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An exploration of the spelling patterns of second- and third-grade students with language learning disabilities.

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AN EXPLORATION OF THE SPELLING PATTERNS OF SECOND- AND THIRD-GRADE STUDENTS WITH LANGUAGE LEARNING DISABILITIES

by

ANGELA LEWIS

A DISSERTATION

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ABSTRACT OF DISSERTATION
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Title An Exploration of the Spelling Patterns of Second- and Third-Grade Students With Language Learning Disabilities

This study explores the link between the developmental spelling errors of students with language learning disabilities (LLD) and the practices and beliefs of teachers of students with LLD. The major focus of this study was an extension of an earlier study completed by Kamii, Long, Manning, and Manning (1990). Data from this study were collected from 52 students in five settings.

An analysis of spelling levels paralleled the results of the study by Kamii et al. (1990). Forty-five students were classified as Level 4, the alphabetic spelling level. Three were classified as spelling Level 3, the consonant level. Three were classified as spelling Level 2, letter strings.

Results from interviews with teachers of students with LLD varied. Teachers considered their role in spelling instruction to be valuable.

The findings of this study appear to show that students with LLD, like normal populations, construct spelling hypotheses over time. Implications from the study are that there is a need for more resource teachers and that regular classroom teachers need to be aware of individual developmental spelling error patterns.

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As one ends a work of this kind, it is traditional to look back and express appreciation to those people who supported its programs. It is the support of the people acknowledged below that has allowed me to complete this enormous task.

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CHAPTER I

INTRODUCTION

Learning to translate oral language into written symbols has become a vital part of socially acquired knowledge in our literate culture and society. Since the initial work of Read (1971), much has been written concerning spelling development. Children enter school with knowledge of English phonology that should be respected and used in language and literacy development (Bissex, 1980; Ferreiro & Teberosky, 1979/1982; Read, 1971). Researchers examining young children's spelling development continue to use various categories and names to document patterns of spelling progression (Beers & Henderson, 1977; Ferreiro & Teberosky, 1979/1982; Gentry, 1982; Kamii, Long, Manning, & Manning, 1990).

This study began as an expansion of a previous spelling study to compare the spelling levels and error patterns of learning disabled second- and third-grade students with the spelling levels and error patterns of typical young children (Kamii et al., 1990). An additional purpose examined the spelling beliefs and practices of resource teachers responsible for spelling instruction.

Piaget's constructivist theory provided the theoretical foundation for this study. Piagetian theory had been applied previously to the area of language development (Piaget, 1970, 1972). For example, the Ferreiro and Teberosky (1979/1982) and Ferreiro (1990) research on how Spanish-speaking children construct knowledge about written

language suggested that young children construct definite ideas about print from their environment before they enter formal education. Their research documented young children's developmental spelling patterns.

Using the framework developed by Ferreiro and Teberosky (1979/1982), Kamii et al. (1990) and Kamii, Long, Manning, and Manning (1991) described four developmental spelling stages of English-speaking kindergarten children. In their study, students at Level 0 did not differentiate between writing and drawing. At Level 1, students write strings of conventional letters (Kamii et al., 1990, 1991). Students at Level 2 display a fixed quantity or a minimum and maximum number of graphemes. At Level 3, the consonantal level, children primarily use consonant letters, representing consonant sounds, without using vowels except for some letter-sound vowels. Children at Level 4, the alphabetic level, use consonants and vowels. At Level 5, children conventionally spell most of the words they write. These consistencies suggested an alphabetic system leading to conventional spelling. This framework for spelling develoment was used as the primary guide for analyzing data in the present study.

Spelling development does not take place void of context. Typically, the resource teacher of children with language learning disabilities (LLD) provides spelling instruction for these students. The resource teacher usually modifies spelling lists and gives spelling grades. Thus, a secondary purpose of this study was to assess the influence of these teachers' beliefs and practices.

Teachers organize learning for their students based on their personal beliefs and practices. Teacher beliefs and practices strongly influence pedagogy (Flores, 1990). Valentino (1992) found that often teachers' beliefs in spelling center on deficit models

rather than on developmental or contextual models. Flores noted that teachers' increasing knowledge of sociopsycholinguistics and sociocultural, psychogenetic, and sociopolitical systems help them challenge old belief systems and practices.

Purpose of the Study

The primary purpose of this study was to investigate the spelling levels and patterns of spelling errors in second- and third-grade students with LLD (Koppenhaver, Coleman, Kalman, & Yoder, 1991). In addition, the study investigated the beliefs and practices of the resource teachers of these students, as perceived by the teachers, themselves.

Only children who were labeled LLD were included in this study. Due to the nature of the identification process in this school system, which included identifying students with LLD at the second-grade level and above, the students in this study were older than the population used in the Kamii et al. (1990) study. The researcher used spelling samples as the prominent method of the student data collection. A guided interview was used to collect data regarding the beliefs and practices of the resource teachers.

Guiding Questions

The questions that guided this study were as follows:

1. What are the spelling levels and error patterns of second- and third-grade students with language learning disabilities?

2. What are the spelling beliefs and practices of primary level resource teachers of students with language learning disabilities?

Definitions of Terms

The following operational definitions were used in this study:

Letters strings (Level 0)—"Children at this level draw pictures or scribble rather than make letters or symbol-like forms" (Manning, Manning, Long, & Wolfson, 1987, p. 48).

Letters strings (Level 1)—"Children write a string of letters for a word that has no set number of letters from one word to another. The string might run across an entire page as a child spells a word" (Manning et al., 1987, p. 48).

Letter strings (Level 2)—"Children write a string of letters that usually consists of three to six letters for each word. The letters may be different for each word or the same letters might be rearranged from one word to the next" (Manning et al., 1987, p. 49).

Consonantal (Level 3)—"Children at this level—consonantal level—make letter-sound correspondence, mostly by consonants. For example, they usually write *smt* for cement" (Manning et al., 1987, p. 49).

Alphabetic (Level 4)—"Children at this level—the alphabetic level—make their letter-sound correspondences by consonants and vowels. For instance, they might write *vacashun* for *vacation* or *moshun* for *motion*. . . . These consistencies suggest the construction of a system approaching conventional spelling" (Manning et al., 1987, p. 49).

Conventional (Level 5)—"Children spell most words in the conventional way" (Manning et al., 1987, p. 49).

Specific learning disabilities—Specific learning disabilities means a disorder in one or more of the basic psychological processes involved in understanding or in using

language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculation (see Appendix A).

Students with language learning disabilities (LLD)—Students with language learning disabilities are students who meet the federal definition for specific learning disabilities in the area of language learning disabilities. These students experience negative long-lasting difficulties in becoming literate, which persist throughout the school years (Koppenhaver et al., 1991).

Word parts—Word parts include knowledge of affixes (prefixes and suffixes) and root words (Leu & Kinzer, 1995). Word part knowledge aids students in word recognition. It is used specifically in literacy as the implicit instruction of structural analysis. For the specific purposes of this study, word parts was also used to define syllables such as the *ka* in *karate* and the *cean* in *ocean.*

Limitations of the Study

The lack of homogeneity in the population of students diagnosed with LLD leads to research designs that propagate results that are difficult to generalize. A limitation of this study was the definition of learning disability. Definitions of learning disability are vague and all encompassing. As a result, populations that are diagnosed as LLD provide heterogeneous samples.

Another limitation was that the progress of the various subjects was not documented over time. A later study may find it useful to document the progress of disabled spellers to compare with the progress of their more normally developing peers over time.

The next limitation involves the possibility of generalizing the results of this study to other populations. Because the present study used a separate population, that is, students with LLD, it is not generalizable to other populations, including other populations of students with LLD.

Variation in interview settings presents another limitation. Five interview settings, as described in chapter IV. Further, the method of spelling instruction in each setting varied according to the beliefs and practices of the resource teacher. It was not known specifically how each child was taught spelling.

A final limitation centered on the connection between spelling, writing, and reading as a whole unit. This study examined spelling only.

Significance of the Study

The aim of this study was to add to the body of knowledge concerning the acquisition of spelling levels and patterns of spelling errors in second- and third-grade students who have been identified as LLD. It also examined teachers' beliefs and practices as they were involved in helping students with LLD develop spelling ability. The information shared in this study should prove useful to professionals working with learning disabled students.

During this era of inclusion, students with LLD are educated with their "typical" peers. Findings that point to similarities and differences in the spelling patterns of exceptional students should also prove useful for the regular classroom teacher responsible for the education of students with LLD.

Organization of the Study

Chapter I contains an introduction, the purpose of the study, guiding questions, definitions of terms, limitations of the study, and significance of the study. Chapter II presents a review of relevant research related to this study concerning spelling and learning disabilities. Chapter III describes the procedures used in the data collection process, including the assumptions and rationale for the design. Chapter IV details the analysis of the spelling responses related to developmental levels, and chapter V examines teachers' practices and beliefs along with student spelling responses. Finally, chapter VI presents a discussion of results, implications, and recommendations for further research.

CHAPTER II

LITERATURE REVIEW

Researchers in the field of developmental spelling agree that spelling is an interactive process (Bolton & Snowball, 1993a; Wilde, 1992). Rote memorization and drill do little to support the development of spelling competence (Bolton & Snowball, 1993b; Gentry & Gillet, 1993; Kamii et al., 1991; Manning et al., 1987). Many researchers agree that children construct spelling competence over time as they become more knowledgeable of English orthography (Bolton & Snowball, 1993a; Gentry & Gillet, 1993). Indeed, children progress through several levels of spelling development. Researchers have used different names to identify these levels, as will become apparent in this chapter. The literature review is organized as follows: History of Learning Disabilities; Children's Development as Spellers; Spelling and Students with Language Learning Disabilities; Teachers' Beliefs, Past and Present; and Spelling Practices, Past and Present.

History of Learning Disabilities

Many contributions have been made in the field of learning disabilities. Kirk (as cited in Torgesen, 1991), one of the key contributors, proposed the term *learning disabilities* in 1963 in a speech he delivered at the conference on the Exploration into Problems of the Perceptually Handicapped Children, Inc. This speech was a catalyst to the establishment of the Association for Children With Learning Disabilities (ACLD),

which represented the formal beginning of a social, political, and educational movement (Torgesen, 1991).

In 1969, the U.S. Office of Education authorized the establishment of programs for students with learning disabilities. The passage of the Children with Learning Disabilities Act provided for the training of professionals to work with students with learning disabilities. In 1975, the field of learning disabilities received a firm basis with the passage of Pub. L. 94-142 of the Education of the Handicapped Act (1975). This law required all states to provide appropriate public education for students with learning disabilities (Torgesen, 1991).

Various labels for students with learning disabilities have been used, such as *dyslexia, specific reading disabilities, minimal brain dysfunction*, and *childhood dysphasia* (Wallach & Liebergott, 1984). Early notions of learning disabilities arose from the possibility of neurological damage or central nervous pathology (Swanson & Keogh, 1990). This conceptualization of learning disabilities was based on a medical model and considered learning disabilities to have originated within the child (Swanson & Keogh, 1990).

Because the field of learning disabilities is less than 40 years old, developmental spelling research with learning disabled students has received limited attention. During the 1960s, learning disabilities were considered to be the result of a visual discrimination problem. Remediation in visual discrimination was thought to be the appropriate treatment. Children were trained to sequence visual stimuli, to discriminate visual stimulate, or to do both (Wallach & Liebergott, 1984). The work of Strauss and Werner (1942) led to viewing learning disabilities as a neurological disorder or perceptual

disability. To correct the perceptual impairment of disabled learners, students took part in perceptual motor programs or perceptual training (Kronick, 1988). Little direct emphasis was placed on spelling. Researchers concentrated on the remediation of visual and perceptual problems.

In 1937, Orton (as cited in Kronick, 1988), working from a visual discrimination model, coined the word *dyslexia*, which means *word blindness*. This model was extended by Kirk's (1968, as cited in Kronick, 1988) auditory process model. Learning disabilities were then seen as auditory process disorders. Kirk and his associates influenced the education of students with LLD to include perceptual/auditory training. The training of students with LLD involved use of equipment such as trampolines, balance beams, and Marsden balls. Students traced templates of visual patterns and used tapes for auditory discrimination (Kronick, 1988).

In the 1960s and 1970s, common teaching activities for students with learning disabilities were various visual-motor, auditory sequencing, visual-perceptual, or cross-modality training exercises. Many leading professionals of the day supported training activities based on emphasizing visual-perceptual processes (Torgesen, 1991). The visual discrimination and auditory processing models were surrounded by controversy. Later, they were recanted due to a lack of validity (Kronick, 1988; Torgesen, 1991).

To produce more accountable results, experts turned to a behavior model to replace perceptual motor training. Behaviorism introduced scientific rigor to the field (Kronick, 1988; Wallach & Liebergott, 1984).

With this new rigor, the definition of learning disabilities took on new meaning. Learning disabilities became a general term that referred to a heterogeneous group of

developmental disorders that can exist throughout the life span. Learning disabilities are manifest by difficulties in the areas of listening, speaking, reading, writing, reasoning, or mathematical abilities (see Appendix A).

The identification of students labeled as learning disabled has been historically vague. This vague identification has produced a heterogeneous population. Students with LLD are currently identified based on a discrepancy between achievement and aptitude on standardized tests (Swanson & Keogh, 1990).

Little difference has been found between students labeled as learning disabled and students with reading disabilities. Student labels existed due to program divisions, as opposed to having clearly identified criteria (Wallach & Liebergott, 1984).

Problems in identifying students with learning disabilities have contributed to disappointing results in the area of experimental research. Experimental research designs for learning disabled students have been poorly organized, with inappropriate treatment strategies and weak analyses (Swanson & Keogh, 1990). Strong and legitimate research studies must consider the heterogeneity of the learning-disabled sample. In the present study, only those students with LLD were considered for analysis. Experts recommend that students be grouped into legitimate subgroups for stronger research designs (Swanson & Keogh, 1990).

The heterogeneity of research samples, as it relates to students with LLD, has impeded theoretical advances in quantitative research. Research studies were not generalizable. Research samples from this population are based on vague, incomplete, and overlapping definitions of learning disabilities (Swanson & Keogh, 1990).

This study sought to reduce heterogeneity by including only students with learning disabilities, whose primary disability was language learning. When the field of learning disabilities was formally established in the 1960s, experts diagnosed these students with perceptual and auditory disabilities. A lack of validity in the earlier perceptual models popularized a behavioral model. This model continues to be dominant among current educators of students with LLD.

Nowhere are the difficulties that continue to plague the field of learning disabilities more evident than in the area of research. The heterogeneous nature of this population makes the design of generalizable research difficult.

Concluding the discussions of historical perspectives, the review of literature next focuses on developmental spelling studies as they relate to students with learning disabilities and teacher instructional practices and beliefs.

Children's Development as Spellers

Spelling is a cognitive process. Students become aware that letters are a special category of marks unique to their culture (Ferreiro & Teberosky, 1979/1982; Wilde, 1992). Historically, spelling has been linked to other areas of acquiring literacy. Two centuries ago, the major strategy for decoding words was to spell them out (Smith, 1986). Early traditional approaches involved translating sounds into letters (Dolch, 1945). The cognitive process of spelling cannot be dissociated from the sociocultural structure in which it takes place (Wilde, 1992). It is best learned as part of the total language use, of which it is a part (Hildreth, 1955). Children's writing reflects the unique features of their culture. As a child's knowledge of spelling develops globally within a culture, it

becomes more differentiated. New information is added to existing information or schema (Wilde, 1992).

The construction of knowledge about written language is an active process of accommodation and assimilation (Fereiro & Teberosky, 1979/1982). Children learn to spell by a process of rule construction and hypothesis testing (Hildreth, 1955; Wilde, 1992).

Traditionally, spelling has been viewed as the translation of oral language into written language. The task of spelling was to "translate oral words into graphic symbols by means of visual memory and phonetic motor clues" (Hildreth, 1955, p. 25). Current spelling researchers have noted that English is not an adequate language for representing sound. English is more efficient when representing meaning (Bolton & Snowball, 1993a; Henderson, 1985; Wilde, 1992). Wilde (1992) stated,

> Both oral and written language can perhaps be described as sets of rules for translating meaning into a surface representation. Therefore, learning to spell and punctuate isn't just a matter of learning a set of rules for translating sounds into writing. It's more appropriately conceptualized as learning to understand the workings of a system that expresses meaning in systematic but complex and subtle ways. (p. 14)

The problems in representing the English language graphically are associated with the language's history. The history of the English spelling system is not a pure alphabetic system (Henderson, 1985; Wilde, 1992). The major difficulty in viewing spelling as a transcription of oral language into graphic symbols is related to the difficulty involved with representing the English language with sound and characters (Hildreth, 1955). Our system of representing words with sounds is a confusing and complicated process. The English language does not have one letter for every sound; approximately 40 sounds are

represented by 26 letters. Twenty-one are consonant letters, including *w* and *y* (Bolton & Snowball, 1993a; Wilde, 1992). "Spellings vary according to the position of the sound in the word and are affected by other letters in the word" (Wilde, 1992, p. 14).

Since the late 1960s and early 1970s, many researchers have examined the development of spelling patterns as students become literate. Spelling researchers have explored, over time, the changing patterns in young children's developing orthographic concepts. These attempts make up the bulk of developmental spelling research. Many researchers agree that young children's spelling patterns change over time. This comes from the analysis of the spelling patterns of regular, typical students, or students not yet identified as having LLD. Changes in spelling take place at higher levels of sophistication that lead to conventional spelling. Yet, researchers disagree on how this change should take place.

The studies of Chomsky (1970, 1971, 1976) and Read (1971) sparked developmental spelling research. Whereas earlier spelling researchers had considered the English language arbitrary, Chomsky (1970) discussed spelling from the standpoint of the relationship between English orthography and its grapheme-phoneme correspondences. In early studies, Chomsky concluded that the relationship between English orthography and its grapheme-phoneme correspondences is much closer than was believed earlier. Spelling from a purely phonetic standpoint made sense. Spelling errors could be avoided if the speller looked for regularities that underlie related words. When students developed the habit of looking for regularities in spellings, they made fewer spelling errors (Chomsky, 1970).

Examining patterns of spelling errors, Chomsky (1970) noted a regularity in those patterns. The present study noted regularities in student spelling errors, but it went further; it examined spelling errors as they are related to students with LLD.

Chomsky's (1971) later work represents a leap in spelling research that made the case for using developmental spelling as a tool for early literacy development (Chomsky, 1970, 1971, 1976). Her work was one of the first to point out patterns of spelling development. Yet, unlike the present study, Chomsky's work focused on the patterns of spelling development in normal children, that is, those who were not labeled as LLD.

Read (1971) was an important contributor to developmental spelling research. He is credited with the term *invented spelling*. This term later became very controversial in relationship to teacher beliefs, attitudes, and spelling practices. Read gathered data from preschool students, beginning with age 3 ½ and continuing until first grade. These children invented spellings using blocks and movable alphabet toys to begin to spell written messages. Read concluded that young children represent our English phonology in their invented spellings. His research provided insights into the developing phonology of young children. He showed how young children had knowledge of certain phonetic contrasts and similarities regarding English phonology before they had been taught "a system of phonological rules" (p. 39). Read called this *unconscious knowledge*. How children gained mastery of the general rules of language was considered a mystery. Read's study made an important contribution to developmental spelling research. Yet, his study did not address the development of spelling for students with LLD.

Beers and Henderson's (1977) study of developing orthographic concepts among first graders provided support for exploring developmental spelling patterns of primary

age regular education students. Spelling errors in the context of written texts were examined across age levels. Beers and Henderson did not address students with LLD; however, their study revealed that typical first-grade students have a highly developed knowledge of phonology. This supports the hypothesis that students can use this information at higher levels of sophistication to structure words (Beers & Henderson, 1977).

Temple, Nathan, Temple, and Burris (1993) offered another spelling framework for exploring and analyzing young children's patterns of developmental spelling errors. They believed that children advance through developmental spelling levels similar to those found by Ferreiro and Teberosky (1979/1982) and Kamii et al. (1990). Temple et al. assigned the following labels to the developmental spelling patterns: prephonemic, early phonemic, letter names, and transitional. Children at the prephonemic stage have no phonemic principle; they string letters together to look like written language. Early phonemic spellers discover the phonemic principle involved with spelling; however, this knowledge is considered limited. These children write only one or two sounds in the word. The idea of *word* does not appear intact during the prephonemic stage.

The concept of word stabilizes between the early phonemic and the letter-name spelling stage. The letter-name stage involves breaking a word into a phoneme and representing that phoneme with a letter of the alphabet. The words of transitional spellers looked like English words. These children expand their letter-name strategies to include some standards and conventions of correct spellings. They use some standards of English along with some throwbacks to the earlier letter-name strategies. Although Temple et al. (1993) studied developmental spelling levels in relationship to the child's idea of word,

they did not look at spelling as a constructivist process. They referred to spelling transitions as a throw back to earlier times, as opposed to representing expanding, changing structures.

Gentry's (1982, 1985, 1987) research in spelling provided yet another framework for analyzing children's developmental spelling errors. Gentry's five stages of spelling are precommunicative, semiphonetic, phonetic, transitional, and conventional. As with all of the previous developmental spelling studies reported here, Gentry and Gillet (1993) reported early spelling acquisition begins with "scribbles arranged in horizontal lines" (p. 23). Some children discover the alphabetic principle when they start to make letter-like marks to represent writing, whereas others go from scribbles to letters without stopping at the alphabet level. The precommunicative stage is characterized by strings of letters that only can be read by the writer. At this stage children have not discovered that letters represent sounds. The semiphonetic stage of development represents a milestone in the child's conceptualization of English orthography. Children at this stage become aware of the existence of phonemes. During the phonetic stage, children spell what they hear. At the transitional stage, children make a developmental leap toward the understanding that English words have to sound right and look right. At the conventional stage, rules regarding English orthography are more solidly established. It is at the conventional level of spelling that direct spelling instruction is recommended (Gentry, 1987; Gentry & Gillet, 1993).

Current thoughts about spelling consider it to be an active cognitive process (Bolton & Snowball, 1993a; Ferreiro & Teberosky, 1979/1982; Gentry & Gillet, 1993; Kamii et al., 1991). Various researchers have noted developmental spelling patterns in

students' early attempts to become literate. Yet, researchers have used differing explanations for the patterns of errors in the spelling samples of beginning spellers and how those spelling changes take place over time. The analyses of developmental spelling patterns in most studies have been completed using participants who have not been identified as having LLD. In addition, major differences have been noted at the theoretical base of each body of research. Most appear to agree that consistent, changing patterns of spelling development lead to conventional spellings. The following discussion is directed toward spelling as it relates to students with LLD.

Spelling and Students With Language Learning Disabilities

Schlagal (1982) and Zutell (1979) support the belief that spelling problems of students with LLD stem from cognitive immaturity. The qualitative differences between preoperational and operational levels account for a difference in spelling achievement (Zutell, 1979). As children become older, they develop a more sophisticated cognitive structure that affects the framework they use to understand linguistic information (Schlagal, 1982; Zutell, 1979).

Invernizzi and Worthy (1989) conducted a qualitative analysis across grade levels using standardized tests to gather information. They examined developmental patterns in good and poor spellers. Results revealed that the spelling of learning disabled students tends to follow the same developmental patterns as their younger, "normal" counterparts. In some spelling patterns, the learning disabled children were superior to the younger spellers on standardized test results. This study supported the premise that children with LLD develop spelling competency in ways similar to their peers who are not LLD.

Graves (1991) believed that students with LLD need more time to use writing for authentic purposes. In a traditional program, children with visual motor deficits are asked to write spelling words repeatedly to reinforce visual memory. Graves, on the other hand, believed that students with LLD should write for real purposes.

Poor spellers often lack spelling strategies. Schlagal's (1982) qualitative cross-sectional study examined the developmental spelling errors of students in Grades 1 through 6. An analysis of errors revealed that students at the frustrational level of spelling made random spelling errors, with no clearly evident strategy. Frustrated spellers regressed to lower level orthographic choices and confused, irrational guesses. Schlagel (1982) gathered his data qualitatively, examining a cross section of spelling samples.

Results from Seda's (1991) study also suggested that students with LLD may have problems with sequential memory. Other spelling problems children with LLD have may be linked to the lack of visual information available for self-checking earlier theories of perceptual disabilities. Seda's research does not examine the logical development of spelling strategies over time.

The developmental spelling errors produced by students with LLD could be due to their lack of word knowledge (Holligan & Johnston, 1991). The spelling strategies used by poor spellers are different from those used by more competent spellers. Poor spellers have difficulty with medial and ending elements within words. They can detect the sequence of sounds in a word but are unable to represent them correctly according to English orthography. Holligan and Johnston (1991) recommended that poor spellers gain a greater vocabulary and be given more practice with analogies of known words.

Researchers have made some progress in the research of spelling difficulties with LLD populations. Results from studies have included problems with cognitive development, sequential memory motivation, teacher practices, and the idea of what a word is. Following is a discussion of how teacher beliefs, practices, and organization of the learning environments are salient to students' learning to spell.

Teacher Beliefs: Past and Present

Results of research by early spelling experts concluded that spelling was learned by forming associations "between letter sound and visual symbol" (Hildreth, 1955, p. 35). Spelling was viewed as a visual and phonetic task (Dolch, 1945; Hildreth, 1955). It involves continuous "refinement in visual, auditory and motor perception and memory of the material perceived" (Hildreth, 1955, p. 26). The present study found this to be a continuing, prevalent spelling belief among many educators.

Learning to spell, for students with LLD, should take place in an organized learning community established by the teacher and based on the teacher's beliefs regarding how children learn literacy (Leu & Kinzer, 1995). Leu and Kinzer described three teaching frameworks, which were methods, materials, and literacy, to be associated with developing spelling competence.

Teachers should use these frameworks to guide their instructional decision making. What teachers believe about how children learn literacy directly influences what and how instruction is provided. Leu and Kinzer (1995) surmised that teachers' beliefs influence their instructional decisions. Informed teachers modify their teaching framework based on their students' failures and successes.

Teacher beliefs and practices are based on teacher training and knowledge of current trends (Cruickshank, Brainer, & Metcalf, 1995; Flores, 1990). Flores noted that knowledge of sociopycholinguistics and other current research forces teachers to reevaluate their beliefs, assumptions, and practices concerning traditional literacy teaching. Teacher practices and organization of the learning environment are salient to student learning.

Using Ferriero's (1990) levels of writing development, Flores (1990) examined the writing development of 30 bilingual students. Some children moved back and forth among the four levels in their writing development, while others continued in the same writing system until challenged. Flores noted that traditional teachers give bilingual students handwriting exercises and words or sentences to copy. She emphasized that teaching practices that engage children in the construction of the writing system are more successful. Children who are constructing the English system need the opportunity to be active in constructing that system for themselves. The opportunity to construct this system was not always provided in traditional classrooms. Flores advocated a switch from an isolated skills-based paradigm of beliefs to a more holistic and authentic paradigm of beliefs.

The following studies show a common thread, wherein many classroom teachers lack knowledge of developmental spelling research. Teachers typically change their teaching practices as their knowledge of developmental spelling increases.

Gill and Scharer (1993) examined the changes made over time in teachers' attitudes and instructional practices. As teachers learned to analyze spelling errors using a developmental perspective, their thinking and teaching practices began to shift. At the

beginning of their study, teachers were concerned about such issues as classroom management and grading. Later, their concerns shifted toward refining their newly adopted viewpoint and adapting teaching strategies.

In Gill and Scharer's study (1993), instructional changes did occur. Some teachers vowed to make changes the following school year. Other teachers made changes during the current school year.

Von Lehmden-Koch (1993) surveyed 29 teachers from two rural school systems regarding their strategies for teaching spelling and their attitudes toward invented spelling. The teachers surveyed used formal spelling methods, such as spelling lists and workbooks. She found that teachers in the primary grades had a more positive attitude toward invented spelling than did teachers of students in intermediate grades. Her results revealed teacher dissatisfaction across all grade levels with the methods they currently used to teach spelling. They thought spelling should be taught differently.

Valentino's (1992) research examined the values and beliefs of 12 regular classroom teachers as they responded to student essays. Their responses were placed into three categories: (a) a deficit model that viewed students' writing as being in need of remediation, (b) a developmental model that viewed students' writing as an ongoing process, and (c) a contextual model that included the developmental model along with the discourse community. Valentino found 6 of the 12 teachers focused on mechanics, grammar, spelling, and organization. Teachers in the study did not view spelling as an ongoing developmental process.

There is a need to change teachers' beliefs related to the acceptance of invented spelling. In particular, such acceptance is important in motivating low-achieving students (Brown, 1993; Flores, 1990; Valentino, 1992).

Spelling Instruction: Past and Present

The teaching of spelling during the 18th century was linked to learning the alphabet and learning to read, articulate, pronounce, and elocute. Teachers emphasized the spelling out of words (Smith, 1986).

During the beginning of the 20th century, English spellings were considered to be arbitrary and inconsistent. Overlearning and sustained use were important aspects of spelling. Without overlearning and sustained use, children forgot the spellings of words (Hildreth, 1955). It was then thought that spelling requires continuous repetition and practice to form appropriate habits. Rote memorizing and learning words in isolation dominated early spelling teaching methods (Bolton & Snowball, 1993b; Henderson, 1985; Hildreth, 1955). Many of the teaching practices documented in this study were similar to these beliefs and practices.

Horn (1967) described the golden age of spelling as a period in education pertaining to children's memorizing thousands of irrelevant words unrelated to everyday life. For example, a word such as *cyst* appeared on weekly spelling lists.

Unrelated, commercially published word lists were popular. Many of these lists contained up to 4,000 words (Hildreth, 1955; Horn, 1967). Other lists, such as the Dolch and Thompson lists, contained approximately 2,000 words.

Teaching practices associated with developmental spelling emphasize the importance of invented spelling to early literacy development. Chomsky (1976)

advocated beginning literacy instruction with writing. Later literacy events should be an outgrowth of the child's own invented spelling. Chomsky (1971) noted the consistency of spelling patterns among children and noted children's need to experiment and reinvent spelling for themselves.

Researchers associated with developmental spelling have advocated more holistic, natural, and authentic contexts for spelling development. Most have encouraged the teaching of spelling within the context of writing. Some researchers believed early attempts at spelling are related to sounds and that, later, visual aspects are combined to produce more conventional looking attempts. Other researchers have said that knowledge of words and word origins play an important role in spelling development.

Because spelling is a developmental process, children should be taught to make connections with reading, writing, and spelling (Bartch, 1992). Appropriate spelling instruction takes place in a sociocultural context and may be embedded in reading and writing (O'Flahavan & Blassberg, 1992; Wilde, 1992).

Developmental spelling research has continued to support the writing process. The influence of developmental spelling research has allowed process writing to make an impact in elementary schools (Schlagal & Schlagal, 1992).

Spelling teachers should be aware that students fall along a developmental time line. This time line can be used to assess student knowledge and to plan lessons for students. The information gathered should be used to guide spelling instruction (O'Flahavan & Blassberg, 1992).

Formal spelling practices have been criticized as inadequate. For instance, one problem with formal approaches is that children are placed in grade-level spellers despite

their developmental spelling level. Even if children are placed in the correct grade level, they are unlikely to find the traditional spelling exercises enlightening (Schlagal & Schlagal, 1992).

In formal or isolated spelling programs, children memorize the words for a test at the end of the week. Informal or embedded spelling programs require the teacher to consider the child's developmental spelling level. This type of spelling is more individualized (O'Flahavan & Blassberg, 1992).

Teachers using formal or isolated approaches teach prescribed spelling rules. Their teaching techniques for spelling are generalized as opposed to individualized. Teaching spelling using the formal approach uses tests, repeated exposure, and memorization. Spelling is taught in a specific time slot during the school day. Teaching strategies include assigning work sheets to be completed and having students write sentences and stories with the spelling words, sort the spelling words, and write the words as they are dictated (O'Flahavan & Blassberg, 1992).

Many classroom teachers search for an alternative to this formal method of teaching spelling (Bartch, 1992). One such method includes an embedded approach based on a constructivist paradigm (O'Flahavan & Blassberg, 1992). Teaching spelling, using an embedded approach, makes the process of learning to spell easier. Children work in small groups, spelling instruction is individual, and spelling happens within the context of the total language program. Teaching strategies include the construction of word families and teaching the students to use spelling logs, personal dictionaries, and class dictionaries as references (O'Flahavan & Blassberg, 1992).

Gentry and Gillet (1993) believed that using traditional ways of teaching in conjunction with the whole language philosophy works to improve spelling. The foundation of spelling development is frequent writing and direct teaching to enhance spelling. Gentry (1987) presented the following sequence of development:

1. Children learn to recognize a few letters of the alphabet and name them.
2. Children use letters to spell sounds—most often, those found in names.
3. Children develop the insight that letters are used to spell messages.

Traditional spelling instruction usually starts at second grade. Developmentally, this is appropriate, because second graders can spell at a phonetic and transitional developmental level (Gentry, 1987). In later work, Gentry and Gillet (1993) advocated the direct teaching of spelling after a child has reached the conventional level of spelling. This formal teaching of spelling should include direct instruction containing phonetic, semantic, historical, and visual information.

Wilde (1992) recommended that children be taught spelling by providing them with the same strategies adults use to spell words. The following are five major spelling strategies adults and children can use to learn to spell correctly: (a) placeholder spelling; (b) human resources; (c) textual resources; (d) generation, monitoring, and revision; and (e) ownership (Wilde, 1992).

A person using the placeholder spelling strategy may not intend to spell the word correctly. A placeholder is used instead of the conventionally spelled word that may or may not resemble the actual word. The human resources strategy involves using an outside source or authority to obtain the correct spelling of a word. Asking the teacher or another child how to spell a word is an example of using the human resources strategy.

Using textual resources means using print resources in the child's environment, such as a dictionary, thesaurus, wall chart, or word lists, to find the correct spellings for words. This strategy also may include using computer and electronic media. Generating, monitoring, and revision refers to the ability to generate spellings, monitor their correctness, and make decisions to revise the spelling if there is a need. Ownership is having the ability to spell a word without consciously thinking about how it is spelled (Wilde, 1992).

Sowers (1988) discussed the use of a developmental spelling hierarchy to help teachers provide individual spelling instruction for children. Teachers should first acknowledge and celebrate the work that the child produced. Then the teacher should ask for more information, using the spelling hierarchy as a guide. Next the teacher should show students how to apply the new knowledge. In the last step, the children should be allowed to practice the new information. Sowers recommended the following hierarchy of spelling skills: (a) beginning sounds only; (b) beginning and ending sounds; and (c) beginning, middle, and ending sounds.

Teachers should provide leadership in the use of developmental spelling to expand and extend children's knowledge of spelling. Children should be presented with sound/symbol instruction as they need it so that it will be appropriate to their skill level (Gentry & Gillet, 1993; Sower, 1988).

O'Flahavan and Blassberg (1992) described the necessary conditions for children to move from spelling approximations to conventional spelling. The word chosen to be taught should be a close approximation to the conventional spelling of the word. Students should recognize the closeness of the spelling and know that their spelling is not

conventional. Student spelling should represent each phoneme in the approximated word with a symbol (O'Flahavan & Blassberg, 1992).

It is important for teachers to teach children to use spelling strategies (Bartch, 1992; Wilde, 1992). Various techniques include using such resources as word walls, word banks, and other printed sources (Bartch, 1992). Schlagal and Schlagal (1992) suggested finding children's developmental spelling levels through developmental spelling inventories. With this information a classroom teacher can vary the teaching of spelling using spelling groups. Weaker spellers will not be working at their frustrational level and will have the opportunity to advance.

Word sorts are recommended to help children build their own rules and generalizations. Additionally, they help promote fluency and allow children to target certain work families (Gentry & Gillet, 1993; Schlagal & Schlagal, 1992).

Another strategy is the use of root-based word study. Most words have a Greek- or Latin-based root. The study of word roots can be meaningful and motivating (Schlagal & Schlagal, 1992).

Teachers' spelling beliefs and practices are important in the development of spelling in classrooms. Formal spelling practices, which involve memorizing spelling words and completing isolated work book exercises, continue to be popular but are challenged by the informal spelling practices advocated by many current researchers in the field of spelling.

Summary

The field of learning disabilities was officially established in 1963. Kirk (as cited in Torgesen, 1991) strongly influenced the establishment of a field that addressed the needs of children with perceptual disabilities. The perceptual abilities model was replaced by a behavioral model.

Currently, there are major problems with the definition of learning disabilities. The current definition is considered vague, contributing to the heterogeneity of the research population. The heterogeneity of research samples related to LLD has made it difficult to make major theoretical advances with a quantitative paradigm. The present study was a qualitative design. Students in this study were identified individually to allow a more specific description of this heterogeneous population.

Research studies associated with learning disabilities have a short history in the professional literature. This is also true of developmental spelling research. This new body of spelling research has not made its way into the teaching practices and beliefs of many regular classroom and resource teachers.

Teachers' beliefs and practices are changing. Literacy in the traditional curriculum has been taught by memorizing words and punctuation rules. Teachers, however, have begun to rethink this approach to curriculum and instruction, recognizing the powerful role of reading and writing in the spelling process (Wilde, 1992).

As research in spelling proceeds, some researchers continue to find developmental patterns in children's early spelling. Participants in these studies are primarily students in regular education. Few studies document the spelling development of students with LLD. None of the studies reviewed examined the impact of the specific beliefs and

practices of resource teachers. Therefore, research has yet to document the developmental spelling patterns of students with LLD related to the practices and beliefs of the teachers who serve them.

CHAPTER III

PROCEDURES

This chapter describes the assumptions for the study and the rationale for the use of qualitative research. The role of the researcher is discussed, and a detailed description of data collection procedures, settings, and subjects is provided.

Assumptions

In this study, the following assumptions were made:

1. The patterns of spelling errors of children who have language learning disabilities (LLD) are developmental.

2. The teaching practices and beliefs of resource teachers have an impact on the students' spelling levels.

The Role of the Researcher

The researcher spent 6 weeks collecting data by interviewing students and resource teachers. The final role of the researcher was to carry out an objective data analysis. The following biases are recognized:

1. The researcher's constructivist framework was used as a filter for analyzing data.

2. The researcher was biased toward developmental spelling practices and beliefs.

The Data Collection Process

This research was begun as an expansion of an earlier study completed by Kamii et al. (1990). In their study, 192 kindergarten students were asked to spell eight monosyllabic and multisyllabic words. Each student was taken from the classroom and tested individually. The kindergarten students were asked to write the following eight words: *punishment, cement, pop, vacation, motion, vale/veil, umbrella* and *ocean.* Student spelling samples were analyzed based on writing categories established by Ferreiro and Teberosky (1979/1982). Each writing sample was analyzed by four researchers. At least four of the eight words had to meet the criteria for a particular level to qualify the writing to be categorized for that level (Kamii et al., 1990). The present study used the study of Kamii et al. as a framework for further research because of its constructivist foundation and research population.

Second- and third-grade students who were labeled as having LLD were selected for this study. The researcher first received approval to carry out this research from the University of Alabama at Birmingham's Institutional Review Board for Human Use (see Appendix B). She then wrote a letter of inquiry and made a follow-up phone call to the school superintendent and supervisor of instruction to obtain permission to carry out this work (see Appendix C). Written permission was received from the superintendent (see Appendix D). Once permission had been granted, principals were contacted and were provided with a copy of the proposal. Consent forms were distributed by the principal or the resource teacher to second-grade students (see Appendix E). Phone calls were made to each school to inquire as to the number of consent forms returned. These students were interviewed. After the initial interviews, it became apparent that there were not

enough second-grade subjects in this system to achieve the needed sample size that would yield significance in data analysis.

Members of the dissertation committee approved the addition of third-grade students to the study. The instructional supervisor for the school system was then called for permission to proceed. She agreed and recommended that the researcher call the county learning disabilities specialist for recommendations. Upon recommendations from the county learning disabilities specialist, five schools were targeted. The learning disabilities specialist wrote a letter of introduction to each of the resource teachers in the five targeted schools to enlist their cooperation (see Appendix F). The consent form was then altered to include third-grade students (see Appendix G), and the modified form was submitted to the Institutional Review Board for approval of the modification of the study design (see Appendix B).

The letter of introduction, letters of explanation to parents, and informed consent forms were delivered to the schools. The resource teachers took responsibility for sending the forms home with the students and collecting them as students returned them. Once permission was obtained, individual interviews were scheduled for the students.

While in the school setting, the researcher took note of the literacy materials used in the classroom. Resource teachers were asked informal questions concerning their teaching practices and beliefs.

The methods used for data collection in this study included (a) interviews with students, (b) collection of individual spelling samples, and (c) teacher interviews. However, the primary data collection method was interviewing.

All children were interviewed in a separate room away from their classmates. The room settings varied in each school; some students were interviewed at tables, but most were seated on the floor during their interviews. Each child was given a sheet of paper and a container of various pens and pencils. They were then asked to spell seven words and write one sentence. A more detailed discussion of the specific words and task is presented in a later section.

After the spelling task was completed, spelling samples were placed in numbered folders. The number from the folder was also placed on the spelling sample and the participant observation sheet (Appendix H). Each resource teacher was then interviewed to collect data for the participant information sheet. The participant information sheet and the student spelling sample were filed together. The data were filed and numbered each collection day. The researcher also made notes in a field journal to expand on observations.

After the 52 subjects were interviewed, the data were analyzed according to the levels recommended by Kamii et al. (1990). These levels were verified by members of the original study, who independently sorted the spelling samples produced by the students.

Most of the students in the study were found to be on the same spelling level. It was determined that more context was needed to understand these results. A questionnaire was designed to gather data regarding teaching practices and beliefs. Each committee member was sent a letter explaining this change and a copy of the questions.

The resource teachers who were then contacted were the same teachers who had been interviewed informally during the spelling collection of this study. Each teacher

was contacted first at the school where she worked. At that time, teachers agreed to provide further answers to interview questions, and a time was set for the interview. The researcher used the interview guide sheet to record teacher responses (see Appendix I). These responses were later expanded. The researcher elaborated on notes taken over the phone and expanded phrases into complete sentences, taking care not to change meaning or content.

The Spelling Task

In the Kamii et al. (1990) study, each subject was asked to write eight words: *punishment, cement, pop, vacation, motion, vale/veil, umbrella,* and *ocean.* This list of words includes both monosyllabic and multisyllabic words that begin with consonant and vowel sounds. For the expansion of this work, the original researchers recommended using seven words and one sentence (Manning, Manning, & Long, 1993).

Each child undertook the spelling task in the interview room, individually, after first being put at ease by a brief conversation with the interviewer. The students were given blank sheets of paper and asked to write the seven words and the sentence. They were not given any direction regarding how to represent the words on the page. They were allowed to choose a writing instrument from a varied assortment that included pencils and pens with various colored inks.

Students were questioned by the researcher to understand their spelling representations. For example, students were asked to circle word parts. If a student represented the spelling of *ment* in *cement* as *mentu* and the *ment* in *punishment* as *ment*, the researcher pointed out the differences to the student and asked if this was a problem.

Teacher Interviews

One assumption of this study was that teachers' beliefs and practices have an impact on students' developmental spelling levels. During the data collection, the researcher used a field journal to record any impression of classroom settings, such as teaching practices and materials used. Teachers were questioned about their teaching practices to establish a context for the spelling behavior displayed by the students. Following the analysis of the spelling samples, teachers were then questioned more formally in a telephone interview using the questions in the interview guide (see Appendix I).

The interview guide was used to gather consistent information from each teacher. Following each telephone conversation with a teacher, the researcher elaborated on the notes gathered from the interview.

Data Analysis Process

The Spelling Task

Each spelling sample was numbered and then duplicate copies were made of the original samples. The original samples were then stored in a safe place while the copies were analyzed. Each spelling sample was placed in a category based on the original framework established by the Kamii et al. (1990) study. Spelling samples were classified at a particular level when at least four of the seven words met the criteria for that level.

The Teacher Interview

Teachers' responses were recorded during the interviews on the survey containing the interview questions. Answers were read back to the interviewees for clarification and additions. The surveys were transcribed on the computer into expanded field notes that

were then coded based on the resource teacher's name, the question number, and the page number on the expanded notes. The data collection was managed using the cut-up-put-in-folders approach.

The coded expanded notes were duplicated electronically and cut into question stacks. Responses from each question were placed into an envelope for that particular question. Using procedures outlined in Bogdan and Biklen (1992), the contents of the envelopes were analyzed by drawing up a list of categories for each question. Responses were then analyzed for similar patterns and themes.

Methods of Verification

The students' spelling samples were analyzed by two of the original researchers from the Kamii et al. (1990) study. After the spelling samples were analyzed, the researchers came to a consensus on the data collected. The levels coded for each study are reported in Appendix J. Spelling samples were classified at a particular level when at least four of the seven words met the criteria for a particular level. Level 4 was independently analyzed by the researcher.

For the interview task, the patterns and themes were verified by a doctoral student in early childhood education. This student was familiar with the study, LLD, and qualitative analysis. The areas of agreement became the focus of the study. The doctoral student was given the themes and asked to take each envelope and verify the data sorted into the envelope.

Context of the Study

The Subjects

The participants in this study were chosen from five schools in a large county school system in the southeastern region of the United States. As reported by the board president, this school system had a total student body of 18,171 students in 29 schools. Enrollment in the schools varied. The average enrollment for all five schools used in this study was 852.2 students. Students were from different geographic locations in the county, thus reflecting the composition of the county school system. These schools served communities with various economic resources. Economic status was decided by the number of free and reduced-price lunches served. Fifty-two second- and third-grade students from five elementary schools participated in this study. Of the 52 students interviewed for this study, 1 student was removed because the student's primary disability was math. All students who participated in this study were diagnosed as having LLD (see Table 1).

In this school system, students are not labeled learning disabled in first grade. Many first graders with literacy difficulties benefitted from an active reading recovery program. Students were diverse in race, gender, and socioeconomic factors. Table 2 presents demographic information on the subjects. Student IQ scores in this study ranged from 71 to 121. Of the IQ scores, 82% ($n = 42$) were within one standard deviation of the mean, 4% ($n = 2$) were in the second deviation *above* the mean, and 13.5% ($n = 7$) were in the second deviation below the mean (see Appendix K for details on each study participant).

Table 1

Student Participants by Setting

School	No.	%
1	8	15.7
2	10	19.6
3	4	7.8
4	12	23.5
5	17	33.3
Total	51	100.0

Note. Valid cases = 51. Missing cases = 0.

Students in this study represented the demographics of the student population in the school system. For example, differences in income ranged from middle class to working class families. Student participants represented different gender and ethnic groups. Classroom settings were found to vary according to the teachers' beliefs about how children learn, yet most settings reflected either a skills-based or a balanced/eclectic approach to literacy.

The study population was composed of 25 (49%) second-grade students and 26 (51%) third-grade students. Their ages ranged from 71 months to 121 months. Regarding ethnic make-up, 78.4% of the students were White, and the remaining 21.6% were Black. Thirty-three percent (17) of the students interviewed in this study were females; 66.7% (34) were males.

Table 2

Demographic Data on Study Participants

Variable	No.	%
Grade level		
Second	25	49.0
Third	26	51.0
Ethnicity		
Black	11	21.6
White	40	78.4
Gender		
Female	17	33.3
Male	34	66.7
Age		
≤72 months	2	4.0
73-84 months	11	21.6
85-96 months	17	33.3
97-108 months	14	27.0
≥109 months	7	13.5
IQ scores		
Within 1 standard deviation of mean	42	82.0
2nd deviation above mean	2	4.0
2nd deviation below mean	7	13.5

Thirty-four of the students in this study (64.7%) were served in resource rooms. Resource rooms were defined as classrooms separate from the regular classroom in the typical school setting. Students with specific learning disabilities attended this classroom for part of the day to receive specific help in one or more areas of deficit, as defined by standardized test scores. Three students (5.9%) were placed part of the time in resource

rooms; 1 (2.0%) was receiving indirect services; 13 were included in the regular classroom; and 1 (2.0%) was full-time in a regular classroom (see Table 3).

Table 3

Student Placement by Classroom Type

Classroom type	No.	%
Resource	33	64.7
Inclusion	13	25.5
Indirect	1	2.0
Full-time regular	1	2.0
Part-time regular	3	5.9
Total	51	100.0

Note. Valid cases = 51. Missing cases = 0.

Teacher Participants

Five teachers participated in this study, three of whom held master's level certifications in learning disabilities. Of the three master's prepared teachers, two held dual certifications in learning disabilities and behavior disorders. Two of the five teachers held B level certifications in learning disabilities. For a portion of each school day, two of the five teachers participated in an inclusion program. They also served as resource teachers for targeted groups of students with more intense needs. Three teachers served as full-time resource teachers, assigned students with LLD from the regular classroom setting. Four of the five teachers had >15 years of experience. Only one teacher had experience within the period of 5 to 10 years.

All of the teachers interviewed in this study were chosen because they were the primary spelling instructors for the students interviewed. For full inclusion students, the resource teacher was interviewed formally, whereas the regular classroom teachers were consulted informally. Short, 10- to 30-min classroom observations of literacy materials available in the classroom, were noted in the researcher's field journal.

School Setting 1. The total school population in this setting was 780 students, with 28 students receiving free lunches, and 9 receiving reduced-price lunches. Students in Setting 1 were included in the regular classroom. Learning disabilities teachers were divided into teams serving second-, third-, and fourth-grade students. Fifth-grade students were resourced. The children included in the classrooms were separated by disabilities. For example, all physically disabled students were included in the same classroom. Teacher participation in this program was voluntary, and not all teachers in this setting participated.

Setting 1 was defined as an inclusion setting. Students with LLD remained in the regular classrooms all day. Some of the regular classrooms were observed, one regular classroom teacher was interviewed, and other classroom perceptions were reported to the researcher by the resource teacher in this setting. The regular classrooms were traditional in their teaching strategies. Teachers were aware of the current trends but favored a balanced literacy approach.

School Setting 2. The general school population in this setting was 965 students, with 106 students receiving free lunches, and 35 receiving reduced-price lunches. The resource teacher favored a skills approach and believed in the value of the writing process. The program for learning disabled students was skills based. The resource room

was well equipped with computers, electronic games, work books, and teaching kits to support this approach to literacy. The resource teacher used other literacy tools, such as textbooks, reading recipes, computers, and skill sheets.

School Setting 3. The general school population in this setting was 833 students with 72 students receiving free lunches, and 18 receiving reduced-price lunches. The resource teacher in this setting used a teacher kit as a major resource. She stayed close to the published basal program and considered her approach to literacy instruction to be individualized. One of the major teaching tools this teacher used was oral problem solving to help students make connections.

School Setting 4. The total school population in this setting was 962 students, with 243 students receiving free lunches, and 72 receiving reduced-price lunches. Students in this setting were served in groups of 10 to 15 students. The teachers in this setting had a large case load. Children attending this school tended to be from working-class families. This teacher used a skills-based approach to the teaching of literacy. She concentrated on teaching a specific sound sequence. Skills charts were posted for quick reference. The teacher expected mastery of individual sound segments.

School Setting 5. The total school population in this setting was 721 students, with 326 students receiving free lunches, and 74 receiving reduced-price lunches. There were two learning disabilities resource teachers in this setting. The lower grades were separated from the upper grades. Upper grades were included in the regular classrooms. All of the second-grade students were served in the resource room. Many third-grade students with LLD were included in the same regular classroom. This teacher's approach to literacy was eclectic, consisting of a cross between traditional skills approaches in

reading and holistic approaches in writing. She allowed students to use developmental spellings and displayed their work in the classroom. In addition, this resource teacher used children's literature books and read individually with students when the regular classroom teacher furnished the material. This teacher valued the teaching of skills.

Summary

Subjects for this study came from a large county school system. This school system served a variety of students from various ethnic backgrounds. Teachers involved in this study also had widely different teaching practices and beliefs. These differences were apparent in descriptions of the various teaching settings.

The design of the present study was primarily qualitative. The focus was to explore the patterns of spelling errors made by second- and third-grade students with LLD and examine them in the context of teachers' beliefs and practices.

Spelling samples were collected from 52 students with LLD. All five resource teachers at each site were interviewed concerning their beliefs and practices. Data analysis was carried out using the framework of the Kamii et al. (1990) study along with procedures described in Bogdan and Biklen (1992). Data analysis was verified by researchers from the original study and a doctoral student, who was familiar with the study.

CHAPTER IV

THE ANALYSIS

This chapter contains the analysis of the data collected from student and teacher interviews. Student spelling samples and an analysis of spelling error patterns are examined.

Analysis of Spelling Samples

Language Learning Disabled—Spelling Levels

The developmental spelling patterns documented in the Kamii et al. (1990) study were used to analyze the spelling levels. The following categories and levels emerged in the area of spelling: *Level 1:* Letter strings without a maximum number of letters, *Level 2:* Letter strings with a fixed quantity of letters, *Level 3:* Consonantal, *Level 4:* Alphabetic, and *Level 5:* Conventional.

These spelling levels, defined fully in chapter I, were adapted from an earlier study completed by Ferreiro and Teberosky (1979/1982). Both studies were based on a constructivist framework. Constructivists believe that children construct knowledge from within through interacting with the environment (Kamii, 1991). Table 4 displays the number and percentage of students at each spelling level.

Students' spelling levels were determined individually, according to the criteria established in the Kamii et al. (1990) study. If four of the seven words "met the criteria for a particular level, the writing was categorized at this level" (Kamii et al., 1991, p. 77).

Table 4

Summary of Spelling Levels for Students (N = 51) in the Present Study

Level	No.	%
1	0	0.00
2	3	5.88
3	4	7.84
4	44	84.31

Comparisons between the Kamii et al. (1990) study and the present study began with Level 2.

The earlier study began with Level 1. Level 1 students wrote letter "strings of conventional letters without a maximum number of letters" (Kamii et al., 1991, p. 78). One student's spelling sample was close to Level 1 but was classified as the beginning of Level 2. Therefore, all participants in the present study were classified at or above Level 2.

As in the study by Kamii et al. (1990), all subjects in the present study produced conventional characters of the alphabet. Three of the students in this study were writing at Level 2, which is characterized as letter strings with a maximum and minimum number of characters. The Kamii et al. (1991) study divided this level into two sublevels. In their study, kindergarten students used the conventional consonant at the beginning of the words that they represented in their writing samples. Students who used three to seven characters and represented the words with a conventional initial consonant sound were

classified as spelling at Level 2b. Student writing samples also were labeled 2b in their study if four of the eight words begin with a conventional consonant sound.

Figure 1 represents Level 2 in this study. Students at Level 2 displayed the rule that the characters in words have to be varied. In Figure 1, the child's knowledge of letters was limited to a few characters. The student's writing sample in Figure 1 displays an important spelling advancement. This example represents the beginning of Level 2. A few characters in the sample were varied. Many of these characters were characters in this child's name. Figure 1 shows a minimum of three characters and a maximum of five characters. The student used one character to represent the words and the sentence. "The giraffe eats leaves." There was no clear space differentiation between the characters written in the sentence.

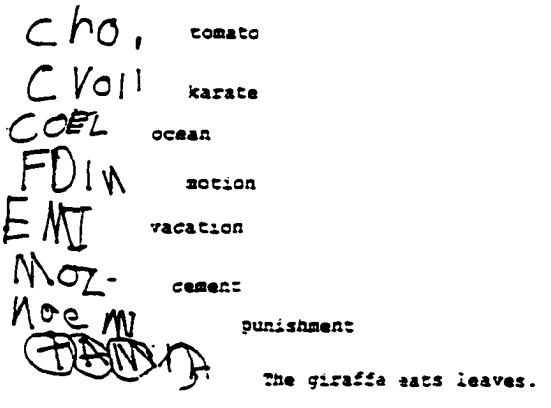

Figure 1. An example of Level 2. The student who wrote this spelling sample represented the words with a maximum of five letters and a minimum of three letters.

Figure 2 is an example of Level 3, which represents an important leap in spelling knowledge. The student at this level connected sound with the written characters. The

student wrote *cmt* for *cement*. The *c* stands for the beginning of the word *cement*, and the *mt* stands for the last part of the word *cement*. For the word *karate*, the *k* stands for the *ka* part of the word, the *r* stands for the *ra* part of the word, and the *t* stands for the *te* part of the word. For the word *vacation*, the student uses *va* to represent the *va* part of the word *vacation*. The *k* is used to represent the *ca* part of *vacation* and the *n* is used to represent the *tion*. In this example the student represented the *tion* in *motion* and *vacation* or the *cean* as in *ocean* with the consonant *n*.

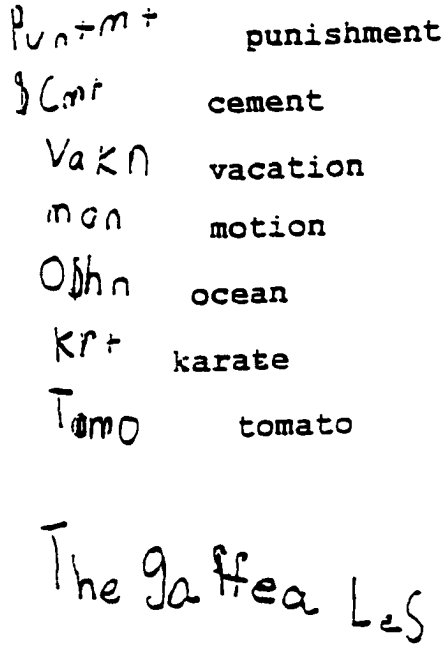

Figure 2. An example of Level 3. The student in this spelling sample represented the words at a consonantal level. In this example, consonants were used to represent word parts.

Forty-six students in this study produced spelling samples considered to be at Level 4. Level 4 is an expansion of Level 3, in which students display a consistent

alphabetic system approaching conventional spelling. For example, in the word *punishment*, the *pmt* at Level 3 is now represented as *punshmet* (see Figure 3).

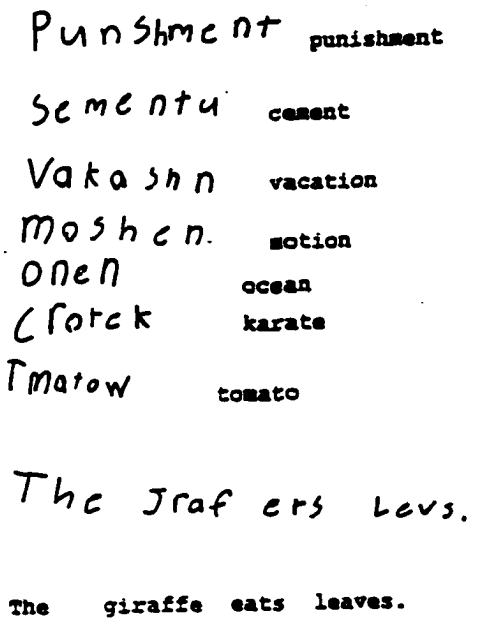

Figure 3. An example of Level 4. The student in this spelling sample represented the word parts *tion*, *cean*, and *ment* inconsistently.

Students at the beginning of Level 4, the alphabetic level, displayed inconsistent spellings. The student's spelling sample in Figure 4 displays this lack of consistency. The student represented the *ment* in *punishment* and *cement* with *ment* and *mentu*. The *tion* in *motion* and *vacation* is represented with *snn* and *shen*.

Figure 4 displays a more advanced example of Level 4, the alphabetic level. The *ment* in the words *punishment* and *cement* are consistent with the observations of Kamii et al. (1991). This student represented the *tion* in *motion* as *shin*. It was as if it were an afterthought, as she made a connection and went back to change the spelling of *motion* from *moshin* to *mostion* to parallel her spelling of *vacation* as *vaction*.

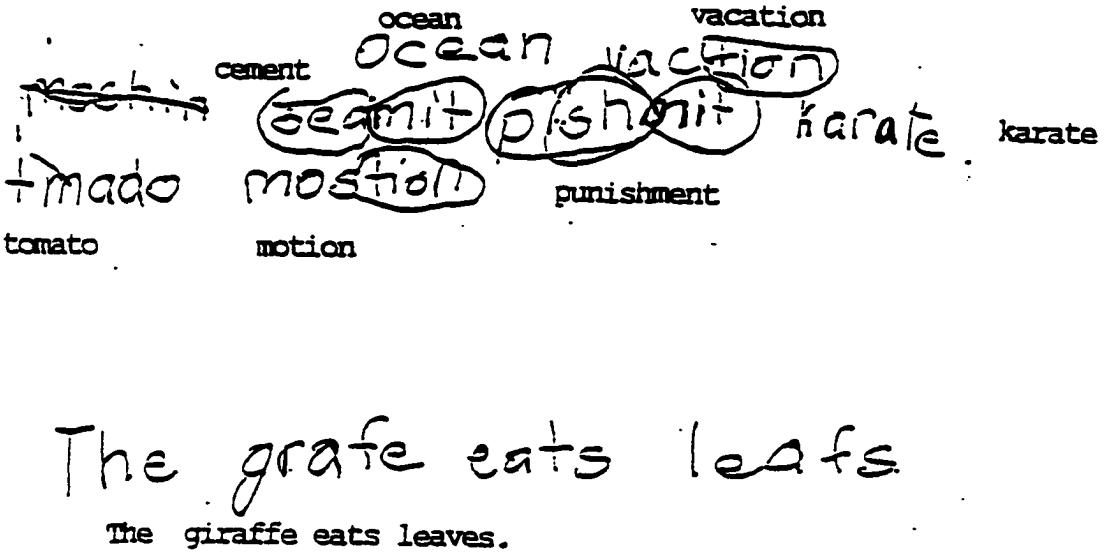

Figure 4. An example of Level 4. The student in this spelling sample began by spelling the *tion* in *motion*, *chin*, then changed her mind and spelled it *tion*, as in the word *vacation* (*vaction*).

In Figure 4, the results represented the word part *tion* consistently in both *motion* and *vacation*. This student's spelling was obviously moving toward conventional spelling. Some words in this spelling sample are spelled conventionally, such as *karate* and *ocean*.

In the present study, the researcher examined students' consistency in representing specific word parts. For example, Table 5 presents the various representations and their frequencies in a student's spelling of the word part *ment*. Table 6 presents the variations in spelling the *tion/cean* word parts in *ocean, vacation*, and *motion*.

Beginning with Table 5 the word part *ment* is represented in *punishment* and *cement*. Other representations that occurred frequently were *met, mit*, and *mint*. Thirty-

five students at Level 4 in this study represented the *ment* with *ment*, 14 represented it with *met*, 10 represented it with *mit*, and 6 students represented the *ment* with *mint*.

Table 5

Variations in the Spelling of ment *in the Words* Cement *and* Punishment

ment	35	nesmte	1
met	14	mnte	1
mit	10	meot	1
mint	6	sht	1
mt	4	minat	1
meant	3	moot	1
mitt	3	meit	1
meat	3	mus	1
nite	2	munt	1
mat	2	milt	1
sheu	1	ent	1
mentu	1	int	1
emt	1	nit	1

Figure 5 shows the representation of consistent spelling patterns in the words *punishment* and *cement*. In the first example, the student used *mint* in both words (*cmint* and *prunmint*). In the second example, the student used *ment* to represent *ment* in both words (*punishment* and *ceoment*). At the consonantal level, *mt* was a frequent pattern used to represent *ment* in these two words.

Many students used the *ment* consistently in the spelling of *cement* and *punishment*. Seventeen students represented the *ment* in both words in their individual spelling samples.

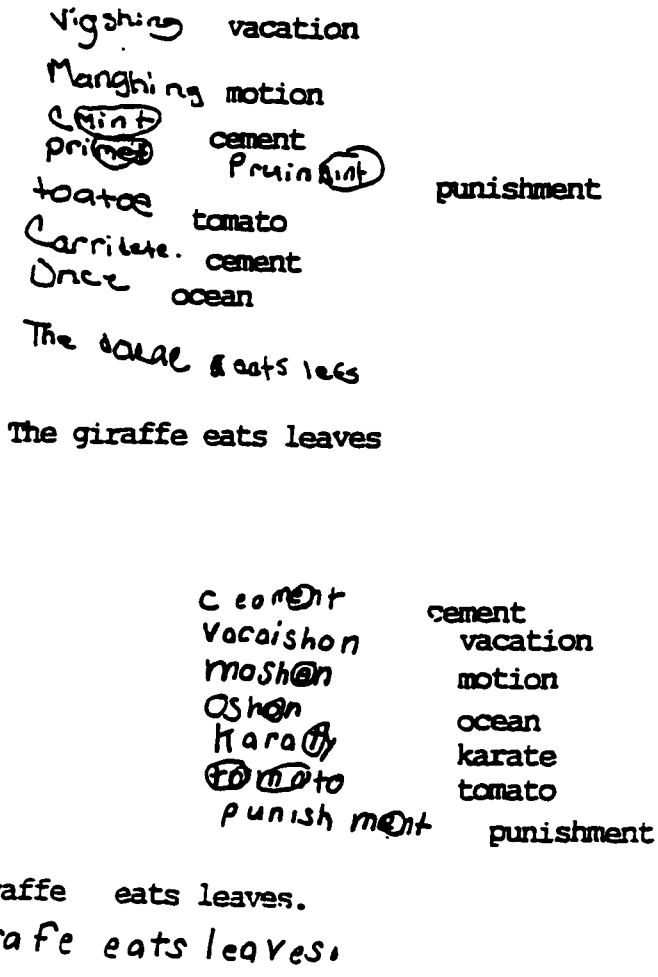

Figure 5. Example of the *ment* spelling pattern that is consistent in both *punishment* and *cement*.

Table 6 contains the various representations for *tion/cean* in the words *motion*, *vacation*, and *ocean*. The most frequently used representations for the words ending with *cean* and *tion* were *tion* and *ean*, occurring eight and nine times, respectively. Other representations, *sun*, *cen*, and *shun*, occurred seven times each.

Table 6

Variations in the Spelling of tion/cean *in the Words* Ocean, Vacation, *and* Motion

ean	9	osn	1
tion	8	sn	1
sun	7	aon	1
cen	7	ohm	1
shun	7	ohn	1
shine	4	chnun	1
chen	4	eon	1
ion	4	caring	1
sen	4	eah	1
hen	4	cony	1
shan	4	shas	1
son	4	shont	1
cean	3	est	1
shen	3	somat	1
sin	3	nen	1
soon	2	sein	1
shon	2	ousn	1
non	2	hne	1
sney	2	soin	1
chun	2	onno	1
shne	2	shing	1
ksn	2	ghing	1
shaune	2	nce	1
shany	2	shoin	1
nin	2	con	1
shin	1	aisn	1
chon	1	kinser	1
kn	1	sne	1
on	1	cin	1
nn	1	osuo	1
shn	1	osn	1

Figure 6 represents consistent spelling of the *tion/cean* in the words *ocean, motion,* and *vacation.* In the first example, the student represented the *tion/cean* with the character unit *shun*, as in *vacation* (*vaykeshun*), *motion* (*moshun*), and *ocean* (o*shun*). In

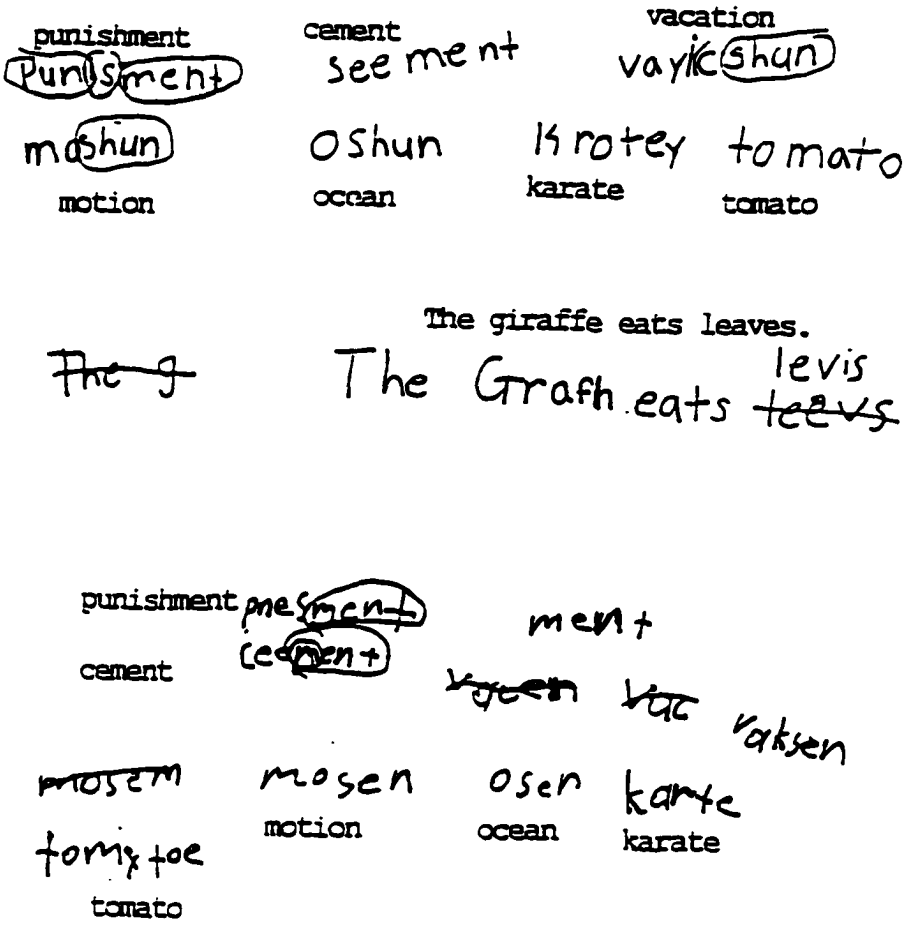

Figure 6. An example of consistent spelling patterns of the *tion/cean* in *ocean, motion,* and *vacation.*

the second example, the student represented the *tion/cean* consistently with different characters, *vacation* (*vakson*), *motion* (*mosen*) and *ocean* (*osen*).

Summary

This study was an expansion of the Kamii et al. (1990) study. Data for this study were collected from 52 students in five settings. Results from the analysis of spelling samples from the present study paralleled the results of Kamii et al. Spelling samples presented in chapter IV illustrate each level.

The spelling samples of 51 students were analyzed according to developmental spelling levels and spelling patterns. One student with a math disability was removed for the sample population to provide more homogeneity. This spelling sample was not analyzed. Student spelling results in this study paralleled the results found in the Kamii et al. (1990) study. Students were spelling at Levels 2 through 4. Forty-four students in this study were at Level 4, the alphabetic level. Student spelling error patterns were analyzed based on specific word parts. The *ment* word part appeared more consistently and the children showed less variation in the characters they used to represent it. The *tion/cean* word part was represented with a wide range of various characters.

CHAPTER V

TEACHER PROFILES

Five teachers of students with language learning disability (LLD) were interviewed, and five teacher profiles were crafted from the teachers' own words. These profiles provide insights into each teacher's beliefs and practices related to spelling. Teachers in this study taught in the same school system, but in different settings. Two teachers were from suburban settings, and three were from rural settings. Four of these five teachers had >15 years' teaching experience. The remaining teacher had 5 years' experience. Their levels and varieties of certifications are presented in Table 7 and represent levels of endorsements.

The teachers discussed their knowledge and beliefs about spelling. The questions were used as a guide to gather similar information related to each teacher's spelling practices and beliefs (see Appendix I). The interview data for the teachers were organized according to how they believed spelling develops, their spelling teaching practices, the materials and activities they used, and their views related to spelling with students with LLD.

Table 7

Demographics of Five Teachers

Name	Race	Position	Current school	Community socioeconomic status	Experience (in years)	Degrees held
Ms. Reigns	W	Resource	Suburban	Mid/low	>15	MS-LD/EC
Ms. Lake	W	Resource	Suburban	Mid/low	>15	MS-LD
Ms. Brooks	W	Resource	Suburban	Middle	>15	BS-Elem. Ed. Minor SPED
Ms. Rivers	W	Resource	Rural	Mid/low	>15	MS-EC/LD
Ms. Falls	W	Resource	Suburban	Middle	Between 5-10	BS-LD

Key to abbreviations:

W = White
MS = Masters
LD = Learning disabilities
EC = Emotional conflict
SPED = Special education
BS = Bachelor of science
Elem. Ed. = Elementary education

Profile of Ms. Reigns,[1] Teacher 1

Ms. Reigns, a resource teacher who served her students in a self-contained classroom, had taught for >15 years. Using a skills-based teaching model, she replaced the spelling instruction in the typical classroom. In her teaching, she concentrated on teaching specific skills, using skills charts and flash cards. Her students were served according to their ages and specific learning disabilities in groups of 10 to 15 students. The 12 students from Mrs. Reigns' class who participated in this study represented the following demographic make-up: There were 7 males and 5 females; 9 were Black, 3 were White; and they were divided equally between second and third grades (6 each). Mrs. Reigns shared her views regarding spelling development for students with LLD and regular education students in the interview data contained below.

Ms. Reigns' Beliefs of How Spelling Develops

> I don't know [how I believe spelling develops]. I guess they [students)]have an idea about sounds. They have to understand what the sounds are doing and how it [the sounds] fit together like a puzzle. I don't understand how sight readers [develop spelling]. With sight readers, I work with the students to help them know what a word is [means]. . . . [With] phonics, I work more with them [to gain an] understanding [of] the sound and apply it to the word.

Ms. Reigns' Spelling Teaching Practices

> I use phonics [first] to teach spelling . . . and sight words. I [also] use sentences. I think kids understand better in context. Phonics [then is the initial approach. When they [students] get that, I go to sight [words]. Some need all three modalities . . . visual, hearing, kinesthetic . . . [and] I try to incorporate all three modalities in spelling. I am doing something new. . . . We say it [the word]. We write it [and] finger spell the word. The kids are doing well. I use many different things.

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[1]All teachers who participated in this study have been assigned alias names to protect their anonymity.

> They need [spelling strategies such as] SLANT strategies. SLANT is the acronym for Sit up/Lean forward/Ask and answer questions/Nod your head/Track the teacher. I tell kids if they do this, a regular teacher is going to be involved with you. I also use RAP (Read the story. Ask and answer the questions. Put it [class content] into your own words).

Materials and Activities Used by Ms. Reigns

> I use many teacher-made materials, [such as] teacher-made flash cards. I have a chart [that] I made myself. I use the list [from the regular classroom], but I decrease the number of words [to] maybe 7 out of 15 words. I pull other words from the Dolch sight words list. I doubt that students with LLD should be taught in the same way as regular education students. Some kids just can't learn phonics. I use games . . . a lot of teacher-made materials. The students use spelling list, words, and finger spelling. Some kids need to sign and enjoy signing. It is motivational, [and] motions are important. I [also] want them to recognize the word using a picture clue.

Ms. Reigns' Views Related to Spelling for Students With LLD

> [Students with LLD] learn differently and need special support. It [spelling] has to become a part of them [for them] to become good at it. You [the teacher] should give them more rehearsal. Children need special education because of their background. They are special to me. I care about them at home and at school.

Ms. Reigns was uncertain of how spelling develops. She defined spelling development as the gathering of sounds and putting those sounds together to make words. During the profile interview, she discussed the various spelling practices that she used with her students, including isolated phonics, sight words, and context clues.

Profile of Ms. Falls, Teacher 2

Ms. Falls had taught for 5 years in an affluent, upper-middle class socioeconomic area of the county. She spent most of her time as a member of an inclusion teaching team, consulting with second- and third-grade classroom teachers. In the afternoons,

students with more severe problems were served in the resource classroom and given intensive support.

Eight of the students participating in the present study were from Ms. Falls' class. These students were educated primarily in the regular classroom with typical students. The student demographics for Ms. Falls' class were as follows: 5 males, 3 females; 8 Whites, 0 Blacks; and 5 second graders and 3 third graders.

Ms. Falls favored a balanced teaching approach. Although she discussed the use of isolated word recognition skills, she made the statement, "Reading and writing ties them together." Ms. Falls discussed her spelling beliefs and practices in the following profile.

Ms. Falls' Beliefs of How Spelling Develops

> [Students learn to spell through applying phonics skills.] I am a big believer in phonics. If I didn't have a phonics background, I [would not] know how to spell. Students need a good solid phonetic foundation. Some people believe in word families. Knowing your words and sounds, [helps students to become better spellers.]

Ms. Falls' Spelling Teaching Practices

> Reading and writing helps [students become better spellers] because writing helps by sounding [the words] out. Reading [and] sounding out [support spelling development]. [I teach] sight vocabulary [and use] some of the Dolch list for spelling [words]. Spelling develops with letter recognition and the sounds of the letters. Reading and writing ties it together.
>
> [Teachers can help students become better spellers by correcting] their writing. Teachers should put more emphasis on students' spelling correctly in all areas of the curriculum. For example, in Social Studies, students should look for the word in the social studies book and spell the word correctly. I use individualized spelling lists. [Depending] on the student, I use a combination of spelling [activities] and spelling lists. I disagree with invented spelling. Emphasis should be on writing [and] learning to spell the words.

Materials and Activities Used by Ms. Falls

[There are many materials that support spelling in my classroom.] I use dictionaries. I have dictionaries on different levels. I also have [a] dictionary [titled] *Most Commonly Misspelled Words*. Students look up words [and] use spell checks. I use individualized spelling lists for spelling. [I also use the] students' writing [and] spelling books. Textbooks are used to look up words. [I] also use the context.

[I use many activities to help my students become better spellers.] They write sentences using their spelling words. [The students] write short stories. [I also use a variety of other activities that support spelling.] [The students] make their own word searches. [I] put words and sentences on the language master cards. [I also use pictures and interlocking game boards.]

Ms. Falls' Views Related to Spelling for Students With LLD

Three or 4 years ago, we were all using the spelling books [in the classroom and in the resource room]. I give my students more resources [than the regular education teacher gives her students.] Since [the teachers in our school] have been [practicing inclusion], we [the regular classroom teacher and the resource teacher] work on the same wavelength. I have worked with the same teacher for 3 years. We mix what we both believe. It depends on the students and what works. We bounce [ideas] off each other until we find something that works for the students according to their needs.

[I doubt that students with LLD would achieve their full potential without my assistance.] I . . . modify the spelling [lesson] to the level of the student [with LLD]. [Students with LLD should not be taught spelling in the same way that regular education students are taught.] . . . [Regarding] my more severe students, spelling is on their level. If they can't read the materials, they can't do it [spell] on the same level [as] the regular education students. Students on the same reading level will do what the regular students are doing. Each student is different.

I don't know [if students with LLD become proficient spellers in the same way as do regular education students], probably so. The toughest thing for my students [is taking] that extra step to look words up. I am such a big believer in spelling things correctly. [Especially] if the opportunity is [present].

Ms. Falls discussed the importance of providing a strong phonetic foundation, a sight vocabulary, and word lists. Yet, she also provided a writing workshop for her students in which she pulled spelling words from the students' own writings. In addition, Ms. Falls supported spelling development with spelling strategies, encouraging students to use such resources as dictionaries and textbooks.

Profile of Ms. Rivers, Teacher 3

Ms. Rivers, a resource teacher in a self-contained room, had >15 years of experience. She was primarily responsible for second- and third-grade students in this school setting. Ms. Rivers approached the teaching of spelling from an eclectic viewpoint, combining a traditional skill-based approach to reading with a holistic approach to writing. Many of her students came from rural working class families. The demographics of the 17 students participating from Ms. Rivers' class included 13 males, 4 females; 8 Blacks, 9 Whites; and 9 second graders and 8 third graders. In the following profile, Ms. Rivers explained her spelling beliefs and practices.

Ms. Rivers' Beliefs of How Spelling Develops

> I have no idea [how spelling develops]. I guess I think it comes from once the students recognize the letters. Letters go together. Words have meaning. [Students] learn to take [words] apart and put [them] back together. They need to [have the ability to] read a certain amount before they can spell. They need to have the letter recognition and the sound.

Ms. Rivers' Spelling Teaching Practices

> [I do not believe that regular education teachers teach spelling in the same way as I do.] There are some teachers who integrate their spelling in all areas. I integrate the spelling words into other areas of the curriculum. The teachers I work with don't. They use the book and the teaching manual.

[I believe, to help all students to become better spellers, teachers] should incorporate [spelling] into all areas [of the curriculum] so that students can generalize what they are learning. [Teachers should] teach words specifically. [Students should have] specific words each week, all during the week. [They] should use these words continuously. I give a spelling test because I have to put down a grade.

[I use] individualized spelling lists. [Students with LLD] can [repeat the spelling words by rote memory] one week but won't remember the next. It [a spelling list] has no significance.

Materials and Activities Used by Ms. Rivers

Generalizing [spelling] is important [to help students to become better spellers]. Anything that will help [students] generalize [will support spelling development]. For example *and* is [a word that] you would see millions of places, [repeated] over and over again. [Students should] generalize what they have learned and have lots of repetition.

[I teach] word chunks [such as] *at, an,* and *ag*. I want students to generalize [spellings]. My [teaching] materials are teacher-made. We use these words in our daily oral language [activity]. [We put words in] ABC order. [We examine] rhyming words [and words with the] same sound. I use lower level spelling books. I integrate spelling and reading.

Ms. Rivers' Views Related to Spelling for Students With LLD

[Would students with LLD achieve their full potential in spelling without my assistance? This is a difficult question.] It would depend on the student. It would [also] depend on the amount of failure the student has run into and the student's ability. Highly motivated students would achieve their potential. [Spelling achievement] would also depend on how flexible the regular classroom is and if [the regular classroom teachers] are willing to modify materials.

[I believe that students with LLD become more proficient spellers in the same way as regular education students.] They do it more slowly. All of their learning processes are the same. It is more difficult [for students with LLD] to retain information. Their learning processes develop more slowly.

[Students with LLD should be taught in a way similar to regular education students] as long as they are taught on their level. Level is defined by the grade. If the students can't read second-grade words, they can't learn to spell second-grade words.

Ms. Rivers was uncertain how spelling develops. She believed that, after students had the ability to read a certain amount, they learned to disassemble words and put them back together. Ms. Rivers taught specific words each week, incorporating and generalizing these word into all areas of the curriculum.

Ms. Rivers used word chunks, teacher-made materials, and daily oral language to support spelling. She believed that students with LLD become proficient spellers in ways similar to typical students, but at a slower pace.

Profile of Ms. Lake, Teacher 4

Ms. Lake was a resource teacher operating out of a self-contained classroom. She had >15 years' teaching experience. Her classroom environment contained multiple examples of isolated skills-teaching methods, including computer programs, workbooks, and teaching kits. Eleven third-grade students from Ms. Lake's class participated in this study. She served students from a middle-class to working-class community.

Ms. Lake's Beliefs of How Spelling Develops

> I think spelling develops through use and [repetitions]. Some students are natural spellers. The more you use [spelling] the better. Students learn spelling [through writing] but I am not whole language. I believe teachers need to teach spelling. Students need rules.

Ms. Lake's Spelling Teaching Practices

> [Regarding spelling teaching practices, I believe that] more emphasis should be [placed] on spelling. Spelling tests every week don't teach spelling. I teach spelling. It's a real subject that I teach. We do group work. Most of the time in the regular classroom, students [complete spelling activities] individually as seat work.

Materials and Activities Used by Ms. Lake

> I use spelling dictionaries and manipulatives. We put . . . [spelling words] on flash cards. [I also use] computers, metallic letters, white

> board, and language master. [To become better spellers, students] . . . need lots of repetition.

Ms. Lake's Views Related to Spelling for Students With LLD

> [Students with LLD should not be taught in a way similar to regular education students.] I try [using] every trick in the book. I do a lot of flash cards and magnetic letters. I use the computer. I have [also] started this [procedure]. I give them [students] a list, [then we complete] visual training to pick out the word correctly. [We work on the] computer and practice tests. [We] generate the correctly spelled word.
>
> [Students do not become proficient spellers in the same way as regular students], if they are truly learning disabled. LLD spellers learn to cope through strategies. Some [students will reach their full potential in spelling without my assistance]. Some [will not reach their full potential], even *with* assistance. It depends on the student. Some students who have been exposed to all methods still have problems.

Ms. Lake believed that the repetition of spelling words supports spelling achievement. She used flash cards, computers, and metallic letters to teach. In addition, she encouraged her students to use resources (i.e., spelling dictionaries).

Profile of Mrs. Brooks, Teacher 5

Ms. Brooks taught in a suburban setting. She, too, had >15 years experience and served as a resource teacher, teaching in a self-contained classroom. The students in Ms. Brooks class were from families with incomes that ranged from middle to upper-middle class. Four of the students in this study were from Ms. Brooks' class. Her class had the following demographic attributes: There were 3 males and 1 female, all of whom were White and in the second grade.

Ms. Brooks differed from the other teachers profiled here, in that she was trained as a regular classroom teacher with a special education endorsement. This background was apparent in her classroom organization, which resembled a typical primary child-

centered classroom. In the profile below, Ms. Brooks explained her spelling beliefs and practices.

Ms. Brooks' Beliefs of How Spelling Develops

> [I believe that spelling develops through] letter-sound association. [Spelling depends on] how the student hears the word and associates the words to the letter.
>
> Being in the younger grades, I believe students should have the ability to break down the word phonetically to be able to read it and spell it, although I know that [phonetic breakdown] doesn't work for bigger words.

Ms. Brooks' Spelling Teaching Practices

> [I believe that students with LLD should be taught in a similar way to regular education students] mostly because the [regular classroom] teacher is using some type of basal pattern, scope and sequence, or some type of word list. [Spelling for] most students with LLD, when it is taught, [should] make some type of sense.

Materials and Activities Used by Ms. Brooks

> [Students labeled LLD become better spellers through] repetition of spelling units. [The] "Writing to Read Lab" is a tremendous help. [I provide] visual assistance to [help students] see words. [For example, I] use colored chalk to help students see the blends. Students should practice [spelling] orally and visually.
>
> [I use] basal spellers [to teach spelling]. I supplement what they are getting in the classroom. [I use] the computer and spelling computer programs with younger students. [I also use other materials such as the] spell master, [spelling] basal, computers, and games. Some weeks we [practice our spelling words using] flash cards, whatever works.

Ms. Brooks' Views Related to Spelling for Students With LLD

> Of course [I do] not [believe that students with LLD would achieve their full potential in spelling without my assistance]. Spelling in most of our classrooms has become a page in the spelling book. [Teachers use] morning messages and worksheets.

> [I do not believe that students with LLD become proficient spellers in the same way as regular education students.] Some [students with LLD] may never [become] proficient spellers. I am not going to give up trying. In our age of computers and secretaries, I don't think we put as much emphasis on spelling.
>
> [Regular education teachers do not teach the same way as I do.] Teachers depend too much on the spelling book. How much better off the class would [be] if [teachers] spent some direct teaching time in front of students. [Having] daily oral language sentences [provides] a perfect time to spend 10-15 minutes [teaching spelling directly].

In summary, Ms. Brooks believed that students developed as spellers through sound and letter associations, along with direct spelling support. She believed that students should have a strong phonics background to breakdown words phonetically. To support spelling achievement, she used computers, computer programs, and games to teach spelling.

Summary

Most of the teachers in this study believed that students need a strong phonics background to become proficient spellers. Spelling was described as fitting sounds together like puzzle pieces. Some teachers believed that students needed to know how to read a certain amount before they could learn to spell, whereas others believed that spelling developed through repetition.

The teachers in this study discussed various practices related to spelling development. The most often mentioned practice was phonics instruction. Teachers described many attempts to enhance phonetic knowledge. For example, teachers encouraged students to "sound words out."

These teachers also discussed improving word-recognition skills. Sight words from the Dolch list were mentioned by two teachers as practices they used to improve spelling.

The *Writing to Read Lab* and *Daily Oral Language* activities were two programs discussed by teachers that relate to spelling. Teachers discussed using scope and sequence skills and individualized or textbook spelling lists.

Teachers in this study believed that students with LLD need more direct instruction and repetition. They achieved this repetition with flash cards, games, and computer programs. Teachers also encouraged students to use references and resources. This list of references included spelling books, textbooks, and dictionaries.

Although some teachers believed that students with LLD become more proficient spellers in the same way as do regular education students, only slower, others believed that students with LLD learn differently and need special support. These teachers believed it was their job to make modifications for students at lower achievement levels, therefore assisting students with LLD to reach their full potential.

CHAPTER VI

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

This study began as an expansion of a previous spelling study by Kamii et al. (1990). Questions that guided this inquiry were: What are the spelling levels and error patterns of second- and third-grade students with LLD? What are the beliefs and practices of resource teachers of these students?

This chapter expands the discussions begun in the previous two chapters related to the spelling error patterns of 51 students with LLD and the teaching beliefs of their resource teachers. This chapter presents a short synopsis of the previous pages, a summary of the findings, conclusions, implications, and recommendations for further study.

Summary

The student sample consisted of 51 students, who were chosen based on the return of parental permission forms. All students were from a large county school system in the southeastern region of the United States. Five LLD resource teachers from various settings were interviewed.

Data collection procedures consisted of two phases and began immediately following the identification of groups. The first phase was an interview of students with

LLD, who provided spelling samples of seven words and one sentence (Kamii et al., 1990). These interviews were conducted individually by the researcher.

The second phase began after the completion of the student spelling interviews. LLD resource teachers were asked a series of questions related to their teaching beliefs and practices. Teachers from five different settings, ranging from suburban to rural, served in various teaching roles in each setting. Three of the five teachers were self-contained resource, and two served as inclusion teachers and resource teachers.

Findings

Several findings were concluded from the analysis of the data collected from student spelling samples and teacher interviews.

1. Student spelling responses paralleled the error patterns of typical students (Kamii et al., 1990).

2. In general, the spelling samples of students in this study indicated an overall developmental lag in spelling development.

3. A content analysis of the *ment* suffix in the words *cement* and *punishment* produced the least variations in student responses; whereas the affixes *tion* and *cean* produced a wider variation of spelling responses.

4. The influence of teacher practices and beliefs on student spelling responses was inconclusive.

The findings in the present study paralleled the results from the earlier study. Levels 2, 3, and 4 were similar to the levels established in the Kamii et al. (1990) study. Levels 0 and 1 were not documented in this study. Reasons associated with these results were speculative. Second- and third-grade students in this study were an average of 6.6

months older than the students in the original study. Unlike the participants in the earlier study, those in this study had more years of exposure to a public education. Due to the number of participants, the spelling levels were not as varied in this study as in the original study.

The analysis of student error patterns demonstrated progressive patterns, from letter strings to the alphabetic level. Students began with early spelling hypotheses and expanded those hypotheses to include higher level spelling constructions. Spelling constructions became more sophisticated and more closely approximated conventional spellings. Each hypothesis is built over the structure of an earlier hypothesis; therefore, remnants of the earlier spelling errors appear in the total spelling sample. Changes in spelling hypotheses were revised to encompass a new structure as the student advanced toward conventional spellings.

Recurring student spelling error responses for the suffix *ment* were analyzed. Students using the spelling strategy of spelling words as they are pronounced represented the *ment* suffix as *met* and *mit*. The vowels *e* and *i* and the preconsonant nasal *n* are easily overshadowed and children have difficulty representing them (Wilde, 1992).

The *tion* suffix was more difficult to represent and produce. According to Henderson (1985), the *t* is an unvoiced consonant, and the *o* is produced in the back of the mouth (Wilde, 1992). The letter *t* shifts to the sound *sh* when the suffix *ion* is added, explaining the recurring patterns with the beginning *sh* sounds, such as *shun, shan*, and *chin* (Henderson, 1985).

Forty-four of the 51 participants in the present study were categorized at the alphabetic level. At first glance, the abundance of children at the alphabetic level could

be interpreted as a weakness in this study. That weakness, however, reveals that, despite scores on standardized testing instruments, during their 3 to 5 years of schooling, students in this study gathered enough letter/sound information to construct words at the alphabetic level.

Teachers in this study reported they did not have an in-depth knowledge of developmental spelling research, as explained in the current professional literature. Two teachers had a vague notion of "invented" spelling and encouraged students to write freely in journals and class activities. The remaining three teachers resisted exploring changes in teaching methods. When asked how students learned to spell, none of the teachers in this study discussed developmental spelling research or spelling error patterns.

Conclusions and Implications

Several implications and conclusions can be drawn from the analysis of student spelling responses and teacher interviews.

1. Students with LLD constructed their own spelling hypotheses, which are similar to the patterns of typically developing students. Spelling error patterns of students in this study paralleled the spelling error patterns of typically developing students (Kamii et al., 1990). Based on these findings, LLD resource teachers and regular classroom teachers should become aware that less proficient spellers, such as students with LLD, acquire spelling knowledge developmentally (Wilde, 1992). Teachers aware of developmental spelling levels and patterns of student errors can effectively support developmental spelling in a literate class community for both typical and atypical students.

2. The majority of student spelling samples showed an overall lag in literacy development and growth. Thus, a slower pace in spelling growth was expected. Students with LLD also demonstrated a lag in the number of spelling strategies used at the alphabetic level in their repertoire. This lack of strategies may result in random misapplication of phoneme information. Schlagal's (1982) research results revealed that frustrated spellers made random spelling errors and regressed to lower level orthographic choices. Students in this study made what appeared to be random phoneme choices, more specifically, vowel choices at the alphabetic level that could not be categorized as a strategy. Other students appeared to use specific strategies. Reconsidering Schlagal's interpretation that frustrated spellers regressed to lower level orthographic choices from a constructivist framework, this study suggests that many of the spelling errors made by students in this study followed a developmental progression. Students did not appear to regress in their spelling development. One explanation might be that students regressed to earlier developmental patterns or spelling structures. An alternative, constructivist explanation would be that they built on existing structures while remnants of the older structures remain. Student error patterns in this study appeared to be developmental choices based on a continuum of spelling growth.

3. Results from the present study precipitated the following questions: Could teaching practices and beliefs contribute to spelling difficulties for students with LLD? Could traditional spelling methods that resist considering a continuum of spelling growth impede spelling progress? All five teachers in this study used isolated phonics instructions as a teaching method based on their beliefs of how children learn to spell. Should teacher knowledge of progressive spelling patterns guide spelling instruction?

Would using this information to guide spelling instruction promote the spelling progress of students with LLD?

Recommendations

The findings of this study point out the need for additional research. The following recommendations are offered for further study.

1. Researchers have referenced the concept of word as it relates to the development of children's spelling. Children's understanding of word, as it is constructed over time, should be linked to a study of this nature (Beers & Henderson, 1980; Gill, 1992; Schlagal, 1982; Temple et al., 1993).

2. The LLD resource teachers in this study observed that more emphasis should be placed on spelling in regular classroom settings. This researcher recommends the replication of this study to include profiling the practices and beliefs of regular classroom teachers to see if they are related to spelling development of students with LLD.

3. This study might also be extended to compare the spelling error patterns and strategies of students with LLD in inclusion classrooms versus students with LLD in self-contained classrooms.

4. An extension of this study should include a teacher education component to measure changes in LLD teachers' attitudes, beliefs, and practices over time.

5. The present study examined students with LLD. A longitudinal study should be attempted to follow the developmental spelling patterns of students with LLD throughout the elementary school years.

6. The students in this study were taught predominately from a skills perspective. A study should be completed to examine the development of students with LLD in a whole-language environment versus a skill-based environment.

7. Another study might involve investigating the relationship between the spelling, writing, and reading processes of students with LLD. A case study examining the authentic writing of students with LLD, such as journal or letter writing, would expand this study.

8. The final recommendation involves the replication of this study to explore more closely the sentences that students produce at Level 2 (letter strings). Researchers should investigate whether children at this level distinguish space between units of characters that represent word units.

Chapter Summary

The patterns of spelling errors made by second- and third-grade students with LLD paralleled the patterns of spelling errors and development found in the Kamii et al. (1990) study. Students with the advantage of schooling and exposure to sound/symbol association strategies displayed spelling patterns similar to their younger typical peers.

Resource teachers in this study were not knowledgeable about developmental spelling as an appropriate approach for teaching spelling to students with LLD. Most teachers used traditional methods of teaching spelling.

This study demonstrated how students labeled as having LLD construct spelling patterns typical of developing spellers. Thus, the implication is that students labeled LLD can be educated in spelling along with their typically developing peers. Recommendations included replication of this study to examine the effects of different

In addition, replication should occur to examine the beliefs and practices of the regular classroom teachers of students with LLD.

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APPENDIX A

DEFINITION OF LEARNING DISABILITIES

Specific Learning Disabilities

Specific learning disabilities means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or to do mathematical calculation. The term includes such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia and developmental aphasic. The term does not include children who have learning problems which are primarily the result of visual, hearing or motor impairments; mental retardation; emotional disturbance, or environmental, cultural or economic disadvantage. Those with specific learning disabilities may demonstrate their disability through a variety of symptoms such as hyperactivity, distractibility, attention problems memory disorders, concept association problems, etc. The end result of the effects of these symptoms such as hyperactivity, distractibility, attention problems, memory disorders, concept association problems, etc. The end result of the effects of these symptoms is a severe discrepancy between ability and achievement. This discrepancy is the major factor in determining eligibility for learning disability services. If there is no severe discrepancy between how much should have been learned and what has been learned, there would be a disability in learning. However, other areas of disability and sociological conditions may be primary factors resulting in a discrepancy between ability and achievement. In such cases, the severe discrepancy may be primarily the result of these factors and not of a learning disability. (Taken from: State Department of Education, 1993. Rules of the Alabama State Board of Education [Supp. No. 93-3]. Special Programs I: Division of Special Education Services, p. 552)

APPENDIX B

INSTITUTIONAL REVIEW BOARD FOR HUMAN USE APPROVAL

THE UNIVERSITY OF ALABAMA AT BIRMINGHAM

Office of the Institutional Review Board for Human Use

FORM 4: IDENTIFICATION AND CERTIFICATION OF RESEARCH PROJECTS INVOLVING HUMAN SUBJECTS

THE INSTITUTIONAL REVIEW BOARD (IRB) MUST COMPLETE THIS FORM FOR ALL APPLICATIONS FOR RESEARCH AND TRAINING GRANTS, PROGRAM PROJECT AND CENTER GRANTS, DEMONSTRATION GRANTS, FELLOWSHIPS, TRAINEESHIPS, AWARDS, AND OTHER PROPOSALS WHICH MIGHT INVOLVE THE USE OF HUMAN RESEARCH SUBJECTS INDEPENDENT OF SOURCE OF FUNDING.

THIS FORM DOES NOT APPLY TO APPLICATIONS FOR GRANTS LIMITED TO THE SUPPORT OF CONSTRUCTION, ALTERATIONS AND RENOVATIONS, OR RESEARCH RESOURCES.

PRINCIPAL INVESTIGATOR: LEWIS, ANGELA

PROJECT TITLE: DEVELOPMENTAL SPELLING AND THE CONCEPTION OF WORD IN SECOND GRADE "LEARNING DISABLED SPELLERS"

_____1. THIS IS A TRAINING GRANT. EACH RESEARCH PROJECT INVOLVING HUMAN SUBJECTS PROPOSED BY TRAINEES MUST RE REVIEWED SEPARATELY BY THE INSTITUTIONAL REVIEW BOARD (IRB).

__X__2. THIS APPLICATION INCLUDES RESEARCH INVOLVING HUMAN SUBJECTS. THE IRB HAS REVIEWED AND APPROVED THIS APPLICATION ON MAY 10, 1995 IN ACCORDANCE WITH UAB'S ASSURANCE APPROVED BY THE UNITED STATES PUBLIC HEALTH SERVICE. THE PROJECT WILL BE SUBJECT TO ANNUAL CONTINUING REVIEW AS PROVIDED IN THAT ASSURANCE.

_____ THIS PROJECT RECEIVED EXPEDITED REVIEW.

__X__ THIS PROJECT RECEIVED FULL BOARD REVIEW.

_____3. THIS APPLICATION MAY INCLUDE RESEARCH INVOLVING HUMAN SUBJECTS. REVIEW IS PENDING BY THE IRB AS PROVIDED BY UAB'S ASSURANCE. COMPLETION OF REVIEW WILL BE CERTIFIED BY ISSUANCE OF ANOTHER FORM 4 AS SOON AS POSSIBLE.

_____4. EXEMPTION IS APPROVED BASED ON EXEMPTION CATEGORY NUMBER(S)_____.

DATE: MAY 10, 1995

Russell Cunningham, M.D.
RUSSELL CUNNINGHAM, M.D.

Russell Cunningham, M.D.
RUSSELL CUNNINGHAM, M.D.
INTERIM CHAIRMAN OF THE

The University of Alabama at Birmingham
1170R Administration Building • 701 South 20th Street
Birmingham, Alabama 35294-0111 • (205) 934-3789 • FAX (205) 975-5977

THE UNIVERSITY OF
MONTEVALLO

RECEIVED
JUN - 7 1995
OFFICE OF INSTITUTIONAL REVIEW BOARD

Department
of Education
Station 6355

To: Chairman, Institutional Review Board

From: Angela Lewis

Subject: *Developmental spelling and the conception of word in second grade " "learning disabled spellers.""*

My committee has made the recommendation that I add third grade subjects to my research study. Attached is a copy of the revised consent form. In addition, I have included a copy of the consent from Shelby County to complete the study.

APPROVED 6-8-95
RUSSELL CUNNINGHAM, M.D.
INTERIM CHAIRMAN-IRB

APPENDIX C

PERMISSION REQUEST TO SCHOOL SYSTEM

Dr. _____, Superintendent
_____ Board of Education
_____, AL 35_____

Dear Dr. _____:

For partial fulfillment of my doctoral degree in early childhood education at The University of Alabama at Birmingham, I am researching an aspect of spelling development. I request your permission to conduct my study in the _____ County School System.

This study will involve interviewing approximately 50 learning disabled students. As a part of this project, each child will be asked to participate in one interview. During this interview, the child will be asked a series of questions about words and the spelling of words. As the interview proceeds, I will ask occasional questions for clarification or further understanding. (Attached you will find an interview guide.) In order to verify spelling levels, it will be necessary to collect other data, such as samples of writing from each child.

Each interview will be audiotaped and later transcribed by me. The transcription will be typed with pseudonyms. The students' names will not be used, nor the names of people close to them, their city, or their state.

As a certified Learning Disabilities teacher in the State of Alabama, I understand the confidentiality involved with working with children from a special population. It is my intent to solicit signed parental consent before interviewing any child.

Your immediate reply to this request would be most appreciated. Please call me at XXX-XXXX (office) or XXX-XXXX (home) if you have any questions concerning any aspect of this study. Thank you for your time and consideration.

Respectfully,

Angela Lewis

cc: Dr. _____, Elementary Supervisor

APPENDIX D

SUPERINTENDENT'S PERMISSION

SHELBY COUNTY SCHOOLS
410 EAST COLLEGE STREET
POST OFFICE BOX 429
COLUMBIANA, ALABAMA 35051
TELEFAX (205) 669-3609
TELEPHONE (205) 669-3600

SUPERINTENDENT
NORMA ROGERS, PH.D.

BOARD OF EDUCATION
LEE DOEBLER, PH.D., PRESIDENT
CINDY FORRESTER, VICE PRESIDENT
SUSAN BAGLEY
STEVE MARTIN
DONNA MORRIS

May 22, 1995

Ms. Angela Lewis
1801B Wood Brook Circle
Alabaster, AL 35007

Dear Ms. Lewis:

This letter will give you formal permission to conduct a study in Shelby County Schools on an aspect of spelling development. We understand that the study will involve interviewing approximately fifty students identified as learning disabled.

Good luck with your research project.

Sincerely,

Norma Rogers

Norma Rogers, Ph.D.
Superintendent

sl

APPENDIX E

FIRST INFORMED CONSENT FORM

To participants in this project:

I am a student at the University of Alabama at Birmingham researching an aspect of spelling development. The subject of my dissertation research is: Developmental spelling and the conception of word in second grade "learning disabled spellers." I am researching an aspect of spelling development. Your child is one of approximately fifty students who will be asked to participate in this study.

As a part of this project, your child will be participating in one interview. During this interview, your child will be asked a series of questions about words and their spelling. As the interview proceeds, I will ask occasional questions for clarification, of their response.

Children will be asked to spell words in order to get a better understanding of their spelling strategies. Responses of these fifty children will be compared to other children not interviewed.

A portion of the interviews may be used for journal articles and presentations. If the material is used in any way not consistent with what is stated here, you will be contacted for your additional written consent.

Each interview will be audio taped and later transcribed by me. In all written materials and oral presentations in which information from interviews might be used, your child's name will not be used. Your name will not be used.

Please note: You and your child will not receive financial compensation for your time. Your signatue on this form is not binding. You may withdraw your consent at any time during the study without prejudice. If you have any questions please feel free to contact Angela Lewis at the above address or phone numbers.

I, _____ have read the above statement and agree to participate as an interviewee under the conditions stated above. I have received a copy of this consent form. I understand I am not waiving any of my legal rights by signing this consent form.

_____ _____

Signature of the Child Date

_____ _____

Parent Date

_____ _____

Signature of the interviewer Date

APPENDIX F

INTRODUCTORY LETTER FROM SHELBY COUNTY BOARD OF EDUCATION LEARNING DISABILITY SPECIALIST

MEMORANDUM **DATE:** May 24, 1995

TO: {Resource teachers}
{Participating schools}

FROM: {LD Specialist, Shelby County Board of Education}

SUBJECT: Research project

Angela Lewis is trying to complete research for her "Doctor Book." *Please* help her by sending permission slips home to your (this year) second- and third-grade LD kiddos.

Maybe you should try to *bribe* 'em into returning the permissions.

Thanks for your hard work -

Have a great summer!

APPENDIX G

SECOND INFORMED CONSENT FORM

To participants in this project:

I am a student at the University of Alabama at Birmingham researching an aspect of spelling development. The subject of my dissertation research is: Developmental spelling and the conception of word in second grade and third "learning disabled spellers." I am researching an aspect of spelling development. Your child is one of approximately fifty students who will be asked to participate in this study.

As a part of this project, your child will be participating in one interview. During this interview, your child will be asked a series of questions about words and their spelling. As the interview proceeds, I will ask occasional questions for clarification, of their response.

Children will be asked to spell words in order to get a better understanding of their spelling strategies. Responses of these fifty children will be compared to other children not interviewed.

A portion of the interviews may be used for journal articles and presentations. If the material is used in any way not consistent with what is stated here, you will be contacted for your additional written consent.

Each interview will be audio taped and later transcribed by me. In all written materials and oral presentations in which information from interviews might be used, your child's name will not be used. Your name will not be used.

Please note: The University of Alabama at Birmingham has made no provisions for monetary compensation in the event of physical injury resulting from the research. In the event of such, medical treatment is provided but is not free of charge. Your child will not receive money for his time. You will not receive money. You may decide to withdraw your consent at anytime during the study. This will not be held against you and your child. If you have any questions please feel free to contact Angela Lewis at the above address or phone numbers.

I, _____ have read the above statement and agree to participate as an interviewee under the conditions stated above.

_____	_____
Signature of the Participant	Date
_____	_____
Parent	Date
_____	_____
Signature of the interviewer	Date

APPENDIX H

PARTICIPANT INFORMATION FORM

Participant Information Form

Resource/Classroom
Teacher Informant Date

1. Name of School _____
2. Gender _____
3. Age /(D. O. B.) _____
4. Ethnicity _____
5. Intelligence (Standard Score) _____
6. Overall Academic Achievement (Standard Score) _____
7. Specific Academic Achievement (Spelling Standard Score) _____
8. Grade Level _____
9. Level of Special Education Placement _____
10. Time in Special Education Placement _____
11. Geographic Location _____
12. Names of Test Used _____
13. Number of Siblings in the Family _____
14. Place in Sibling Order _____
15. Family Make Up _____

APPENDIX I

TEACHER INTERVIEW GUIDE

Teacher Interview Guide

Demographics

Number of years	Level of education
1 - 5 years	B level certification
5 - 10 years	B level certification
10 - 15 years	AA level certification
over 15 years	

Do you have a regular education background?

What do you believe teachers should do to help all students become better spellers?

Should students with LLD be taught in a similar way? Why?

How do you believe spelling develops?

What materials do you use in your classroom to teach spelling?

What types of activities help students labeled LLD to become better spellers?

Do students with LLD achieve their full potential in spelling without your assistance?

Why or Why not?

Do students with LLD become proficient spellers in the same way as regular education students?

Do the regular education teachers teach spelling the same way you do? How is this alike or different?

APPENDIX J

CODED SPELLING LEVELS

SCORES OF EACH INDEPENDENT RATER ON THE SPELLING LEVELS

Student No.	Rater 1	Rater 2
1	3	3
2	4	4
3	4	4
4	4	4
5	4	4
6	2	2
7	4	4
8	4	4
9	4	4
10	2	2
11	2	2
12	4	4
13	4	4
14	4	4
15	4	4
16	4	4
17	4	4
18	4	4
19	4	4
20	3	3
21	4	4
22	4	3
23	4	4
24	4	4
25	4	4
26	4	4
27	4	4

Student No.	Rater 1	Rater 2
28	4	4
29	4	4
30	4	4
31	4	4
32	4	4
33	4	4
35	4	4
36	4	4
37	4	4
38	4	4
39	4	4
40	4	4
41	4	4
42	4	4
43	4	4
44	4	4
45	4	4
46	4	4
47	4	4
48	4	4
49	4	4
50	4	4
51	4	4
52	3	3

APPENDIX K

DEMOGRAPHICS OF INDIVIDUAL STUDENTS

Student Demographics

Student	D.O.B.	School	Gender	Race	IQ	GR
1	9/25/86	#4	Male	Black	77	2
2	7/10/87	#4	Male	White	97	2
3	5/16/84	#4	Female	White	103	2
4	8/12/87	#4	Female	White	106	2
5	7/7/86	#4	Female	Black	83	2
6	1/18/87	#5	Male	White	103	2
7	1/18/86	#5	Female	Black	84	2
8	8/6/86	#5	Male	White	85	2
9	4/28/87	#5	Male	White	118	2
10	7/24/87	#5	Male	Black	83	2
11	12/11/86	#5	Male	Black	84	2
12	7/27/87	#5	Male	White	121	2
13	6/14/87	#5	Male	Black	76	2
14	6/29/87	#5	Female	Black	94	2
15	7/3/86	#1	Female	White	100	2
16	5/12/87	#1	Female	White	95	2
17	5/22/86	#1	Female	White	100	2
18	9/28/86	#1	Male	White	86	2
19	1/12/86	#1	Male	White	86	2
20	12/2/84	#5	Male	White	89	3
21	12/2/84	#5	Female	Black	72	3

Student	D.O.B.	School	Gender	Race	IQ	GR
22	4/29/85	#5	Male	White	80	3
23	10/14/85	#5	Male	Black	71	3
24	10/14/85	#5	Female	Black	83	3
25	8/17/85	#5	Male	White	99	3
26	8/17/85	#2	Male	White	86	3
27	1/29/86	#2	Male	White	95	2
28	1/29/86	#2	Female	White	115	3
29	7/16/85	#2	Female	White	107	3
30	7/1/86	#2	Female	White	99	3
31	5/23/85	#2	Male	White	81	3
32	9/23/85	#2	Female	White	89	3
33	4/11/86	#2	Male	White	100	3
34	2/2/86	#2	Female	White	80	3
35	7/12/85	#2	Male	White	95	3
36	6/6/85	#2	Male	White	95	3
37	4/6/87	#3	Male	White	108	2
38	7/3/86	#3	Male	White	109	2
39	8/28/86	#3	Male	White	96	2
40	8/27/86	#3	Female	White	109	2
41	12/1/84	#1	Male	White	109	3
42	5/20/86	#1	Male	White	113	3
43	11/27/85	#1	Male	White	90	3

Student	D.O.B.	School	Gender	Race	IQ	GR
44	11/27/85	#4	Female	Black	79	3
45	2/3/86	#4	Male	White	90	3
46	8/23/85	#4	Male	White	91	3
47	10/14/85	#4	Male	White	99	3
48	3/23/86	#4	Male	White	99	2
49	6/16/86	#4	Female	White	99	3
50	8/22/85	#4	Male	White	96	3
51	9/7/85	#5	Male	White	97	3
52	7/16/85	#5	Male	White	85	3

GRADUATE SCHOOL
UNIVERSITY OF ALABAMA AT BIRMINGHAM
DISSERTATION APPROVAL FORM

Name of Candidate Angela Lewis

Major Subject Early Childhood Education

Title of Dissertation An Exploration of the Spelling Patterns of Second and Third Grade Students with Language Learning Disabilities

Dissertation Committee:

_____, Chairman _____

_____ _____

_____ _____

_____ _____

_____ _____

Director of Graduate Program _____

Dean, UAB Graduate School _____

Date September 23, 1996

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