisted of writing words with the beginning sound conventionally, which indicates an understanding of writing being related to speaking. Level III writing included more correct beginning consonants, and more letters were written for longer words. Level IV writing included gradual appearance of more consonants. Level V also showed an increase in consonants, but many vowels began to appear. Finally, Level VI demonstrated almost conventional spellings. The participants were also given two oral phoneme segmenting tasks in which the children used picture cards and cards with written words. The children were shown the picture cards and asked to segment the words. For the written word cards, the child was told what the word was and then asked to point to the word and say it in little bits. The scoring of the picture and word card segmenting tasks was divided up into five levels (Level 1: No segmenting, Level 2: Syllabic segmentation, Level 3: Partial isolation of a consonant or vowel, Level 4: Phonological and segmentation of one of the two syllables, and Level 5: Complete phonological segmentation). Kamii and Manning used a simple examination to compare the child’s level of writing with his or her level of oral segmentation. Results indicated a strong correlation with a child’s level of writing and his or her level of oral segmentation. Findings in this study were in reference to Level I, where children would focus on what the writing looked like, such as more letters for longer words; and Level II where children figured out the relationship between writing and speaking.

As kindergarten teachers utilize invented spelling, they not only are providing opportunities for their students to write, but also they are providing necessary

reinforcement of reading skills. Richgels (1995) studied the relationship between phonemic awareness and invented spelling. He wanted to know if kindergarteners who were considered alphabet-knowledgeable, non-word-readers, but good inventive spellers would learn to read simple phonetic words better than alphabet-knowledgeable non-word-reading poor inventive spellers. Four tasks were used: letter identification, word identification, invented spelling, and printed word learning. Results concluded that good invented spellers are more proficient word learners. “Spellers use their newly acquired awareness of the role of phonetic cues in written language when they learn to read new words” (Richgels, 1995, p. 104). Playing with sounds and letters helps inventive spellers with phoneme awareness. Richgels (1995) also referred to invented spelling and word reading as just part of a child’s literacy development. “Meaning making, forms, meaning-form links, and functions in written language” are necessary to include in a young child’s reading and writing instruction (Richgels, 1995, p. 107).

Richgels, McGee and Burns (1992) conducted a study to determine whether children’s invented spellings were indicative of their knowledge and awareness of onsets and rimes, or rather the phonemes within the onsets and rimes. The subjects were 135 preschoolers, 78 kindergartners, and 26 first graders. They were from two different states, a Midwestern one and a southern one, and they represented a variety of ethnic backgrounds. The subjects were given individually, an invented spelling task of ten words that they spelled using magnetic letters. Points were given for each number of phonemes the child represented in his or her spelling. “For this study, we were interested in where credited phonemes were located within the onsets and rimes of list words” (Richgels, McGee, & Burns, 1992, p. 13). The children’s invented spellings were

compared to the researchers' assumptions of phonetic analysis based on their predictions with one letter spellings, two letter spellings, and spellings with three or more letters. The results indicated that 62% of pre-schoolers, 18% of kindergartners, and 8% of first graders used random letters. Conventional spelling accounted for 0% of preschoolers, 1% of kindergartners, and 4% of first graders. There were 38% of preschoolers, 81% of kindergartners, and 88% of first graders who used invented spellings. The high percentages in kindergarten and first grade showed the appropriateness of using invented spelling in those grades. The preliminary study demonstrated the view that students attend to phonemes more so than onsets and rimes when spelling. Richgels et al. (1992) commented:

If children do not treat phonemes as more difficult than onsets and rimes and are willing to work at the task of analyzing complex onsets and rimes, then it makes sense to use teaching strategies that encourage children's discovery of their own tasks, that is, encourage their personal experimentation with written language. (p. 22)

A study done by Kim et al. (2011) examined the component of oral language skills in the beginning writing samples of kindergartners. The intent of their research was to expand the information on written expression of end of the year kindergartners and the relational component of oral language. Several sources of influence on written expression, including oral language, spelling, writing letter fluency, and reading were examined. The study included 21 teachers and 242 full-day kindergarten students from nine schools. (This study was part of a larger research investigation of the effectiveness of a core reading program in a response to treatment model. Teachers were trained to

differentiate and individualize instruction.) Children were assessed in the spring of their kindergarten year in regard to oral language development, specifically expressive vocabulary, sentence imitations, and grammar. The written spelling of real and non-words was tested by asking the children to spell as well as they could by sounding out the real word or non-word. Letter writing fluency was also evaluated by asking the students to write the alphabet in order, using lower case letters in a time frame of one minute. A point was given for each letter written correctly, and half of a point was given for reversed or poorly formed letters, but correct in alphabetic order. Lastly, word reading skills of accuracy, fluency, and comprehension were measured. All of the assessments were administered by a trained examiner in a whole group setting. “The results suggested that oral language, spelling, and letter writing fluency were uniquely related to end of kindergarten writing performance” (Kim et al., 2011, p.522). While students write to convey meaning, they are not only drawing upon their letter fluency, word decoding, and spelling ability, but also oral language skills, as well as cognitive skills and metacognitive skills to create ideas. Kim et al. (2011) recommended:

Future studies should examine development of these other aspects of ideation such as planning and translation for young writers across time. For example, it would be possible to complement writing assessments with interviews or think-alouds to examine students through these processes while writing or reflecting on their writing samples. (p. 523)

Knowing the importance of increasing young children’s oral language skills is as necessary as building word decoding skills. Both factor into writing development.

While many studies have examined the impact of phonemic awareness and its relationship to beginning reading acquisition, Morris et al. (2003) conducted a longitudinal study of 102 kindergartners to examine how learning to read may influence phoneme awareness. The researchers particularly looked at the relationship between a reader's concept of word and phoneme awareness skills. In the study, they discussed invented spelling and how it contributes also to phoneme and concept of word awareness. Balancing the reading instruction with writing is necessary. "Writing with invented spelling complements young children's reading development by enhancing perception of phonemes within words, reinforcing knowledge of letter-sound relationships, and helping to automatize the spellings of high-frequency words (e.g., *the, and, is, to*) (Morris et al., 2003, p. 321).

Uhry (1999) looked at the relationship between finger-point reading and invented spelling. This researcher hypothesized that there would be a correlation between letter recognition and phoneme awareness with finger-point reading. The participants included 109 English-speaking kindergartners. Whole language, as well as direct teaching in phonological awareness and letter-sound association, was the predominant pedagogy used in the kindergarten classroom. Shared reading was an activity where the teacher would read from a big book, pointing to the text while the children joined in. After the children were familiar with the text, the teacher would use a pointer to help the children focus on a specific word. Children also had opportunities to read aloud from smaller versions of the big book. Additionally, children kept writing folders in which they would write stories several times a week. The researchers examined the spellings to see a match between spoken sounds and written letters. They wanted to test whether "invented

spelling would account for the variability in finger-point reading beyond the contributions of letter knowledge and phonological awareness” (Uhry, 1999, p. 458). Once again, this study found a correlation between letter knowledge and phonological awareness and reading. Invented spelling was found to be a predictor of the ability to match what is spoken with print. “Invented spelling of final phonemes made a significant unique contribution to finger-point reading beyond the contribution of initial phoneme spellings” (Uhry, 1999, p. 460). Uhry (1999) stated further:

However, invented spelling makes a unique contribution beyond that made by knowing letter names, and beyond that made by understanding that oral language can be broken up into phonemic segments. Invented spelling also carries a sense of the alphabetic principle. (p. 459)

Invented Spelling and a Comprehensive Literacy Program

So where does invented spelling fit into a comprehensive balanced literacy program? So much recent emphasis in schools has been on teaching reading and not on writing. With a comprehensive program, writing and reading should have equal weight. Kindergarten teachers use a variety of ways to encourage and instruct children in writing. Kindergarten teachers know meaningful writing activities offer their students authentic writing experiences. To develop writing skills, invented spelling may be encouraged in journal writing, list making, stories, and picture captions. These are just a few examples of independent writing activities, but invented spelling is just a part of the writing program. In the kindergarten classroom, waiting for a child to *blossom* is an idea of the past. Teachers need to understand the developmental stages of writing in order to scaffold the learning for individual students. To do this, a more explicit instruction in

writing may be necessary. The teacher may use an interactive writing approach to introduce and instruct the kindergartners on specific concepts of print, sight words, letters, and sounds. Writing workshop is another widely used approach to writing instruction. It is based on independent writing, sharing what was written with other students and the teacher, conferencing, and publishing. Kim et al. (2011) reported:

Effective teachers dedicated time to writing and to teaching writing through small group process that involved modeling of planning, revision, and editing. Students who were successful were in environments that were scaffolded but also allowed them to work independently. (p. 524)

In a research study conducted by Jones et al. (2010), the effects of two methods of writing instruction (interactive writing and writing workshop) were compared as to their effectiveness in helping young children learn to read. Phonological awareness, letter names and letter sounds, and word reading skills were the components used to measure early reading skills. Random selection was used to select two participating schools. Each school was selected because it had not established a regular writing routine in the kindergarten classroom, and the schools did have an established consistent evidence-based reading instructional time. Five kindergarten teachers participated. The kindergarten classes were half-day programs, with three full-time educators teaching two sections each of half-day kindergarten, and two teachers teaching one section of half-day kindergarten. A total of eight half-day sections containing 151 kindergartners (53% boys and 47% girls) were used for the study. Before school began, each participant was given a random number, which assigned them to a particular instructional group. A total of eight groups were formed: these were divided into four groups of writing workshop

instruction, and four groups of interactive writing instruction. Teachers were trained in the particular method they would be teaching. The teachers were randomly assigned to one of the groups. Interactive writing instruction includes whole class lessons where the teacher and students share in the writing and talk about many different components of the writing, such as “letter-sound correspondence, sight words, irregular spellings, writing mechanics, and conventions” (Jones et al., 2010, p. 333). The writing workshop model used independent writing with teacher input as well as mini-lessons, conferencing, and sharing. Invented spelling was encouraged. Throughout the study, each of the students were assessed regularly on phonemic awareness, alphabet knowledge, and word reading. Results indicated significant student growth in phonological skills, alphabet knowledge, and word reading over time, but did not show any differences between the instructional groups. The two methods proved to be effective in developing early reading skills. “Both interactive writing and writing workshop create a literacy environment that emphasizes the importance of writing by utilizing writing models, recognizing the unique contributions of each writer, and providing instruction in response to student needs” (Jones et al., 2010, p. 329). This study proved that not just one method works to improve writing as well as reading development, but how a combination tailored to meet the needs of all students can be valuable.

Craig (2006) also sought to compare two methods of writing instructional approaches. An adapted interactive writing approach and a program consisting of metalinguistic games were compared using a pretest-posttest design. The duration of the study was sixteen weeks. The instructional approaches were compared based on 87 half-day kindergartners’ phonological, spelling, and word reading development. After a

pretest was administered, 43 students were randomly assigned to an interactive writing-plus group and 44 to a metalinguistic game group. Three teachers administered the interventions in a small group setting of four to five students. Using the pretest data, the children were grouped based on common areas of strengths and needs. This resulted in 18 intervention groups, nine in each type of instruction. Four 20 minute lessons were administered weekly. The interactive writing group instruction contained instructional components of text experience, interactive writing, letter-sound instruction, and instructional decision making. The metalinguistic games comparison group was instructed using a phonological awareness and alphabet program that included an outline of language games ranging in complexity, based on the skills of listening, rhyming, words and sentences, syllable awareness, beginning and ending sounds, phonemes, and letters and spellings. Pretests were given in the fall and posttests were administered in the spring, with additional testing in developmental spelling and word reading. From these scores, children were grouped in high, middle, and low level initial literacy levels. Pretest scores indicated no statistically significant differences between the groups' beginning literacy levels. Posttest results indicated growth made by both groups in literacy skills, and no significant differences were found in phonological awareness, or hearing sounds in words. Phonological awareness scores showed growth for both groups, and a statistically significant difference between students in the high and low levels, but no differences between groups based on instructional method. Reading measures showed no differences among the groups on word attack skills, but the interactive writing group performed better than the metalinguistic games group on measures of word identification and passage comprehension. Through this study, evidence of growth occurred for each

type of instructional method. “Furthermore, it appears that writing instruction that supports children’s invented and conventional spellings provides a rich context for developing the phonological awareness and alphabetic knowledge they will need for early reading” (Craig, 2006, p. 726). Connecting reading instruction to writing instruction is important for the development of each skill. “The reading results are particularly important because they provide evidence that writing not only enhances kindergarten children’s word reading but may also affect their reading comprehension” (Craig, 2006, p.726). This evidence supported the need for kindergarten teachers to devote quality time to writing instruction.

Word study is important to both reading and writing. It engages children in the “active exploration of the principles of English orthography—how English words *work*” (Williams & Hufnagel, 2005, p. 233). A small scaled study by Williams and Hufnagel, found word study instruction in a small group setting provided better results in kindergartners’ independent journal writings. Twenty-two kindergartners were included in the year-long study. The students were divided into three groups based on ability level of literacy skills. From that list, 12 students were chosen, three from each ability group. Instructional lessons in word study, such as letter-sound correspondence, concepts of print, strategies for reading known and unknown words, and sight words, was done in a whole-group setting. Data was collected based on word study instructional content and the children’s transfer of that content into their journal writing. The analysis of the data demonstrated that the average ability group showed the most transfer, while the other two groups, high and low, appeared to show the least amount of change. The high group appeared to have already mastered the concepts taught and these same concepts may have

been too advanced for the low group. “We wondered if the lack of transfer among the children with the lowest literacy knowledge and ability was influenced by the overall newness of kindergarten literacy activities” (Williams & Hufnagel, 2005, p. 259). All of the students targeted transferred some of the content skills, but it was felt that the whole group setting was not an effective approach to teach writing to kindergartners. The authors concluded that small instructional groups would have been more beneficial in writing instruction and concept transfer. Through the journal entries, revelations of a child’s literacy abilities are prevalent.

Invented Spelling Used as an Assessment

In the kindergarten classroom, assessments are necessary to gather critical information regarding a child’s abilities. Invented spelling can be used as a tool to assess various literacy skills. Letter sound knowledge and concepts of print show insights into a child’s literacy development. Kamii and Manning (2002) suggested using a written test rather than an oral one to assess phonemic awareness. “When we watch them write and read what they have written, pointing to the letters, we can assess not only their level of oral segmentation, but also the grapho-phonetic information they are using” (Kamii & Manning, 2002, p. 45).

A review of research by Invernizzi and Hayes (2004) examined how developmental spelling research and theory can inform and guide classroom instructional decisions. The research suggested the use of developmental-spelling assessments to provide information on children’s spelling abilities. The assessment results gave teachers information needed in order to tailor phonics and spelling instruction for individual children rather than teaching in a whole class format. Using word study instruction met

students' needs. "The fundamental idea that invented spellings provide a diagnostic cue to a student's current understanding of how written words work, and that instruction can be timed and targeted to this understanding, is still, for the most part overlooked" (Invernizzi & Hayes, 2004, p. 217).

In a study conducted by Ahmed and Lombardino (2000), interpretations and guidelines for interventions in regard to spelling development were suggested. In the study, the invented spelling subtest on the Early Reading Screening Instrument was given to 100 kindergartners. Results were scored and classified as low, middle, and high ability. Short-term goals for intervention were made "to bombard the child with sufficient exposure to letter-sound associations so that the child becomes familiar with the concepts and apply the learned knowledge to new words" (Ahmed & Lombardino, 2000, p. 24). This study showed the importance of analyzing invented spellings to provide meaningful instruction for individual children.

A study by Stage and Wagner (1992) reinforced the value of a child's ability to write words dependent on their awareness of phonemes, letters, and working memory. The purpose of the study was to first, see if a child's knowledge of orthography and phonology would differ in purpose of phonemic category and syllable position, and if these variations occur across developmental levels. Secondly, the researchers wanted to uncover possible reasons for individual spelling performance differences, and the possible developmental reasons for the differences. Lastly, they wanted to find the origins of any correlations between spelling and word-decoding, and to learn if these correlations change developmentally. The study looked at the spellings of kindergartners, first graders, second graders, and third graders. A total of 187 children

(representing the demographic and educational characteristics of the population of Florida) were selected from a campus-based school. All children were given a spelling task consisting of non-words. Additionally, a random subsample of the subjects, except the kindergartners, were administered assessments individually in sound categorizing, letter span, word-level decoding, and general cognitive ability. The non-word spellings were scored using left to right and right to left sequence of correct position of initial, medial, and final phonemes. The findings explained several factors that influenced where students position certain letters within words. The data suggested that working memory capacity can limit a child's ability to correctly place or identify consonants or vowels in a correct sequence. In other words, as a child hears the sounds in a word, he or she may not have the memory capacity to be able to write those sounds down sequentially or completely. Other factors that may affect spelling are consonant clusters, as well as articulation of phonemes. For example, when listening for the medial phoneme one starts to hear it while the initial phoneme is spoken, thus making it more difficult to identify. The study found consonants to be spelled more accurately in regard to position in the word. For the younger child, phonological awareness and working memory proved to be predictors in spelling performance, but not for the older children. "The fact that invented spelling performance is an excellent predictor of later word-decoding suggests that children's phonological and orthographic knowledge is at least partly general to decoding and spelling" (Stage & Wagner, 1992, p. 287). Older children did not rely on phonological rules as much as the younger children because they may have been exposed to more print, which increases their reliance on the visual representations of words. In sum, Stage and Wagner (1992) found that varying influences of phonological awareness

and orthographic knowledge, in addition to working memory, play a combined part in how young children spell.

Invented Spelling Critics and Controversies

To the uninformed, a kindergartner's invented spellings may look like poor attempts at spelling, but when looked at more closely, one can see a child's literacy development. However, the use of invented spelling is not without critics and controversies. Educators need to help parents understand and recognize the value in allowing a child to write words based on how those words sound to the child. Fellow educators need to be knowledgeable about the benefit of allowing opportunities to write authentically and freely. Being attentive to the kindergartners' writing provides the teacher with information needed to tailor instruction that will increase a child's knowledge of how words work. A teacher should not allow a child to create his or her own spellings and not analyze the product. This is not the intent of invented spelling and it is this seemingly un-attentive attitude towards correcting spelling that seems to confuse and frustrate parents. By searching the internet, one can find articles and blogs, written by educators, journalists, or parents criticizing the use of invented spelling with young children. Tricia Shore (2007) wrote an article on invented spelling that is posted on the LewRockwell.com website. She defined invented spelling as *learning to spell wrong*, and as a *whim of education* that is not teaching our children to become efficient communicators. While this is her opinion, it does serve to minimize the value of invented spelling in learning how to write. In 1987, Margaret Y. Phinney authored an article on invented spelling that is posted on the website of the Natural Child Project, a child advocacy organization for parents. She recommended parents use "encouragement,

acceptance, sensitivity, and common sense” (Phinney, 1987, “Children Love to Write,” para. 6) when helping their children become better writers. She also reminded parents to “be as sensitive toward your children’s struggles with writing as you were toward their early attempts as talking” (Phinney, 1987, “Sensitivity”, para. 1). “Denying a child the opportunity to write is like forbidding a child from talking until he or she is able to pronounce every word correctly” (Phinney, 1987, “Breaking with Tradition”, para. 2). Recent research on the importance of invented spelling’s use along with word studies is the optimal method to help children learn to write, but no study dismissed invented spelling as hindrance, or poor teaching method. What lies at the root of the controversies is the misunderstanding, the misuse, the lack of attention, and the value given to a child’s spelling attempts.

This chapter examined the purpose of invented spelling by explaining the beginning developmental stages of writing for a kindergartner. Those stages represent a child’s knowledge of the alphabet, letters, concepts of print, phonemic awareness, and oral language. Various studies reviewed have shown the positive impact invented spelling has had on emerging literacy skills. In the kindergarten classroom, invented spelling should be encouraged in a comprehensive literacy program where reading and writing are given equal instructional time. Educators who understand and recognize the value of invented spelling can help educate parents in their understanding of their child’s attempts at writing. The next chapter will present conclusions and recommendations on the value of invented spelling.

CHAPTER IV

Conclusions and Recommendations

Conclusions

Invented spelling is a valuable component in a kindergarten literacy program. By having children write words based on how they sound, a teacher is able to detect a child's knowledge of phonemic awareness, language, and concepts of print. If the literacy program is comprehensive in nature, utilizing writing methods such as writing workshop, interactive writing, and word study, such a literacy program can foster the development of a child's understanding of the written word. Invented spelling is an integral part of such methods. It allows a child to connect writing to the spoken word. While it cannot be used alone, it does offer a child the freedom to write uninhibited. If writing opportunities are authentic and meaningful, children can be motivated to write and therefore experiment with what they know about letters and letter-sounds, sight word knowledge, and print concepts.

Identify and Synthesize Insights

Various studies (Ball & Blachman, 1991; Kamii & Manning, 2002; Richgels, 1995; Tangel & Blackman, 1992) have proven the value of invented spelling and its connection to phonemic awareness. Research has shown that phonemic awareness is connected to early reading ability. By understanding the developmental writing stages, a kindergarten teacher can see a child's understanding of letters and sounds, concepts of print, phonemic awareness, and oral language skills, and therefore, give him or her the knowledge of what, why, and when to teach certain skills and concepts related to writing. So if writing can enhance phonemic awareness skills, and phonemic awareness is critical

to reading, then using invented spelling is a necessity in a kindergarten comprehensive literacy program. Educators must view writing instruction as an equal partner to reading instruction. A comprehensive literacy program incorporates reading, writing, and language skills. Those skills serve to enhance the development of each other. Some studies explored specific methods of writing instruction (Craig, 2006; Jones et al., 2010; Williams & Hufnagel, 2005). Each method was found to improve a child's writing. Small group instruction seemed best suited for optimal growth in writing skills. The study by Kim et al. (2011) explored invented spellings' connection to oral language.

A child's invented spellings can provide an assessment of his or her literacy development. Studies, such as Ahmed and Lombardion (2000); Invernizzi and Hayes (2004); and Stage and Wagner (1992), have shown how invented spellings can give the kindergarten teacher much needed data to instruct students at their individual levels of development. Interventions can be made when educators are aware of the developmental stages of writing (Lombardino et al., 1997).

The value of invented spelling in kindergarten outweighed any criticism within the research I reviewed. Instruction that provides explicit word studies, guided instruction, and independent practice along with numerous opportunities to write freely using invented spelling, will foster a transfer of learned skills, writing experimentation, and connections to the spoken and written word. It is important that parents receive information on the value of invented spelling, so they can support their child's writing development at home. The research is positive on the use of invented spelling as a strategy to help children become conventional spellers. Criticisms seemed to come when individuals did not understand the full worth of a child's attempts at writing.

Recommendations

This review of research about invented spelling has provided a series of

recommendations to guide kindergarten teachers. These recommendations are the following:

- 1) Literacy programs should include writing instruction as an equal partner to reading instruction (Craig, 2006; Jones et al., 2010; Williams & Hufnagel, 2005; Xue & Meisels, 2004).
- 2) Invented spelling should be used as a daily activity in all kindergarten classrooms as it can provide data about a child's phonemic awareness skills (Ball & Blachman, 1991; Kamii & Manning, 2002; Richgels, 1995; Tangel & Blachman, 1992).
- 3) Whole or small group settings, as well as individual instruction, are all ways to promote and instruct writing. Direct modeling, guidance, and independent instruction are necessary to develop young writers' skills (Craig, 2006; Jones et al., 2010; Williams & Hufnagel, 2005).
- 4) Invented spelling can serve as an informal and formal assessment of phonemic awareness, concepts of print, and language skills (Ahmed & Lombardino, 2000; Invernizzi & Hayes, 2004; Stage & Wagner, 1992). Knowing a child's ability can help the instructor differentiate instruction for the student (Lombardino et al., 1997).
- 5) Kindergarten teachers need to know the various stages of writing, so they can provide instruction that fits the need of the child (Bear et al., 2012; Bear & Templeton, 1998; Gentry, 1982; Gentry, 2000; Teale & Yokota, 2000).

Additionally, parents need information on the stages in order to support writing at home.

- 6) Creating a print rich environment is not a new concept, but one that needs to be continued. The kindergarten classroom needs to have paper accessible in all the learning centers (Jones et al., 2010; Kamii & Manning, 2002).
- 7) Administrators need to understand the need for instructional time for writing. With a comprehensive literacy program, writing is just as important as the reading instruction, but it may not be recognized by administrators as such (Gentry, 2000).

Future Projects and Research

Future research on teaching methods using invented spelling is needed. Studies looking at the long term effects of various instructional writing methods used in kindergarten could be done to see if students were indeed spelling more proficiently. There has been much emphasis on learning to read and various instructional methods, but not as much attention on writing instruction. Professional development opportunities on writing and its role in learning how to read would be beneficial to teachers and administrators as well. Educating professionals on various methods, such as interactive writing and writing workshop, as well as recognizing and creating authentic opportunities to write in the kindergarten classroom would benefit teachers. I plan on sharing my review of literature with my fellow kindergarten teachers in hopes of examining our current writing instructional practices. Such a self-study will hopefully lead to an appreciation for invented spelling's role in kindergarten writing instruction as well as its reciprocal benefit to learning to read.

Educational Policies

Currently education reform is at the forefront of the state of Iowa and the nation. Early literacy education is being viewed as critical for school success. Currently the state of Iowa is considering retaining third graders who are not proficient in reading. Not one person can argue the importance of being able to read, but also being able to write is critical. Legislators need a broader view of literacy in developing policies regarding reading and writing. Invented spelling is part of the process in learning how to communicate through writing.

Teacher Practices of Self and Others

As an educator of young children for more than two decades, I have seen the shift in education from the whole language movement to more explicit direct teaching of phonics. I believe we have now come to a place of balanced instruction that looks at literacy in a comprehensive way. We have moved from half day programs, to full day programs allowing more time to be spent on literacy. Education reform is at the forefront of policy makers statewide and nationwide. The importance for young children to be proficient in reading is crucial. Through my experiences and examination of literature in this review, I have learned that writing and reading should be equally important in a literacy program.

I have always enjoyed writing with my students. Many years ago, my students would write in journals, and sound out a few words to complete a phrase or a sentence. I would provide paper at various learning stations for any spontaneous need for writing. The students' invented spellings were considered playful, and exploratory. Their writings were viewed as a mere introduction to the written word. Through the years, I

have learned to view invented spelling as so much more. I now offer more opportunities for writing daily. I not only encourage invented spelling, but I couple it with word studies, word walls, and word charts. My fellow educators often comment positively on my students' writing. They will then say they need to spend more time on writing activities. While my students are similar to their own, I believe I have devoted more time to writing, whether it be independent or whole group instruction. Writing has been pushed aside to make room for more reading instruction. Pacing guides, benchmarking, and guided reading groups take up a large portion of the instructional time, but writing needs to be integrated whenever possible. To answer the question, when should a teacher spell a word for a student or make them sound it out, should be different for each child. If the teacher knows the ability of the child, then he or she would know whether the child is ready to learn the conventional way of spelling or if instruction on letter sound correspondence is needed. Writing with children can serve as proof of their knowledge of letters and sounds, concepts of print, word knowledge, and much more. Teachers need to collect samples of a student's writing over the course of the year. Including a system of passing along artifacts of writing to future teachers can provide a window into the child's progression of skills over time.

Invented spelling encouraged in a comprehensive literacy program for kindergartners is a valuable component in learning how to convey meaning through writing. Kindergarten teachers who understand the developmental stages of writing can offer their students explicit instruction that will help them progress to the next stage of writing. Analyzing invented spelling writing examples is a way kindergarten teachers can assess a child's understanding of letters and sounds, concepts of print, phonemic

awareness, and oral language skills. Writing words based on how they sound is more than just scribbles and letters on a page; the writing attempts are an insight into the thinking and development of a child's awareness of print that can be used to assess growth in literacy skills. Learning to write and learning to read go hand in hand, so therefore, they need equal instructional time in the kindergarten curriculum. Understanding the value of invented spelling can aid the teacher in tailoring instruction towards higher level stages of writing development, therefore working towards the ultimate goal of conventional spelling.

REFERENCES

- Ahmed, S., & Lombardino, L. (2000). Invented spelling: An assessment and intervention protocol for kindergarten children. *Communication Disorders Quarterly*, 22(1), 19-28.
- Ball, E., & Blachman, B. (1991). Does phoneme awareness training in kindergarten make a difference in early word recognition and developmental spelling? *Reading Research Quarterly*, 26(1), 49-66.
- Bear, D., Invernizzi, M., Templeton, S., & Johnston, F. (2012). *Words their way: Word study for phonics, vocabulary, and spelling instruction* (5th ed.). Boston, MA: Pearson.
- Bear, D., & Templeton, S. (1998). Explorations in developmental spelling: Foundations for learning and teaching phonics, spelling, and vocabulary. *The Reading Teacher*, 52(3), 222-242.
- Brasacchio, T., Kuhn, B., & Martin, S. (2001). *How does encouragement of invented spelling influence conventional spelling development?* Retrieved from <http://eric.ed.gov/PDFS/ED452546.pdf>
- Craig, S. (2006). The effects on an adapted interactive writing intervention on kindergarten children's phonological awareness, spelling, and early reading development: A contextualized approach to instruction. *Journal of Educational Psychology*, 98(4), 714-731.
- Gentry, J. R. (1982). An analysis of developmental spelling in "gnys at wrk". *The Reading Teacher*, 36(2), 192-200.

- Gentry, J. R. (2000). A retrospective on invented spelling and a look forward. *The Reading Teacher, 54*(3), 318-332.
- Invernizzi, M., & Hayes, L. (2004). Developmental-spelling research: A systematic imperative. *Reading Research Quarterly, 39*(2), 216-228.
- Iowa Department of Education. (2011). *Iowa Core: English language arts and literacy in history, social studies, science and technical subjects*. Retrieved from <http://iowacore.educateiowa.gov>
- Jones, C., Reutzell, D., & Fargo, J. (2010). Comparing two methods of writing instruction: Effects on kindergarten students' reading skills. *The Journal of Educational Research, 103*, 327-341. doi: 10.1080/00220670903383119
- Kamii, C., & Manning, M. (2002). Phonemic awareness and beginning reading and writing. *Journal of Research in Childhood Education, 17*(1), 38-46.
- Kim, Y., Al Otaiba, S., Puranik, C., Sidler Folsom, J., Grulich, L., & Wagner, R. (2011). Componential skills of beginning writing: An exploratory study. *Learning and Individual Differences, 21*, 517-525. doi: 10:1016/j.lindif.2011.06.004
- Lombardino, L., Bedford, T., Fortier, C., Carter, J., & Brandi, J. (1997). Invented spelling: Developmental patterns in kindergarten children and guidelines for early literacy intervention. *Language, Speech, and Hearing Services in Schools, 28*, 333-343.
- McBride-Chang, C. (1998). The development of invented spelling. *Early Education and Development, 9*(2), 147-160.
- Molfese, V., Beswick, J., Jacobi-Vessels, J., Armstrong, N., Culver, B., White., . . .
Molfese, D. (2010). Evidence of alphabetic knowledge in writing: Connections to

- letter and word identification skills in preschool and kindergarten. *Reading and Writing*, 24(2), 133-150. doi: 10.1007/s11145-010-9265-8
- Morris, D., Bloodgood, J., Lomax, R., & Perney, J. (2003). Developmental steps in learning to read: A longitudinal study in kindergarten and first grade. *Reading Research Quarterly*, 38(3), 302-328.
- Morris, D., & Templeton, S. (1999). Questions teachers ask about spelling. *Reading Research Quarterly*, 34(1), 102-112.
- Ouellette, G., & Senechal, M. (2008a). Pathways to literacy: A study of invented spelling and its role in learning to read. *Child Development*, 79(4), 899-913.
- Ouellette, G., & Senechal, M. (2008b). A window into early literacy: Exploring the cognitive and linguistic underpinnings of invented spelling. *Scientific Studies of Reading*, 12(2), 195- 219.
- Phinney, M. (1987). *Invented spelling*. Retrieved from:
http://www.naturalchild.org/guest/margaret_phinney2.html
- Rasinski, T., & Padak, N. (2004). Beyond consensus—Beyond balance: Toward a comprehensive literacy curriculum. *Reading and Writing Quarterly*, 20, 91-102.
doi:10.1080/10573560490242813
- Richgels, D. (1995). Invented spelling ability and printed word learning in kindergarten. *Reading Research Quarterly*, 30, 96-109.
- Richgels, D., McGee, L., & Burns, J. (1992). *Pre-School, kindergarten, first-grade inventive spellers' treatment of onsets and rimes* (Literacy Research Report No. 14). Dekalb: Northern Illinois University.

- Rieben, L., Ntamakiliro, L., & Gonthier, B. (2005). Effects of various early writing practices on reading and spelling. *Scientific Studies of Reading, 9*(2), 145-166.
- Ritchey, K. (2008). The building blocks of writing: Learning to write letters and spell words. *Reading and Writing, 21*, 27-47. doi: 10.1007/s11145-007-09063-0
- Shore, T. (2007). *Is your child inventing spelling?* Retrieved from:
<http://www.lewrockwell.com/shore/shore13.html>
- Stage, S., & Wagner, R. (1992). Development of young children's phonological and orthographic knowledge as revealed by their spellings. *Developmental Psychology, 28*(2), 287-296.
- Tangel, D., & Blachman, B. (1992). Effect of phoneme awareness instruction on kindergarten children's invented spelling. *Journal of Reading Behavior, 24*(2), 233-261.
- Teale, W., & Yokota, J. (2000). Beginning reading and writing: Perspectives on instruction. In D. Strickland & L. Morrow (Eds.), *Beginning reading and writing* (pp. 3-16), New York, NY: Teachers College Press.
- Uhry, J. (1999). Invented spelling in kindergarten: The relationship with finger-point reading. *Reading and Writing: An Interdisciplinary Journal 11*, 441-464.
- U.S. Department of Education. (2001). *No child left behind act of 2001*. Retrieved from
<http://www2.ed.gov/policy/elsec/leg/esea02/107-110.pdf>
- Williams, C., & Hufnagel, K. (2005). The impact of word study instruction on kindergarten children's journal writing. *Research in Teaching English, 39*(3), 233-270.

Xue, Y., & Meisels, S. (2004). Early literature instruction and learning in kindergarten: Evidence from the early childhood longitudinal study—Kindergarten class of 1998-1999. *American Educational Research Journal*, 41(1), 191-229.