

THE EFFECTS OF RHYME-RIME CONNECTION
TRAINING ON SECOND GRADE READING
PERFORMANCE

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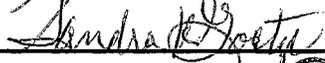
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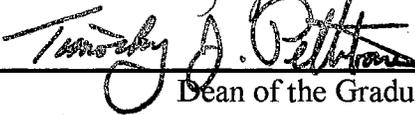


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CHAPTER I

INTRODUCTION

Introduction

Some children learn to read easily. They acquire critical concepts about reading and writing from parent modeling and scaffolding of reading behaviors long before they enter formal instruction. They begin school with a wealth of early literacy experiences. Once instruction begins, they progress to develop fast and accurate word recognition skills, leaving more time and the mental resources to devote to deriving meaning from the text (Samuels, 1987). Successful readers find reading to be a meaningful and rewarding experience. This success leads to more reading, more exposure to vocabulary and new concepts, and more rewards (Leslie & Allen, 1999).

For other children learning to read can be extremely difficult and frustrating. For example, many children from low-income families begin school having had significantly fewer opportunities to engage in meaningful literacy-related experiences than their higher income peers. These children face the distinct disadvantage of having to learn processing operations while they are learning to read, often resulting in poor comprehension. Most children who are poor readers cannot construct meaning from text because the process of reading the individual words on a page is so slow and arduous that comprehension is impaired (Vellutino, 1991). These struggling readers avoid encounters with print whenever possible. Without practice and experience, they are less likely to develop automaticity in word recognition, concepts about the world, vocabulary, as well as the intrinsic motivation to read (Leslie & Allen, 1999). This downward spiraling of reading

achievement has been proposed as a major determinant of school failure (Stanovich, 1986).

It has long been established that there is no skill more attributed to school success than reading acquisition. This acquisition is based on complex cognitive, emotional, social, and instructional factors (Lipson & Wixson, 1997). There are several different theories that postulate how reading acquisition occurs. The bottom-up theoretical models share the view that an understanding of the alphabet principle is the critical hurdle for beginning readers to overcome (Juel, 1988). In top-down models the reading process is seen as a search for meaning, which emanates from a person's experiences with language, rather than from the written form of language. The following definition is oriented theoretically from one of the top-down models referred to as the transactional model of reading (Rosenblatt, 1993). Readers use their knowledge of the language represented in the text, their background knowledge, and their knowledge of the letter-sound system to make sense of alphabetic writing (Moustafa, 1997). Using this definition as the framework, examination of factors that impact reading acquisition is warranted.

Early Literacy Experiences

Children begin school with diverse experiences and understandings of print. These experiences and understandings provide general literacy-related knowledge, as well as specific print skills and oral language competencies (Dickinson & Tabors, 1991, Mason & Allen, 1986). The amount and nature of these early experiences with print and language development are of particular importance. Entering school with deficits in these literacy experiences can impact later success in learning to read and write (Dahl &

Freepon, 1995, Teale, 1986). In an extensive study of low socio-economic status (SES) children's early literacy learning, Purcell-Gates and Dahl (1991), report on the importance of the effect of entering knowledge on success in beginning literacy instruction. Some educators see these low SES students as lacking the pre-requisite language experiences and intellectual stimulation needed to easily become members of a literate community. There is a need to broaden our thinking. These children come to us with a wealth of experiences and the ability to use language effectively within the boundaries of their particular community (Walker-Dalhouse, 1993). However, the research emphasizes, if children have not had the opportunity to explore the whole of written language in meaningful, functional literacy events, then instruction must provide this opportunity. Otherwise, we are asking these children to learn the fine points of a process of which they have little or no understanding. That is not possible for any learner of any age (Purcell-Gates & Dahl, 1991).

Phonological Awareness

Phonological awareness refers to the ability to reflect explicitly on the sound structure of spoken words (Hatcher, Hulme, & Ellis, 1994). The relationship between phonological awareness and reading acquisition has been one of the most studied questions in the past two decades of research on beginning reading. Measures of phonological awareness correlate more highly with scores on standardized reading tests than other developmental variables (Bradley & Bryant, 1983; Perfetti, Beck, Bell & Hughes, 1987; Yopp, 1988). This relationship holds true even when extraneous variables such as age, language ability, I.Q, social class, and memory are controlled (Bradley &

Bryant, 1985; MacLean et al., 1987). Also, the majority of evidence shows that the relationship of phonological awareness to reading success is bi-directional. That is, phonological awareness affects subsequent reading ability, and reading ability affects subsequent development of phonological awareness. The conclusion from correlational and experimental studies is that students who enter reading instruction unable to perform even basic phonological awareness tasks experience less success in reading than do students who can perform these tasks (Bradley & Bryant, 1986; Juel, 1988; Perfetti et al., 1987; Tunmer & Nesdale, 1985). A child's phonological awareness may be shallow or deep depending on their ability to analyze and manipulate at different levels (syllables, rimes, rhymes, and phonemes) the sound structure of language in its spoken form (Gottardo, Stanovich, & Siegel, 1996). The better children are at detecting syllables (Mann & Liberman, 1984), rimes, rhymes (Bradley & Bryant, 1983; Ellis & Large, 1987; Lundberg, Olofsson & Wall, 1980), and phonemes (Lundberg et al., 1980; Stanovich, Cunningham, & Cramer, 1984; Tunmer & Nesdale, 1985), the quicker and more successful will be their progress with reading.

How does a child's sensitivity to the phonological structure of speech develop, and how does this sensitivity translate into proficient early reading skills? Awareness of the phonological structure of words appears to emerge gradually in young children and makes learning to read more understandable (Ball, 1993; Liberman, Shankweiler, & Liberman, 1989). Children first become aware of larger linguistic units; words, followed by syllables, and lastly phonemes (Ball, 1993; Fowler, 1991). Word growth is evident at the preschool level. As children's oral language skills develop, they begin to understand

that ideas are composed of concepts and expressed as single words that are articulatorily distinct.

An examination of the structure of the syllable is necessary in order to fully understand how children become aware of syllables, then of the phonemes that comprise them. Onset-rime theory states that the psychological units of the English syllable are the onset, which is any consonant(s) that may come before the vowel, and the rime, that is the vowel, and any consonants that may come after it (McKay, 1972). For example the onset and rime for the word *test* would be /t/ - /est/, the /t/ being the onset, and /est/ being the rime. Words with a common rime (e.g. *-est*) will typically rhyme (e.g. *rest, best*). Phonemes are the individual sounds that letters represent. The rime /est/ decomposes into three phonemes /e/ /s/ /t/. At the lowest level, letter-sound correspondence maps phonemes to letters.

Most preschool children can determine the correct number of syllables in a word. Most three and four year old children are able to make competent judgments about rhyming, which involves comparing ending sounds in word pairs (e.g. *hair, bare*) (Maclean, Bryant, & Bradley, 1987). However, preschoolers are usually unable to manipulate single phonemes (Lenel & Cantor, 1981). The difficulty in segmenting words into phonemes may be due to the abstract nature of the phoneme (Perfetti, 1992). The separate sounds in words merge together when spoken, and they are not noticed unless someone consciously focuses on them (Tunmer, Herriman, & Nesdale, 1988; Tunmer & Hoover, 1993). Even when children are paying attention to the sounds in words, phonemes are difficult to discriminate because they do not correspond to individually articulated units (Ball, 1993). Awareness of higher level sounds (words and syllables)

may develop naturally without formal literacy instruction, whereas, awareness of phonemes will require instruction, and even then will be difficult for many children (Goswami & Bryant, 1990, Treiman, 1985).

While there is a large body of research that shows children have trouble analyzing spoken words into phonemes before they begin to read, there is a growing body of research that shows young children analyze spoken words into onsets and rimes naturally, before they begin to read (Goswami and Bryant, 1990).

Rhyme, Analogy and Reading

The discovery of utilizing onsets and rimes raises the possibility that children do not have to analyze spoken words into phonemes in order to learn letter-sound correspondences, as we have traditionally believed (Moustafa, 1997). Children have a natural ability to hear onsets and rimes. By using that ability, they can make logical letter-sound correspondences (Wylie & Durrell, 1970).

Usha Goswami demonstrated in 1986 that beginning readers use their knowledge of onsets, rimes, and rhymes to figure out how to say other print words. Goswami and Bryant (1990) pointed out that the possible explanation of the link between rhyming and reading is that the ability to recognize rhyming words may form the basis for noticing that these words often share common spelling patterns. The ability to make inferences from similarities in spelling, to similarities in sound, is referred to as the ability to make orthographic analogies. For example when a child encounters a new word *smart*, he can recognize it, because he knows *cart* and *part*. There are also consistent findings that the ability to recognize and produce rhymes is an important predictor of reading success

(Bradley & Bryant, 1983; Lundberg et al., 1980; and Ellis & Large, 1987). This evidence was used to support a model in which pre-readers use rhyming skill when beginning to read. Research also suggests that rhyming ability makes a direct contribution to reading that is independent of the connection between phoneme awareness and reading (Bryant, Maclean, Bradley & Crossland, 1990). Children can use their knowledge of letters representing onsets, rimes, and rhymes in words they already know how to pronounce, rather than having to rely on their knowledge of letter-phoneme correspondences in order to pronounce unfamiliar words. (Moustafa, 1997).

Context and Experience

Kenneth Goodman, in a well-known experiment (1965), showed that children have another way, besides letter-sound correspondences to learn how to pronounce unfamiliar print words. He found that children read print words better in the context of a story than in isolation. His explanation for the difference was that the words in stories had additional cues in the flow of the language to help the children figure out new print words. Also, the schema or background knowledge children have on a topic prior to reading a passage about that topic has a powerful effect on their ability to make sense of the passage. Children's background knowledge about print itself has a powerful influence on their ability to learn to read (Moustafa, 1997). Goodman's findings have withstood the test of replication studies. Experimental studies have consistently found that early readers use context to read unfamiliar words in the context of stories better than out of context (Nicholson, 1991).

In addition, research confirms that in order to become successful readers, children should spend significant amounts of time engaged in authentic reading and writing experiences. Providing time to read, and the opportunity to engage in purposeful, meaningful literacy tasks are important factors in children's motivation to read, as well as strengthening reading skills (Dahl & Freepon, 1995; Palmer, Codling, & Gambrell, 1994).

Definition of Terms

The following terms have been defined for the purposes of this study.

Phonological Awareness: The conscious ability to detect and manipulate the sounds in spoken language. (Goswami & Bryant, 1990).

Onset: Any consonant(s) that come before the first vowel in a word (McKay, 1972). In the word *cat*, *c* is the onset.

Rime: The vowel and any consonant(s) that come after the first consonant(s) in a word (McKay, 1972). In the words *cat*, *fish*, and *run* the rimes are *_at*, *_ish*, and *_un*.

Rhyming Words: Words that have a similar ending sounds (eg *bear and there*). Words that rhyme can share the same rime unit (Bradley & Bryant, 1985) such as *hat* and *cat*.

Phoneme: The individual sounds that letters represent in spoken language. (Moustafa, 1995). For example, the word *fun* has three phonemes. We hear each of the three sounds /f/ /u/ /n/ in this word.

Orthographic Analogy or Decoding by Analogy: The ability to make inferences from similarities in spelling, to similarities in sound (Goswami & Bryant, 1990). For

example, if a child encounters an unknown word *stick* he can decode *stick* because he already knows the words *lick* and *store*.

Purpose of the Study

The purpose of this study was to determine if first semester second grade students who received training in recognizing and utilizing the rhyme-rime connection demonstrate higher performance on Rhyme Recognition, Word Reading, Word Meaning, Sentence Comprehension, and Passage Comprehension reading measures, than those students who did not receive this training.

Statement of the Research Questions

The major research questions used in this study are as follows:

1. Will second grade students who receive Rhyme-Rime Connection training demonstrate higher performance on Rhyme Recognition posttest measures than those students who do not receive the training?
2. Will second grade students who receive Rhyme-Rime Connection training demonstrate higher performance on Word Reading posttest measures than those students who do not receive this training?
3. Will second grade students, who receive Rhyme-Rime Connection training, demonstrate higher performance on Word Meaning posttest measures than those students who do not receive this training?

4. Will second grade students who receive Rhyme-Rime Connection training demonstrate higher performance on Sentence Comprehension posttest measures than those students who do not receive this training?
5. Will second grade students who receive Rhyme-Rime Connection training demonstrate higher performance on Passage Comprehension posttest measures than those students who do not receive this training?

Significance of the Study

The present study attempted to identify instructional strategies that will improve the reading performance of second grade students. Participants in this study were first semester second grade students. Reading development at this stage begins to concentrate on word patterns and parts (Walker, 2000), which made this the optimum time for this type of instruction.

This study sought to investigate the effectiveness of specific word recognition strategies involved in making the rhyme-rime connection. This investigation may also provide valuable insight into improving early second grade reading performance. By conducting this research in two urban schools, one with predominately low SES students, and the other with middle income students, this study may help determine specific instructional strategies that prove successful with students with limited literacy background experiences, or to determine strategies that are useful with a wide variety of students.

Assumptions

This study was based on the following assumptions:

- Students have not been previously extensively trained in rhyme recognition and production.
- Students have not been previously trained in decoding by orthographic (spelling patterns) analogy.

Limitations of the Study

This study was subject to the following limitations:

- The study was limited to urban, predominantly low to middle socioeconomic status students; therefore the findings may not generalize to all populations.
- The study was limited to second grade students in two elementary schools, providing a relatively small sample size.
- The study was limited to instruction by only one instructor.
- The Control groups received no additional reading instruction.

Organization of the Study

This study is presented in five chapters. Chapter I provides an overview of the study including background information, definitions of terms to be used in this study, a formal statement of the problem to be investigated, the purpose of the study, an

explanation of the significance of this research, and the assumptions and limitations of the study.

Chapter II reviews the literature and related research in the areas of early literacy experiences, phonological awareness, rhyme, analogy and reading and context and experience. Chapter III presents the methodology used in the study including the research questions, relevant information to describe the participants, the instruments, the research design, and procedures of the study. Chapter IV presents an analysis of the data and Chapter V summarizes the findings as well as discusses conclusions and implications of this study.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter examines the four factors introduced in Chapter I that impact reading acquisition: (1) early literacy experiences, (2) phonological awareness, (3) rime-rhyme, analogy and reading, and (4) context and experience. Each section presents a review of the literature, a discussion of research results, the implications of these prior studies, and an explanation of how the literature supports specific methodological procedures chosen for this study.

Early Literacy Experiences

Research has shown that literacy knowledge is constructed first at home, prior to formal instruction. Many children develop an awareness of print, letter names, and phonemes through repeated experiences with written language such as storybook reading, learning nursery rhymes, and daily living activities (Sulzby & Teale, 1991). However, many children from low SES areas come to school with knowledge that does not match the components of beginning literacy. While these poor urban children have had many varied experiences, they have often not had access to the types of literacy events that occur in most schools. For example, research has shown that the experiences that a child has with rhyme before he/she goes to school has a powerful influence on their eventual success in learning to read (Bradley & Bryant, 1983; Maclean, Bryant & Bradley, 1987). Unfortunately, for many of these children, background knowledge or schemas of school-

based literacy have not been fostered at home or in the surrounding community (Dahl & Freepon, 1995).

A study done in 1991 (Purcell-Gates & Dahl), examined low- SES, urban children's way of interpreting traditional skills-based literacy instruction in kindergarten and first grade. Thirty-five randomly selected children from three inner-city schools were tested for entering and end of first grade knowledge of six domains of written language. Their scores on two standardized achievement tests were also collected. Twelve of the children were randomly selected for close observation over two years in their classrooms. Qualitative, and quantitative analyses revealed four patterns of success/nonsuccess in literacy development within the classroom context: (A) The Independent Explorers were children who began kindergarten with an understanding of written language and successfully interpreted the skills-based instruction while engaging in numerous self-directed explorations with print. (B) The Curriculum Dependent children did not have an understanding of written language from the start and exhibited major mismatches between their understandings and those required by the curriculum. (C) The Passive Non-Weavers failed to actively construct relationships between the many skill activities required of them. (D) The Deferring Learners moved from a knowledgeable active stance to a passive one after confronting mismatches between their knowledge of print and the curriculum.

Much of what emerged from this analysis cuts across income and social levels. These researchers concluded it is likely that successful children are the active learners no matter what the socioeconomic level of the family. They also point out it may be that

more low SES children assume a passive stance toward literacy learning, than their middle-class peers.

Research cautions against using group membership as a yardstick for measuring children's literacy preparation. A meta-analysis of nearly 200 studies concluded that it was not socioeconomic status that contributed most directly to reading achievement, but rather other family characteristics related to context such as academic guidance, attitude toward education, parental aspirations for the child, conversations, and reading material in the home, and cultural activities. Indisputably, the impact of entering school knowledge regarding literacy experiences needs to be taken seriously (VanKleeck, 1990).

The instructional implications taken from these studies are quite clear. Primary grade teachers must foster experiences that permit and promote meaningful interaction with oral and written language for all children, but particularly for those who have not experienced the benefits of previous interactions. This study attempted to address this issue by providing wide and various experiences with reading and rewriting rhyming text from trade books.

Phonological Awareness

Research of more than two decades has affirmed the importance of phonological awareness and its relationship to reading acquisition. Phonological awareness is a general ability with multiple dimensions, which uses a single modality, auditory. Thus, it is the ability to hear sounds in spoken words. Phonological awareness is an inclusive term, referring to all sizes of sound units, such as words, syllables, onset-rimes, rhymes, and phonemes.

A review of the literature indicates a range of hypothesized relationships between phonological awareness and learning to read. Phonological awareness has been hypothesized to be a prerequisite for learning to read; influenced by reading instruction and practice; and both a cause and a consequence of reading acquisition. Many studies have provided consistent evidence for a strong causal relationship between phonological awareness and learning to read (Lieberman & Shankwiler, 1985; Mann, 1993; Spector, 1995; Stanovich, 1986; Wagner, Torgeson, Rashotte, Hecht, Barker, Burgess, Donahue & Garon 1997). Support for the causal relation was obtained by reviewing evidence from the correlational studies and experimental interventions.

Correlational Studies. Two general purposes categorize the correlational studies reviewed, predicting later reading achievement and understanding the relationship among aspects of reading and dimensions of phonological awareness.

This review revealed that phonological awareness reliably predicted reading achievement across the age levels of participants from preschool through sixth grade (Bradley & Bryant, 1983; Mann, 1993; Swank & Catts, 1994; and Mauer & Kahmi, 1996). For example, Mauer and Kahmi (1996) indicated that performance on a short-term memory task and a phonological awareness dimension, sound categorization, predicted the overall performance on learning letter sound correspondences.

Research documenting the relationship between phonological awareness and reading indicated that various components of phonological awareness are related in different ways to reading. For example, using data from a 3-year longitudinal study, Bryant, Bradley, Maclean & Crossland, (1989), showed that children's knowledge of nursery rhymes predicted their success in reading and spelling 2 to 3 years later. A path-

analysis indicated a strong path from nursery rhymes knowledge to rhyme and phoneme detection. In turn, the paths from rhyme detection and phoneme detection to reading were also strong. Other studies have proven initial phonemic recognition and partial segmentation are strongly correlated to letter-sound correspondence knowledge and beginning decoding skills (Byrne & Fielding-Barnsley, 1989; Swank & Catts, 1994; Vandervelden & Siegel, 1995), whereas deletion and substitution are more strongly correlated to more advanced skills in reading and spelling (Swank & Catts, 1994; Vandervelden & Siegel, 1995).

Intervention Studies. Intervention studies with pre-readers and beginning readers provide another source of support for a causal relationship between phonological awareness and reading (Ball & Blachman, 1991; Bryant, Maclean, Bradley & Crossland 1991; Byrne & Fielding-Barnesly, 1989, 1993; Cunningham, 1990; Goswami and Bryant, 1986, 1990; and Vallutino, 1991). Wagner, et al (1997) noted that if training in phonological awareness improves subsequent reading, it is reasonable to infer a causal relationship. In this type of study, the effect of phonological awareness instruction on subsequent phonological awareness development, reading and possibly spelling achievement was assessed with pre-test and post-test comparisons of achievement.

In a 1990 study by Bryant, Maclean, Bradley & Crossland, the relationship between various forms of phonological awareness (detection of rhyme and alliteration and detection of phonemes) and children's reading were tested. The results from a longitudinal study that monitored the phonological awareness and progress in reading and spelling of 65 children from the ages of 4 years 7 months to 6 years 7 months produced strong support for a combination of the models that hypothesized that sensitivity to

rhyme leads to awareness of phonemes, which in turn affects reading, and that rhyme makes a direct contribution to reading that is independent of the connection between reading and phoneme awareness. This study showed that rhyme and alliteration contribute to reading in a least two ways: 1) Sensitivity to rhyme is a developmental precursor of phoneme detection, which in turn plays a role in learning to read. 2) Sensitivity to rhyme also makes a direct contribution to reading, probably by helping children to group words with common spelling patterns.

Another example of this type of intervention study was conducted by Ball and Blachman (1991). Their study involved two groups of kindergarten children. A “phoneme awareness” training group received training in word segmentation, letter names and sounds, sound categorization, and DISTAR spell by sound training. A “Language Activities” group received training in letter names and letter sounds and general language activities. There was also an unseen control group. The results showed that reading and spelling scores improved most in the “phoneme awareness” group. This study showed that phonological training combined with teaching of letter names, letter sounds and spelling skills is effective. Phonological awareness instruction had a significant influence on subsequent measures in all intervention studies reviewed; however, the strength of conclusions varied.

A child’s phonological awareness may be shallow or deep depending on their ability to analyze and manipulate at different levels (syllables, rimes, rhymes, and phonemes) the sound structure of language in its spoken form (Gottardo, Stanovich & Siegel, 1996). Children become aware first of larger linguistic units; words, followed by syllables, and lastly phonemes (Ball, 1993; Fowler, 1991).

A large body of research shows that children have trouble analyzing spoken words into phonemes (Ball, 1993; Goswami & Bryant, 1986; Herriman & Nesdale, 1988; Lenel & Cantor, 1981; Perfetti, 1992; Tunmer & Hoover, 1993). Conversely, research has found that most pre-school children can correctly recognize rhyme and determine the correct number of syllables in a word (Maclean, Bryant & Bradley, 1987). There is also significant research that shows young children analyze spoken words into onsets and rimes (rhymes) naturally, for some even before they begin to read (Goswami & Bryant, 1990; Moustafa, 1995; Peterson & Haines 1992).

In summary, multiple research perspectives add to the evidence that strongly supports a causal relationship between phonological awareness and reading acquisition. There is also support that children can manipulate syllables into their onsets and rimes naturally, but analyzing spoken words into phonemes proves to be a difficult task. This study utilized this information. Varied practice recognizing and producing rhyme provided students with opportunities to experiment with the sounds of the language. There were also activities to reinforce sensitivity to rhyme, and grouping words with common spelling patterns by sound.

Rhyme, Rime, Analogy, and Reading

Traditionally, we have thought children must analyze spoken words into phonemes in order to learn letter-sound correspondence. When we look at the research regarding the difficulty of this task, and the ease with which children utilize onsets and rimes, a natural conclusion is to allow children to use onsets and rimes to learn letter-sound correspondence. Research supports this conclusion.

Usha Goswami (1986), demonstrated that kindergarten through second grade children trained to read a word such as *beak* and then tested their ability to read new words which shared either the first three letters (*bea*) and the last three letters (*peak*), or shared letters not in the sequence (*bask*). Goswami discovered that beginning readers were able to make use of analogies to read unknown words. She noted a progression in children's analogy use, with ending analogies being the easiest. Even non-readers were able to make ending analogies, on the basis that ending analogies are words that rhyme. Goswami linked children's use of analogies to the research showing that a child's phonological awareness facilitates subsequent reading ability. She stated that rhyme is related to reading because it involves not just breaking words into segments but also putting them into categories on the basis of shared sounds. These shared sounds are often represented by a shared spelling pattern; hence the arguments that rhyme can help children cope with letter sequences and whole words.

More recently, Moustafa (1995) studied 75 children in their last 6 weeks of first grade. All the children were English speaking and ranged from 6 years 3 months to 8 years 11 months. In this study, a correlation was found between the number of conventional words and analogous pseudo words the children correctly recoded. In supporting Goswami, Moustafa suggests,

“What develops is the number of print words in a child's mental lexicon from which analogies can be made” (Moustafa, 1995, p. 472).

The number of words in a child's mental lexicon determines whether that child can manipulate through analogy and figure out a new word.

For example, “ A child might have the word *stopped* in his/her mental lexicon but not another word such as *hop* or *top*, which would enable the child to figure out *op* represents /op/ “p. 473).

The larger the number of print words in the mental lexicon, the more opportunities a child has to figure out onsets and rimes. Recognition of onset and rime when combined with analogy strategies are an efficient means by which to learn new words.

A 5 year research and development project (Gaskins, Gaskins, Cunningham, Anderson & Schommer, 1995) led to the creation of a decoding program for poor readers in grades 1-8. The program was developed to meet the need of a population of poor readers to become automatic in decoding unknown words. Approximately 275 Benchmark School students reading between the preprimer and sixth reader levels received instruction using this program.

At Benchmark School instruction in decoding is part of a daily supplementary lesson of 15 to 20 minutes that is an adjunct to a basal reader or trade book developmental reading program. The lessons are fast-paced and game-like, using a direct, explicit instruction model.

Emphasis at the beginning level of the program is on developing phonological awareness and acquiring a basic sight vocabulary of 120 key words containing both the major vowel spelling patterns, and the common initial letter sounds found in our language.

Evidence gathered to date suggests that the project is achieving its goals. Two tests of decoding competence have been individually administered to Benchmark students each spring. One test contains pseudo-words that are close to English words. The other test contains “transfer “ words (words not included in the program). After factoring out

age, IQ, sex and ratings by previous teachers of number and severity of emotional blocks to learning, it is found that these students show a statistically significant increase on the pseudo-word test and a nearly significant increase on the transfer word test. Numbers on both tests are strongly related to the number of weeks students receive the decoding instruction, and year to year gains on the two tests are related to the number of minutes per week instruction.

The students in the classes of Benchmark teachers who are rated as adhering most closely to the program achieve substantially higher scores on both word identification tests. In addition, the evaluation suggests that students make the most progress, when their teachers maintain a brisk pace and encourage applications of the compare/contrast strategy during other teacher-led reading activities, and during independent reading.

All of the findings presented here, support the decoding by analogy theory. The research in this section has provided explicit descriptions of putting this theory into practice. This study attempted to follow those suggestions. Instruction targeted word recognition through awareness of, and practice with orthographic spelling patterns utilizing onsets-rimes and rhymes, in order to decode by analogy.

Context and Experience

As discussed in chapter one, Kenneth Goodman's (1965) study showed that children could learn how to pronounce unfamiliar print words in a way other than traditional letter-sound correspondences. In his experiment words were taken from stories in children's readers and put into lists (these were new stories to the children). Each child's instructional reading level was found by reading the words on the list. The

child would keep going until they knew most of the words but not all of the words. Next, they were asked to read the story from which this list was derived, and the words each child missed were recorded. Finally, the words each child missed on the list were compared to the words they missed in the story.

Goodman found that the children could read words in the story they missed on the list. On the average, the first-graders got almost two-thirds of the words they missed on the list correct in the story. The second graders had a 75% gain in the story over the list. The third graders had an 82% gain in the story over the list.

When questioned about the results, Goodman explained that on lists, children had only the cues within the printed words, while in stories they had the additional cues “in the flow of the language” to help them figure out new print words. Goodman later emphasized that children must learn to coordinate context and graphic clues when reading. Context helps children predict what words are printed and to transform graphic phonemic information into meaningful words (Goodman & Goodman, 1977).

In another experiment Goswami (1988) studied the ability of 6 and 7-year-old children (who had begun to read) to use analogy with real, meaningful print words while reading a story. Before meeting with the children she wrote a short story entitled “Hark and Listen!” In the story there were six words with the same letter sequences as hark; bark, dark, lark, and hard, harm, harp. Based on the 1986 study already discussed, we would expect that hard, harm, and harp would be more difficult than bark, dark and lark since the letters -ark represents the common rime while the letters har- in hark, hard, harm and harp represent a single-phoneme onset /h/, and phonemes /ar/, within a rime.

Goswami met with the children one by one. First she found which print words they already knew how to convert into spoken language. Then, she showed each child the title of the passage and taught each child to read hark. Finally, she asked each child to read the passage.

Goswami found when the children read the words in the context of a story, it was no more difficult for children to make analogies between hark and hard, harm and harp than to make analogies between the words that share whole rimes. In the story the children were able to use both context and letter-sound correspondences in familiar words to figure out unfamiliar words.

“As children learn to recognize more and more print words in context, their natural ability to make analogies between familiar and unfamiliar print words will help them figure out how to pronounce unfamiliar print words by themselves.” (Moustafa, 1997, pg. 55).

Research further confirms that children need to spend significant time engaged in authentic, meaningful, reading and writing experiences order to become successful readers (Holdaway, 1979;Yopp, 1988; Sulzby & Teale 1991;)

Over a four year period beginning in 1987, Gay Su Pinnell, Andrea McCarrier (Researchers) and Columbus, Ohio district kindergarten, first grade, Chapter1 and Reading Recovery teachers designed a new approach to initial literacy instruction. This program provided literacy experiences for kindergarten children that were intended to be rich, meaningful and enjoyable.

Two of the most integral components of the program were shared reading and interactive writing. Shared reading in which teacher and children read in unison, offered

an opportunity for children to participate in the reading experience in a highly supported way. Rhyming trade books were used for shared reading and interactive writing.

Interactive writing is a form of shared writing that supports young children's active involvement in literacy processes. The researchers and teachers found it especially helpful for young children who come to school with few opportunities to interact with and notice the details of print.

“It is a dynamic process that involves teachers and children in; (1) negotiating the composition of text; (2) constructing words through analysis of sounds; (3) using the conventions of print; (4) reading and rereading texts; and (5) searching, checking and confirming while reading and writing.” (Pinnell & McCarrier, 1994, pg. 159).

In interactive writing, the teacher and children collaborate to construct written text. It often begins by hearing a classroom literature selection read several times, then planning and writing a story retelling or alternative text.

The researchers collected evaluation data to guide the development of the project. The systematically applied observational measures indicated gains in the inventory of knowledge related to reading ability. Project children moved from 8.69 to 48.76 in letter identification. On a dictation task (maximum score = 37), which measured the children's ability to represent sounds with letters, children moved from .31 to 18.27. On writing vocabulary, they gained from .53 to 13.51 words within a 10- minute maximum period. By the end of the year, the average text reading level was 1.94, indicating that the kindergarteners could read simple patterned texts.

While admitting more research is needed Pinnell and McCarrier concluded that upon entry to school, children (especially those who have not had extensive preschool

literacy experiences) need massive immersion in meaningful reading and writing experiences within a print-rich environment.

This research review reinforces the need for children to spend significant time engaged in purposeful, meaningful literacy experiences. This study provided the students with access to authentic, appropriate literature selections. It also provided practice and experience with a variety of reading and writing activities to reinforce the rhyme and word recognition strategies taught in the context of authentic stories.

Instructional Implications

Based on the research presented, and revisiting the definition of reading as a process in which readers use their knowledge of the language represented in the text, their background knowledge, and their knowledge of the letter-sound system to make sense of alphabetic writing, there is a sense of cohesion. Using these findings to inform instruction, specific components of an early reading program could be identified and implemented. This study attempted to address this issue.

CHAPTER III

METHODOLOGY

In this chapter, the methods and materials that were used in this study to test the hypotheses are described in detail. The chapter includes sections for the study's research questions, subjects, test instruments, experimental design and procedures.

Statement of the Research Questions

The major research questions used in this study are as follows:

1. Will second grade students who receive Rhyme-Rime Connection training demonstrate higher performance on Rhyme Recognition posttest measures than those students who do not receive the training?
2. Will second grade students who receive Rhyme-Rime Connection training demonstrate higher performance on Word Reading posttest measures than those students who do not receive this training?
3. Will second grade students, who receive Rhyme-Rime Connection training, demonstrate higher performance on Word Meaning posttest measures than those students who do not receive this training?
4. Will second grade students who receive Rhyme-Rime Connection training demonstrate higher performance on Sentence Comprehension posttest measures than those students who do not receive this training?
5. Will second grade students who receive Rhyme-Rime Connection training demonstrate higher performance on Passage Comprehension posttest measures than those students who do not receive this training?

Research Subjects

Subjects for this study were selected from 72 students enrolled in four, second grade classrooms in two elementary schools in a city in northeastern Oklahoma. Of those 72 students, 62 obtained signed parental consent to participate in the study. Those 62 students were randomly assigned to either the treatment group, or the control group (no treatment). During the course of the study, two students moved to other schools, and did not complete the process.

The final sample was composed of 60 students, 31 girls and 29 boys. Of the 60 students, the majority (72%) of students were Caucasian. There was also a small percentage of African America (12%), Hispanic (8%), Native-American (5%) and Asian American students (3%). At the time of pretesting, the participants had a mean age of 7 years, 5 months ($SD = .38$ years).

With regard to socioeconomic status, one of the participating elementary schools has a sizable proportion (86%) of students who come from low socioeconomic status families based on the number of students participating in the free or reduced breakfast/lunch program. The other elementary has a smaller proportion (37%) receiving free or reduced breakfast/lunch, with the majority of the students coming from working class or middle class families. The majority of the subjects (78%) came from single-parent homes. In many cases poverty and instability create variability in the importance placed on literacy within the home (Walker & Yekovich, 1997). Children from low SES areas, or unstable home situations are often labeled as the most “at risk” for reading difficulties (Stanovich, 1986). These children come to school with knowledge that does not match the components of beginning literacy. Unfortunately, for many of these children,

background knowledge or schemas of school-based literacy have not been fostered at home or in the surrounding community (Dahl & Freepon, 1995). While these children have had many varied experiences, they have often not had access to the types of literacy events that occur in most schools (Walker-Dalhouse, 1993) The participating schools in this study were chosen to investigate these implications.

Prior to the beginning of the treatment, all first semester second grade children in the four classes were given the Group Reading Assessment and Diagnostic Evaluation (GRADE) (Williams, 2000). (See Instruments section for a description of this assessment.) At the end of the experimental treatment, all participating subjects were given the GRADE posttest.

Research Instruments

The Group Reading Assessment and Diagnostic Evaluation (GRADE) (Williams, 2000) is a group administered, norm referenced test. The subtests used were: Rhyme Recognition, Word Reading, Word Meaning, Sentence Comprehension, and Passage Comprehension. Testing was not timed, but each subtest took approximately 15- 30 minutes. GRADE is nationally norm referenced. The GRADE has Forms A for pretest and B for posttest. The A and B forms are parallel. All levels are prepared with the intention of pretest, posttest use in intervention training.

The subtests are described as follows:

Rhyme Recognition Subtest

This subtest measured rhyme recognition. Each item consists of four pictures and a stimulus word. The administrator named all pictures and then said the stimulus word. The student then marked the picture that rhymes with the stimulus word. There were 14 items. This assessment was designed for kindergarten students, but there were out of range norms available. Alpha reliabilities range from .83-.84. This sub-test was administered as a pretest, (Form A) and a posttest (Form B). The researcher performed the scoring of both the pretest and posttest. The number of correct responses was recorded as a raw score.

Word Reading Subtest

This subtest measured word recognition. Each item consisted of four or five words, one of which is the target word. The teacher read the target word aloud, used it in a sentence, and then repeated the word. The student selected the target word. There were 25 items. Alpha reliability is .88.

This subtest was administered as a pretest (Form A), and a posttest (Form B). The researcher performed the scoring of both the pretest and posttest. The number of correct responses was recorded as a raw score.

Word Meaning Subtest

This subtest measured word decoding and understanding. Each item consisted of the target word in a box followed by four pictures. Students read the word silently, and then marked the picture that most closely illustrates the meaning of the target word.

Target words are both regular (cake) and irregular words (have). There were 27 items. Alpha reliability is .88. The split half reliability for the word reading and word meaning subtests as a combined vocabulary composite score is .96.

This test was administered as a pretest (Form A), and a posttest (Form B). The researcher performed the scoring of both the pretest and posttest. The number of correct responses was recorded as a raw score.

Sentence Comprehension Subtest

This subtest measured the ability to comprehend a sentence as a whole or complete thought. Each item consisted of a sentence with a single word missing followed by four single word choices. The student reads the sentence and then determined the missing word from the four choices based on the context or meaning of the choices. There were 15 choices. Split-half reliability ranges from .90-.91. Alpha reliabilities range from .88-.90.

This test was administered as a pretest (Form A), and a posttest (Form B). The researcher performed the scoring of both the pretest and posttest. The number of correct responses was recorded as a raw score.

Passage Comprehension Subtest

This subtest measured the ability to comprehend extended text as a whole. The student read a passage of one or more paragraphs and answered multiple-choice questions related to the passage. Seven authentic, and synthetic passages were included at each level. Split-half reliability ranges from .88-.91. Alpha reliabilities range from .88-.90.

This test was administered as a pretest (Form A), and a posttest (Form B). The researcher performed the scoring of both the pretest and posttest. The number of correct responses was recorded as a raw score.

Research Design

The design that was used in this study was the pretest-posttest, true experimental design (Gay, 1996). This design was selected because the combination of random assignment, the presence of a pre-test and a control group serves to control for all sources of internal invalidity. There were two experimental groups at each school and two control groups at each school. The experimental groups received the same Rhyme-Rime Connection training (RRC) by the researcher. The control groups received no additional training beyond their classroom reading instruction. During the training, all second grade students continued to participate in the second grade reading curriculum. The classroom teachers responsible for reading instruction were requested not to use rhyme and/or instruction in decoding by analogy prior to, and during the eight weeks of the training, with any of the students. They complied with that request.

Training Procedure

The participating first semester second grade students at each school were randomly assigned to either the experimental training groups, or the control groups. The experimental training group contained 30 students (15 per school, one group of 8 and one group of 7 per school). The control group also contained 30 students, (15 per school).

At each school the training groups were divided into two groups. Pre-testing was conducted prior to the beginning of the study (as discussed previously). The testing

required two administrators (the training teacher, and one other administrator.) There was a testing training session prior to the actual testing.

The researcher was responsible for teaching both experimental training groups at each school. Each training session lasted for 45 minutes. The training students were pulled from their classroom during the training. The students and the researcher met three times a week for eight weeks. This provided the students with a total of 18 hours of Rhyme-Rime Connection Training.

Ideas for the components and lessons of the training sessions, were borrowed and adapted from research, and from descriptions of successful instructional programs, particularly those designed by Patricia Cunningham (1996), Margaret Moustafa (1997), Leslie & Allen (1999), and Barbara Walker (2000).

Each 45 minute Rhyme-Rime Connection (RRC) session contained the following components; (A) understanding rhyme, (B) shared reading with a rhyming trade book, (C) learning target words and their spelling patterns (rimes) to decode new words by analogy, and (D) framed rhyming innovation writing activities developed from the shared trade book. (See Appendix A: Instructional Sequence of Training Sessions)

A description of each component follows:

(A) Understanding rhyme.

In this component, the researcher reviewed the concept of rhyming words through rhyming activities such as reading aloud from texts that emphasize rhyme and using hand gestures to signal rhyme recognition. Emphasis was placed on recognition first, then production of rhyme.

(B) Shared reading of a rhyming trade book.

Each week the researcher selected a trade book that the children would enjoy and that contained the intended rimes for word study. The reading(s) of the selected text provided practice and purpose for learning the word identification strategies, as well as motivation to read. (See Appendix B: List of Primary Texts).

Patterned language and predictable rhyming texts were appropriate choices because they contained rhyming patterns, repeated refrains, or repeated events. The chosen texts contained the target words as well as other words utilizing the targeted rime patterns to provide practice with and reinforcement of this strategy use. Following the initial shared reading, students read at each session, either in shared, guided or partner formats.

(C) Learning target words and their spelling patterns (rime) to decode new words by analogy.

Successful use of the analogy strategy depends on knowledge of key or target words (Gaskins, Gaskins, Anderson, & Schommer, 1995) with high frequency spelling patterns. The target words were taught using a whole word approach, and once a target word was introduced, it was written by the student on individual note cards, organized by vowel sounds and rime patterns, and placed into individual flip card word banks (attached by two loose leaf rings). Knowledge of the target words represented a basic knowledge of frequent spelling-sound patterns, and was the basis for successful application of the analogy strategy (See Appendix C: Target Word List).

In Rhyme-Rime Connection (RRC) training, the children were taught to compare a new word to an already known word that shares the same rime pattern in order to help them decode the new word. This decoding technique is often referred to as the “word family” approach. For example, a child encounters an unknown word *smart*, he will be able to pronounce *smart*, because he already knows the words *cart* and *part*. Therefore, when a child comes upon a familiar rime in an unknown word, he can depend upon a fairly consistent pronunciation of that rime. This is the rhyme-rime connection (Leslie & Allen, 1999). In order for the child to use this connection strategically while reading, the concept of rhyme and its link to rime (spelling pattern) must be reinforced. The students were taught when they come to an unfamiliar word; (1) Look at the word and identify the letters or spelling pattern, (rime). (2) Think of a word they know with that pattern or flip through their word cards to find that pattern, and (3) make a guess (Leslie & Allen, 1999). Research has reported (Adams, 1990) that nearly 500 primary grade words can be derived from a set of only 37 rimes (See Appendix D).

At each training session two new target words were introduced, as well as a review of all known target words. The remainder of the lesson was devoted to contextualized strategy training and practice (shared reading of a rhyming trade book utilizing these patterns). The researcher modeled the analogy strategy, explained how it could be applied, and described how to check to see if the strategy was working. For example, in the first lesson following a shared reading of *Sheep in a Jeep* the target word *jeep* with the rime pattern *-eep* was introduced. The students wrote the word *jeep* on a card in their flip file and underlined the rime pattern in red. Following the discussion of the *-eep* rime pattern, the students went on to decode *sheep*, *steep*, *peep* and *keep* by

analogy in the story. Throughout the lesson the children were encouraged and taught to monitor their progress to see if the analogy strategy was working. To provide additional strategy practice (usually on Day 2), the students were provided letter cards and clues, to enable them to make new words by analogy.

(D) Framed rhyming innovation writing activities developed from the shared trade book to reinforce learning

Writing activities were also an important component of the training. Writing in response to literature is a purposeful way for children to apply their word identification knowledge. The framed rhyming innovations approach is the rewriting of a predictable rhyming book using a structured frame (Walker, 2000). These innovations of the text were encouraged as a scaffolded writing experience for beginning writers. On day one, the first innovation for each story was conducted as a whole group activity. The researcher modeled rewriting the predictable frame by changing key words; the students provided the key rhyming words. The second innovation was done in student pairs assigned by the researcher on day two. Attempts were made to pair a higher and a lower student for this rewriting. On day three if time allowed, students were encouraged to compose individual innovations. All innovated texts from each week were placed into a class book (See Appendix E).

Following the writing activities (for any students finishing early) a tub of easy to read rhyming texts, as well as class books were available for free reading, and reinforcement. Buddy or partner reading was encouraged during free reading (See Appendix F: Supplementary Texts).

At the end of the eight weeks of training, all second grade children in both schools were posttested on the Group Reading Assessment and Diagnostic Evaluation (GRADE) Subtests: Rhyme Recognition, Word Reading, Word Meaning, Sentence Comprehension and Passage Comprehension. The researcher and one test administrator monitored each testing session.

CHAPTER IV

DATA ANALYSIS

This study examined the influence of Rhyme-Rime Connection (RRC) training on reading performance of first semester second grade students. Five research questions were addressed using statistical analysis of the data collected before and after the treatment.

The major research questions used in this study are as follows:

1. Will second grade students who receive Rhyme-Rime Connection training demonstrate higher performance on Rhyme Recognition posttest measures than those students who do not receive the training?
2. Will second grade students who receive Rhyme-Rime Connection training demonstrate higher performance on Word Reading posttest measures than those students who do not receive this training?
3. Will second grade students, who receive Rhyme-Rime Connection training, demonstrate higher performance on Word Meaning posttest measures than those students who do not receive this training?
4. Will second grade students who receive Rhyme-Rime Connection training demonstrate higher performance on Sentence Comprehension posttest measures than those students who do not receive this training?
5. Will second grade students who receive Rhyme-Rime Connection training demonstrate higher performance on Passage Comprehension posttest measures than those students who do not receive this training?

Data Analysis

Statistical analysis for this study was a Split-Plot Analysis of Variance (SPANOVA) in order to determine whether the observed differences between means was due to chance or to systematic differences among the population means. SPANOVA enabled the researcher to decide whether differences in the means on the between-subjects variable (RRC group or Control group) arose by chance, whether the differences in means on the within-subjects variable (pretest vs. posttest ability) arose by chance and whether the interaction of the between-subjects variable with the within-subjects variable arose by chance (Shavelson, 1996). Therefore the model used for all analyses was a 2 (Treatment: RRC Training, Control) x 2 (Time: pretest, posttest) SPANOVA with repeated measures on the second factor. Each SPANOVA determined whether the pretest to posttest change was significantly different between the two treatment groups.. Thus the primary effect of interest in each SPANOVA was the Treatment x Time interaction.

Statistical Analyses were conducted using SPSS Statistical software Base 9.0 Applications. The five types of outcome measures were analyzed separately (For correlations among measures see Table I).

Table I

Correlations Among GRADE Measures For First Semester Second Grade Students

	Rhyme Pre	Rhyme Post	Word R. Pre	Word R. Post	Word M Pre	Word M Post	Sent. C. Pre	Sent. C. Post	Pass. C. Pre	Pass. C. Post
Rhyme Pre	1.00	--	--	--	--	--	--	--	--	--
Rhyme Post	.56**	1.00	--	--	--	--	--	--	--	--
Word R Pre	.02	-.05	1.00	--	--	--	--	--	--	--
Word R Post	.09	.09	.85**	1.00	--	--	--	--	--	--
Word M. Pre	.02	.11	.59**	.52**	1.00	--	--	--	--	--
Word M. Post	.07	.25*	.40**	.42**	.77**	1.00	--	--	--	--
Sent. C. Pre	-.01	.05	.60**	.50**	.55**	.37**	1.00	--	--	--
Sent. C. Post	.21	.15	.56**	.59**	.52**	.41**	.71**	1.00	--	--
Passage C. Pre	.06	.15	.52**	.47**	.59**	.44**	.66**	.57**	1.00	--
Passage C. Post	.01	.09	.62**	.58**	.76**	.66**	.53**	.61**	.72**	1.00

Note. N=60, * Correlation is significant at the .05 level (2 tailed). ** Correlation is significant at the 0.01 level (2 tailed).

Because of the correlation between pre and posttest scores, data should not be stacked in to a single column and analyzed in a repeated measures model unless the correlations form a pattern termed sphericity. Thus tests for sphericity, which tests the hypothesis that the orthogonal components are uncorrelated and have equal variances, were conducted with each SPANOVA to see if this condition was met (Shavelson, 1996). A violation of this assumption may lead to an increased probability of a Type 1 error (i.e., rejection of a true null hypothesis). SPSS provides a test of the equality of the variances and covariance's within each cell of the between-subjects design (Mauchley's test of sphericity), and a test of the equivalence of the variance-covariance matrices across the cells of the between-subjects part of the design (Box's M test) (Shavelson, 1996).

Because there were multiple dependent measures the decision was made to reduce the risk of a Type I error by applying a Bonferroni adjustment to the alpha level (Harris, 1985). This adjustment involves dividing the nominal alpha level by the number of dependent measures, in this case $.05/5 = .01$. Therefore the alpha level per analysis is .01. However as noted by Harris (1985), this is a conservative adjustment that may over correct for Type I error leaving the research vulnerable to a Type II error. Therefore in reporting and interpreting the results for the analysis the following convention is observed as suggested by Keppel (1982, p. 162). Results with a probability of less than .01 are clearly statistically significant. Results with a probability of greater than .05 are clearly not statistically significant. Judgment is suspended for results with a probability between .01 and .05. Results for which judgment is suspended will not carry the same weight as those that are clearly significant; however, because they are not clearly non-

significant, they should not be ignored. Rather they “call attention to a potential true difference” (Keppel, 1982,p.163), and therefore will be interpreted, but cautiously.

Stringent assumptions must also be made regarding the homogeneity and symmetry of the within-subjects correlation matrices. Therefore a conservative F test was used that protects against violation of this assumption. The conservative F test adjusts the degree of freedom for $F_{critical}$. If the null hypothesis was rejected with the conservative test, the analysis stopped, and it was concluded that there was an effect. If the null hypothesis was not rejected, it was tested again using the conventional degrees of freedom for $F_{critical}$. If the null hypothesis could not be rejected, the analysis was stopped and it was concluded that there was insufficient evidence of an effect (Shavelson, 1996).

During analysis of the data, an interesting trend began to emerge. Upon examination of the pretest and posttest means, it became apparent that the lower SES school not only began most of the pretests with lower scores, but on the Rhyme Recognition, Word Reading and Word Meaning posttests, the RRC group demonstrated higher posttest scores than the Control group. Therefore, for the sake of discussion the results will be reported for the combined group and for the two schools separately. The means and standard deviations for each dependent variable by treatment group are presented as follows: Combined School analysis: (CS) Table II, Low Socio-Economic School analysis (LSES) Table III, Middle Income School analysis: (MIS) Table IV.

Table II

Combined Schools Means and Standard Deviations of Correct Responses on Pre- and Post Treatment Reading Measures

Group	Pretest Mean	SD	Posttest Mean	SD	Measures
RRC	13.26	(1.33)	14.00	(0.00)	Rhyme Recognition
Control	12.66	(1.70)	12.86	(1.81)	
RRC	20.03	(5.97)	24.13	(4.18)	Word Read
Control	20.93	(6.94)	22.00	(6.25)	
RRC	19.33	(6.07)	23.56	(4.44)	Word Meaning
Control	21.03	(7.10)	22.86	(6.39)	
RRC	9.13	(5.25)	12.86	(5.25)	Sentence Comprehension
Control	10.86	(5.35)	12.26	(6.01)	
RRC	11.56	(6.56)	15.36	(5.87)	Passage Comprehension
Control	13.23	(7.54)	14.93	(7.06)	

Note. RRC Group: N = 30, Control Group: N= 30. Standard Deviations are in Parentheses.

Table III

Low Socio-Economic School Means and Standard Deviations of Correct Responses on Pre- and Post Treatment Reading Measures

Group	Pretest Means	SD	Posttest Means	SD	Measures
RRC	12.93	(1.79)	14.00	(0.00)	Rhyme Recognition
Control	12.66	(1.70)	11.73	(2.01)	
RRC.	17.13	(6.09)	21.93	(4.13)	Word Reading
Control	18.06	(8.17)	19.06	(7.46)	
RRC	16.66	(5.80)	22.66	(3.59)	Word Meaning
Control	18.06	(8.17)	19.06	(7.59)	
RRC	7.00	(4.4)	9.20	(4.7)	Sentence Comprehension
Control	9.13	(5.3)	10.66	(6.4)	
RRC	8.06	(4.7)	12.33	(4.96)	Passage Comprehension
Control	9.00	(6.0)	11.40	(6.67)	

Note. RRC Group: N = 30, Control Group: N= 30. Standard Deviations are in Parentheses.

Table IV

Middle-Income School Means and Standard Deviations of Correct Responses on Pre- and Post Treatment Reading Measures

Group	Pretest Means	SD	Posttest Means	SD	Measures
RRC	13.66	(.488)	14.00	(0.00)	Rhyme Recognition
Control	12.86	(1.12)	13.46	(.639)	
RRC	23.20	(4.47)	25.93	(3.17)	Word Reading
Control	23.73	(4.02)	25.06	(3.57)	
RRC	23.06	(5.56)	24.33	(5.13)	Word Meaning
Control	21.66	(7.20)	24.06	(4.49)	
RRC	11.13	(5.12)	15.60	(4.2)	Sentence Comprehension
Control	12.66	(5.3)	13.26	(5.67)	
RRC	15.06	(6.34)	18.80	(5.01)	Passage Comprehension
Control	17.26	(6.85)	17.26	(6.85)	

Note. RRC Group: N = 30, Control Group: N= 30. Standard Deviations are in Parentheses.

Research Question 1- Rhyme Recognition

Will second grade students who receive Rhyme-Rime Connection (RRC) training demonstrate higher performance on Rhyme Recognition posttest measures than those students who do not receive the training?

The SPANOVA was used determine whether the pretest to posttest change was significantly different between the two groups on the Rhyme Recognition measures.

Combined Schools (CS): The Time x Group interaction, the effect of interest, was not significant [$F(1,58) = 2.27, p > .05$], indicating that the RRC group did not show significantly greater improvement than the Control group on the Rhyme Recognition measure.

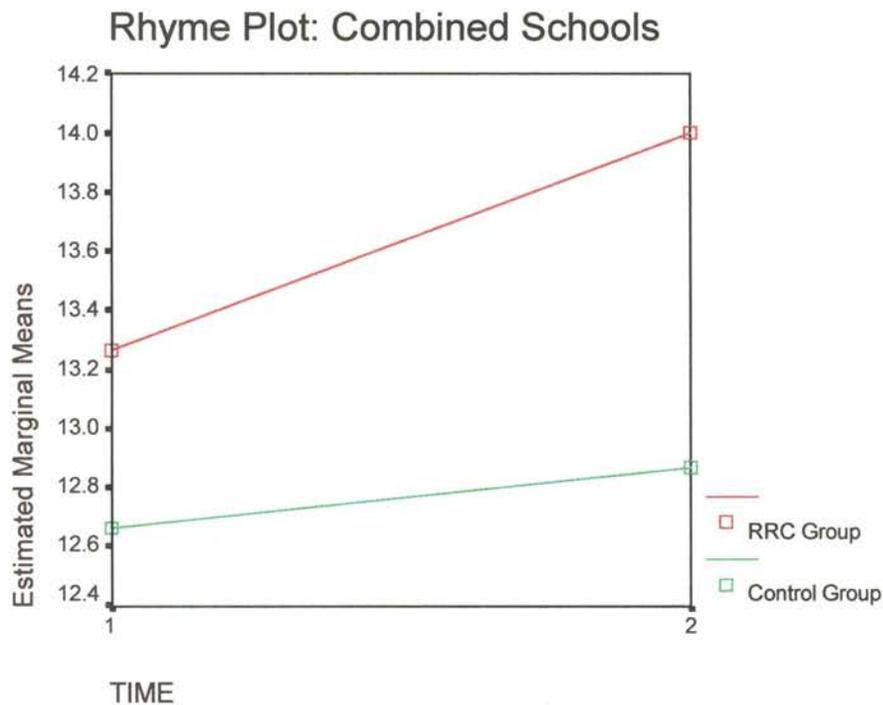


Figure 1. Combined School Rhyme Recognition Plot

Low Socio-Economic School (LSES): The Time x Treatment Group interaction [$F(1,28) = 6.834, p = .014$] resulted in a decision to suspend judgment regarding whether the RRC group showed a significantly greater improvement across time than the Control group. It is interesting to note that the Control group's scores went down on the posttest. The RRC group did demonstrate higher performance on the Rhyme Recognition posttest than the Control group (See Figure.2).

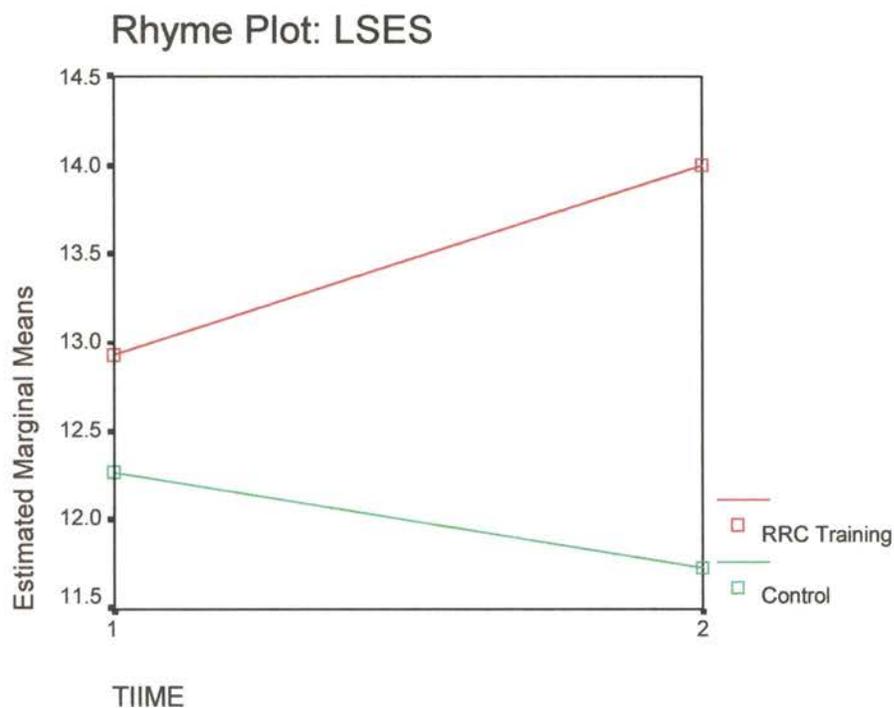


Figure 2. Low SES School Rhyme Recognition Plot

The Middle Income School (MIS): The Time x Treatment group interaction was not significant [$F(1,28) = .882, p > .05$]. The RRC group did not demonstrate greater

improvement across time than the Control group on the Rhyme Recognition measure (See Figure 3).

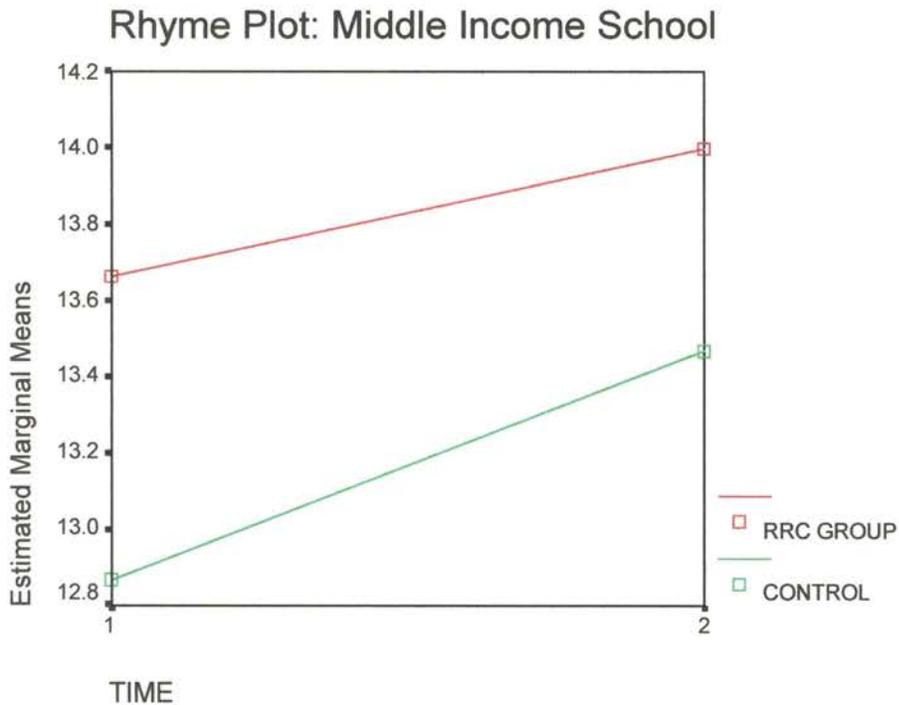


Figure 3. Middle Income School Rhyme Recognition Plot

Research Question 2- Word Reading

Will second grade students that receive Rhyme-Rime Connection training demonstrate higher performance on Word Reading posttest measures than those students who did not receive the training?

Effects were analyzed to determine whether the pretest to posttest change was significantly different between the two groups on the Word Reading measures.

Combined Schools (CS): A significant Time x Group interaction was noted

[$F(1,58) = 15.145, p < .001$], indicating that the RRC group showed significantly greater improvement than the Control group across time. The RRC group did demonstrate greater gains on the Word Reading posttest than the Control group (See Figure 4).

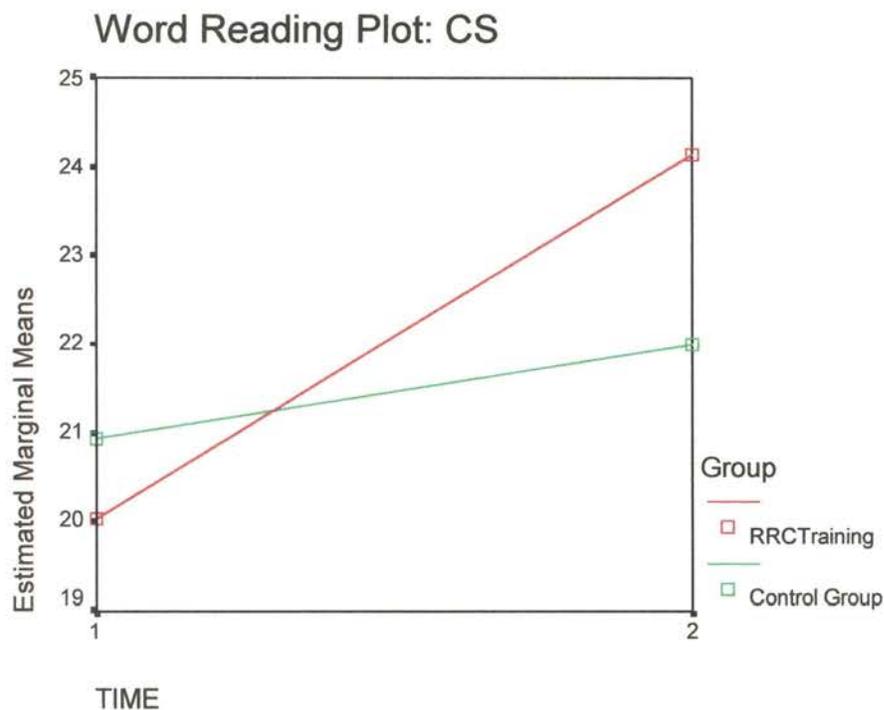


Figure 4. Combined Schools Word Reading Plot

Low Socio-Economic School (LSES): Analysis of the Time x Group interaction resulted in a decision to suspend judgment, [$F(1,28) = 6.586, p = .016$], indicating that this RRC group may demonstrate significantly greater improvement across time on the Word Reading posttest measure than the Control group. As the plot illustrates, the RRC group pretested lower than the Control group and scored higher on the posttest. (See Figure 5).

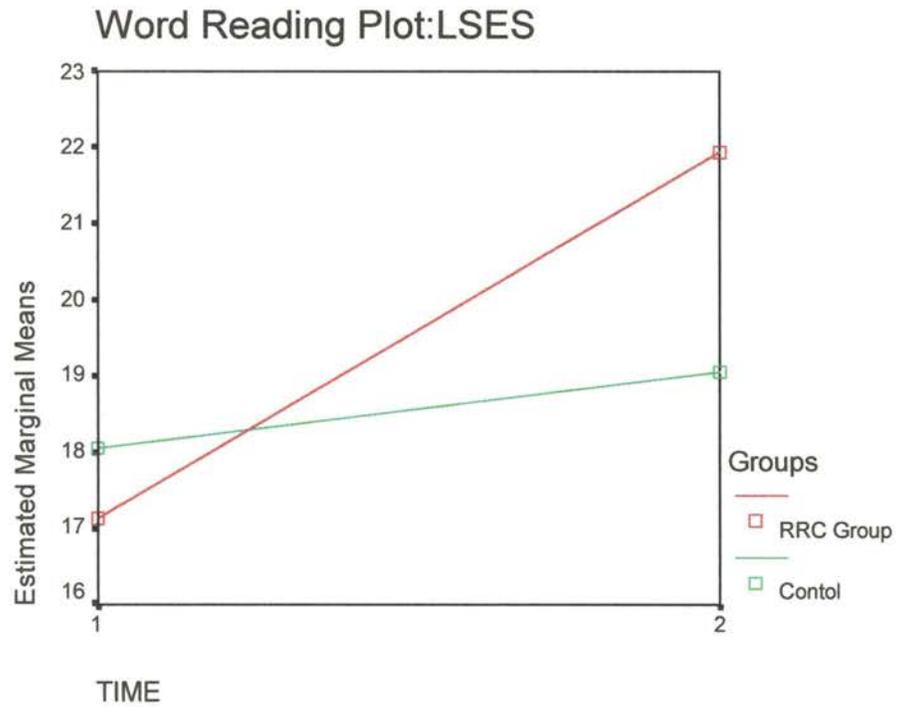


Figure 5. Low SES School Word Reading Plot

Middle-Income School (MIS): The effect of interest the Time x Group interaction was not significant [$F(1,28) = 3.802, p > .05$]. However, the RRC group scored lower on the pretest and scored higher on the posttest than the Control group on the Word Reading Measure (See Figure 6).

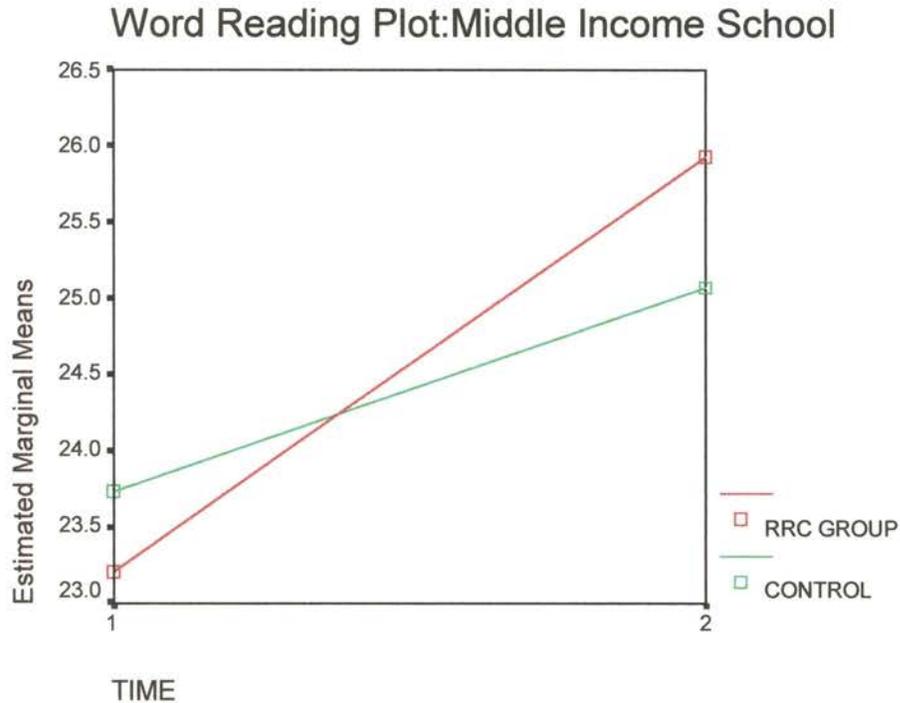


Figure 6. Middle Income School Word Reading Plot

Research Question 3-Word Meaning

Will second grade students who receive Rhyme-Rime Connection training demonstrate higher performance on Word Meaning posttest measures than those students who did not receive the training?

Effects were analyzed to determine whether the pretest to posttest change was significantly different between the two groups on the Word Meaning measures.

Combined Schools (CS): The Time x Group interaction [$F(1,58) = 2.873, p. > 0.05$] was not significant. These results indicate that these two groups did not differ significantly in their growth. However, the RRC group began lower at pretest than the

Control group, and made more gain from pretest to posttest than the Control group on the Word Meaning measures (See Figure 7).

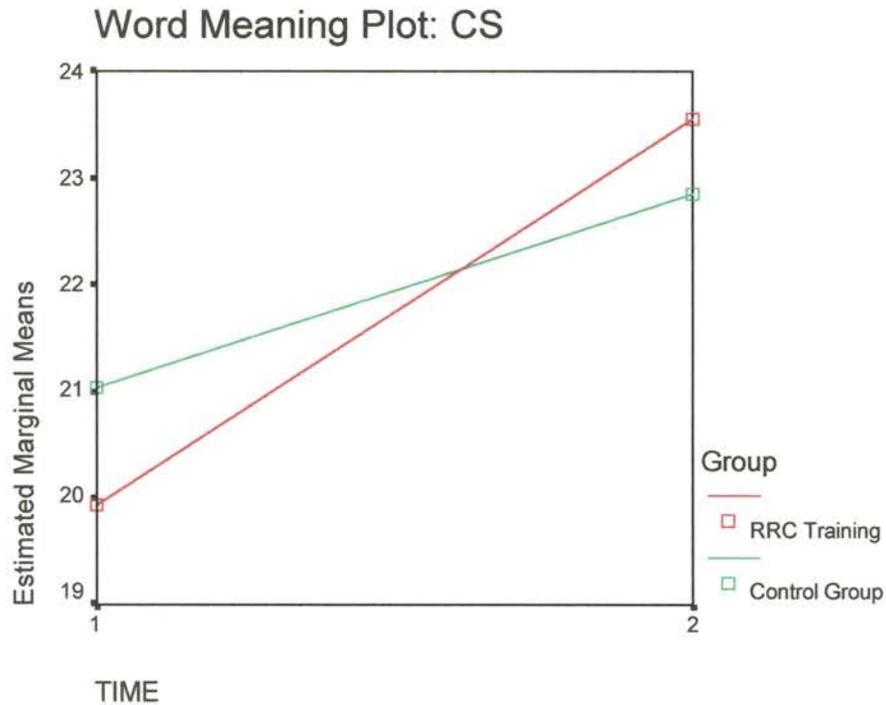


Figure 7. Combined School Word Meaning Plot

Low Socio-Economic School (LSES): The effect of interest the Time x Group interaction was not significant at $\alpha .01$ [$F(1,28) = 5.480, p = .027$]. These results indicate a decision to suspend judgment, the RRC group did show greater improvement in Word Meaning performance across time than the Control group however, these results are tentative. The RRC group did demonstrate higher performance on the Word Meaning posttest than the Control group (See Figure 8).

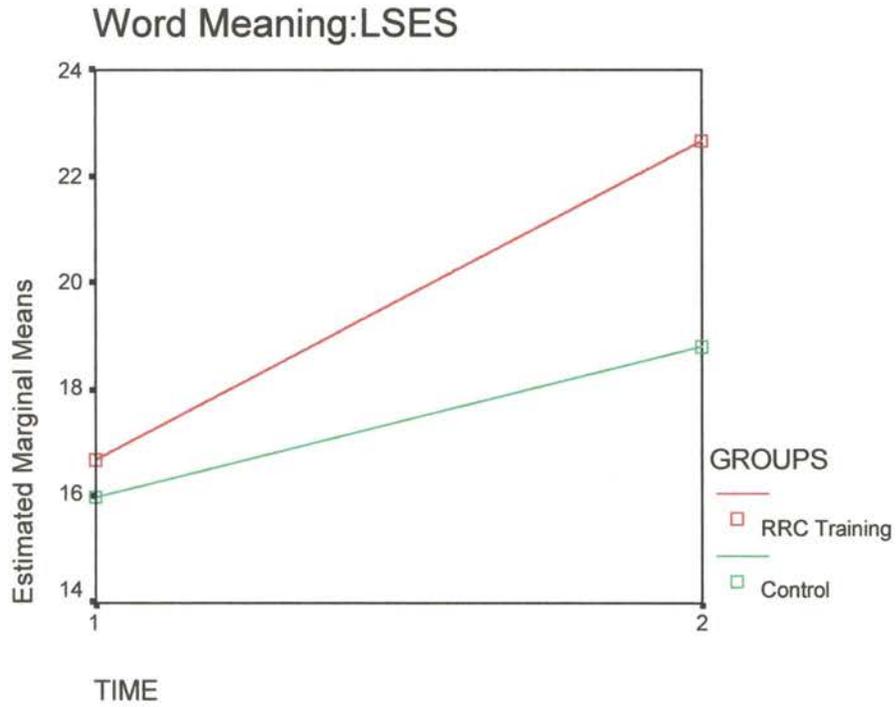


Figure 8. Low SES School Word Meaning Plot

Middle Income School (MIS): The Time x Group interaction for Word Meaning [$F(1,28) = .698, p. > .05$]. was not significant. These results indicate that these two groups did not differ significantly in their growth (See Figure 9).

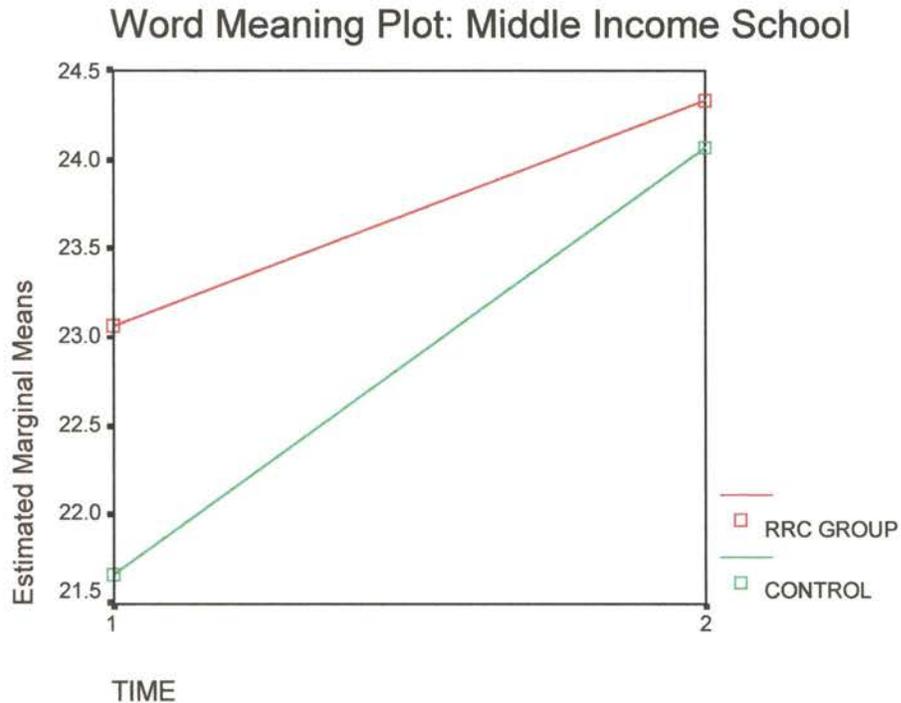


Figure 9. Middle Income School Word Meaning Plot

Research Question 4- Sentence Comprehension

Will second grade students who receive Rhyme-Rime Connection training demonstrate higher performance on Sentence Comprehension posttest measures than those students who do not receive this training?

Effects were analyzed to determine whether the pretest to posttest change was significantly different between the two groups on the Sentence Comprehension measure.

Combined Schools (CS): The Time x Group interaction was noted [$F(1,58) = 5.154, p = .027$]. These results indicate a decision to suspend judgment. The RRC group did show greater improvement across time than the Control group however these results are tentative. Also based on the plot, these second grade students that

received RRC training did demonstrate more growth and higher performance on Sentence Comprehension posttest measures than those students who did not receive the training (See Figure 10).

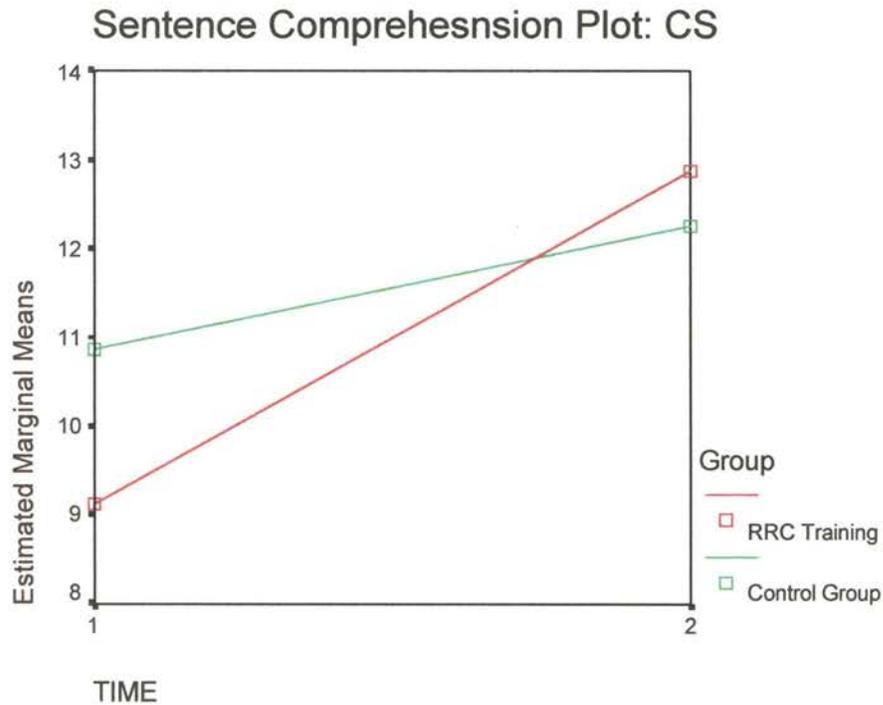


Figure 10. Combined School Sentence Comprehension Plot

Low Socio-Economic School (LSES): The Time x Group interaction was not significant [$F(1,28) = 3.011, p > .05$]. These results indicate that the two groups did not differ significantly in their growth. The plot (See Figure 11) does demonstrate the growth that did occur.

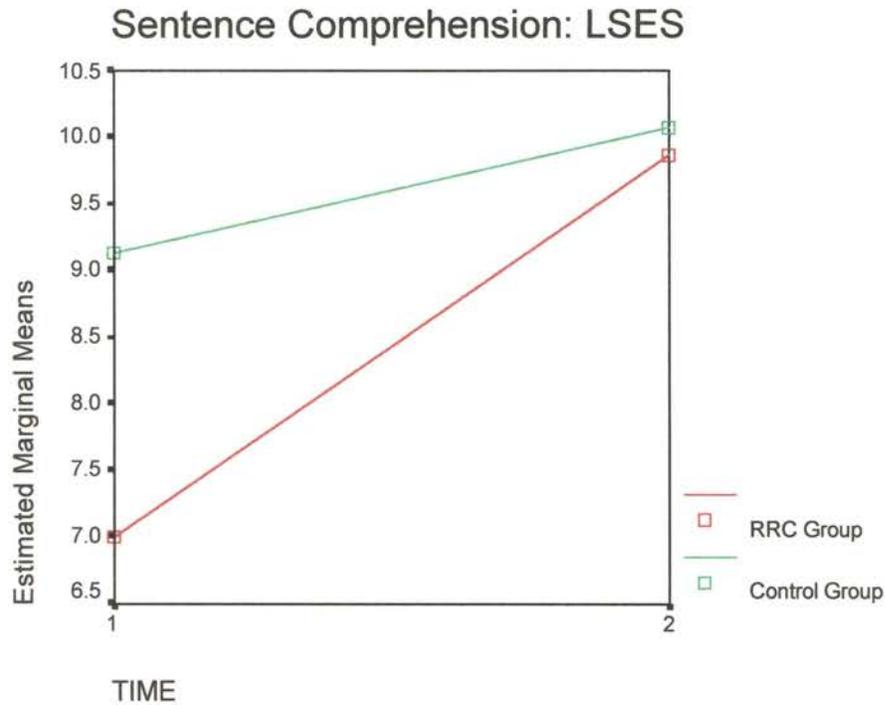


Figure 11. Low SES School Sentence Comprehension Plot

Middle Income School (MIS): A significant Time x Group interaction was found [$F(1,28) = 7.823, p < .009$]. These results indicate that the RRC group showed significantly greater improvement than the Control group (See Figure 12). These second grade students that received RRC training did demonstrate higher performance on sentence comprehension posttest measures than those students who did not receive the training.

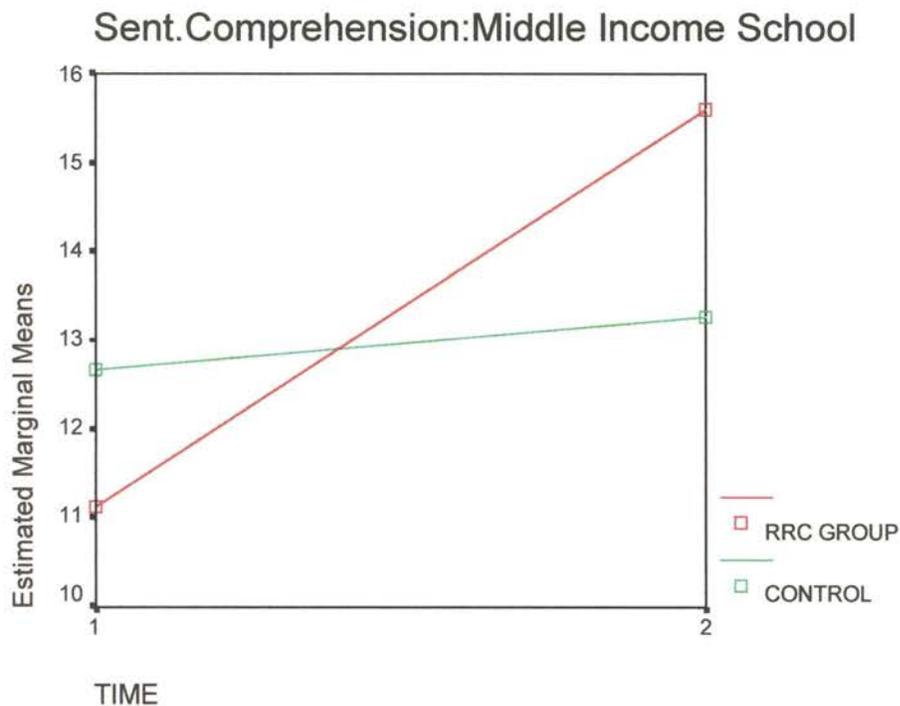


Figure 12. Middle Income School Sentence Comprehension Plot

Research Question 5- Passage Comprehension

Will second grade students who receive Rhyme-Rime Connection training demonstrate higher performance on the Passage Comprehension measure than those students who do not receive this training?

Effects were analyzed to determine whether the pretest to posttest change was significantly different between the two groups on the Passage Comprehension measure.

Combined Schools (CS): The Time x Group interaction [$F(1,58) = 2.64, p > .05$] was not significant. These results indicate that the groups did not differ in their growth. The plot illustrates the growth that did occur. The RRC group began lower at pretest and scored higher on posttest than the control group (See Figure 13).

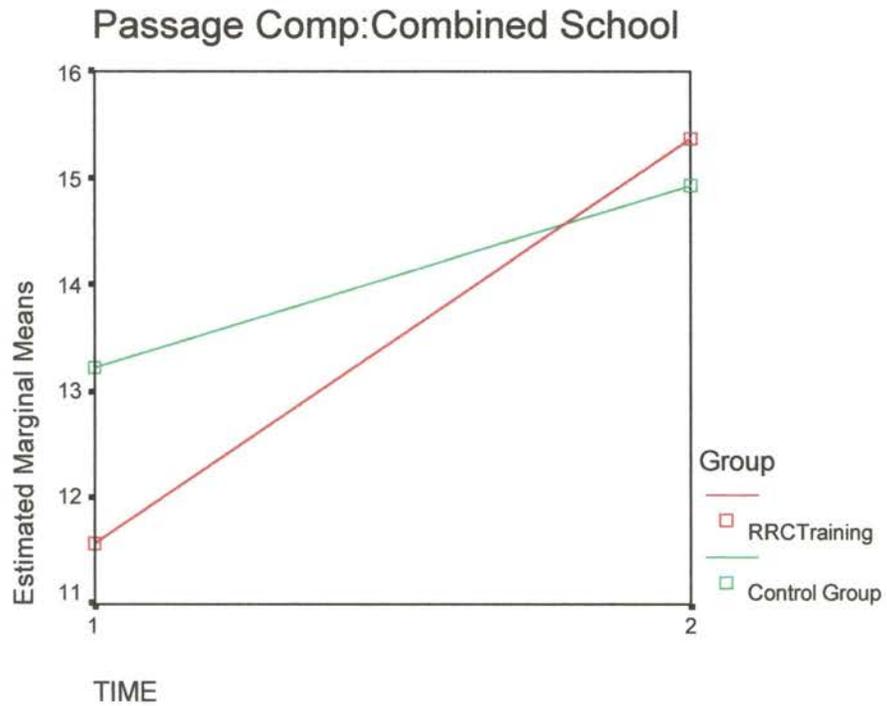


Figure 13. Combined School Passage Comprehension Plot

Low Socio-Economic School (LSES): The Time x Group interaction did not show significantly greater improvement [$F(1,28) = 1.223, p > .05$]. However, the RRC group began lower at pretest and scored higher at posttest than the Control group (See Figure 14).

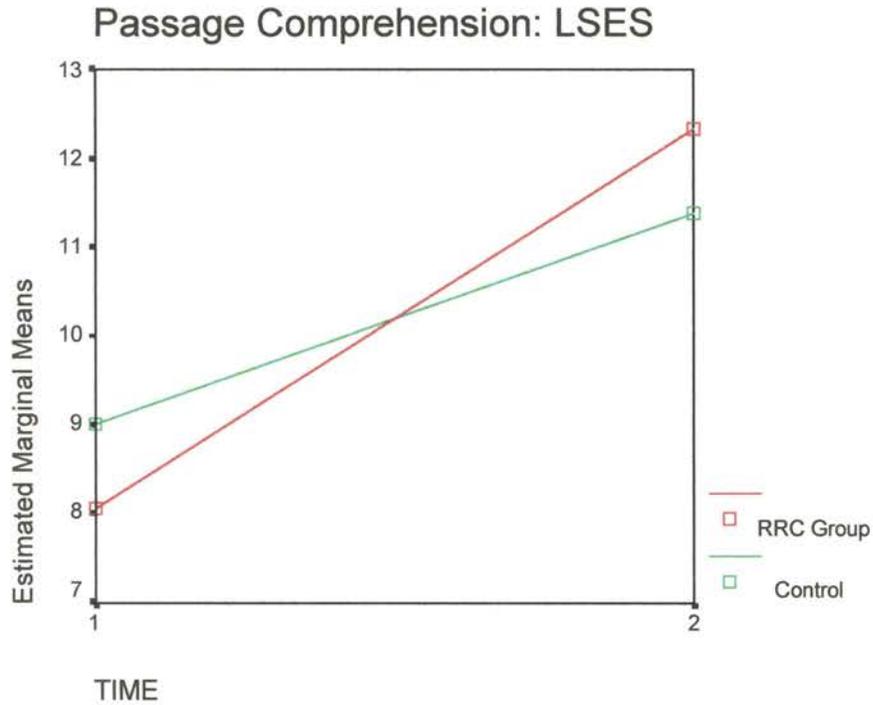


Figure 14. Low SES School Passage Comprehension Plot

Middle Income School (MIS): The Time x Group interaction resulted in a decision to suspend judgment [$F(1,28) = 4.176$ $p = .05$]. The RRC group began lower at pretest than the Control group, and scored higher than the Control group at posttest. The Control group made very little or no improvement over time (See Figure 15).

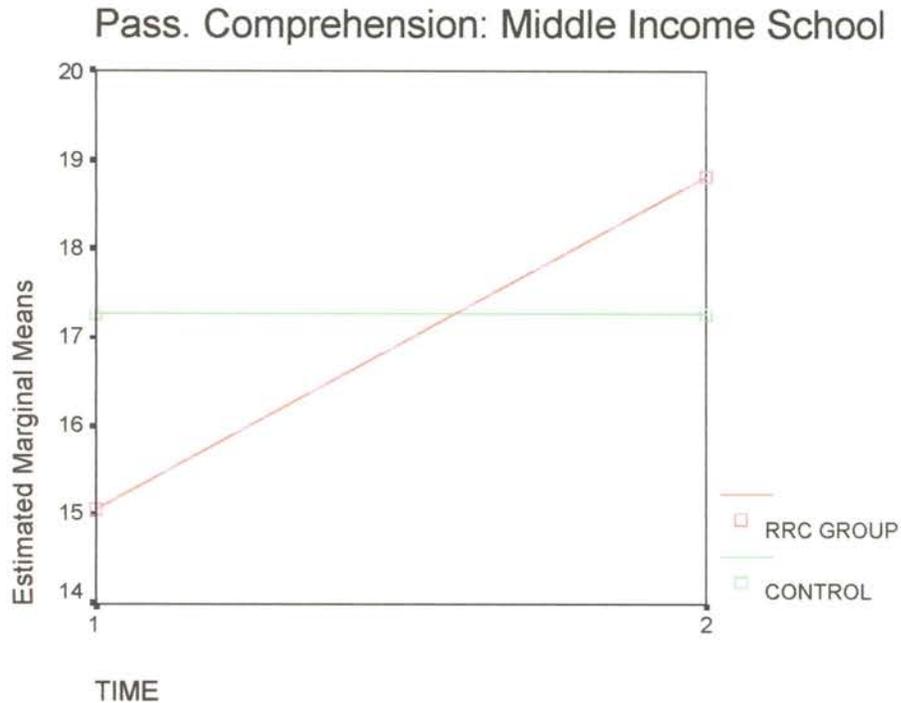


Figure 15. Middle Income School Passage Comprehension Plot

Summary of Results

Statistical Analysis of the data in this study revealed the following: For every measure there was at least one decision to reject the null hypothesis or suspend judgment. The Combined School analysis determined that there were clearly significant results for the RRC group on the Word Reading measure and potential effects were noted for Sentence Comprehension. The Low SES School showed potentially significant effects for the RRC group on Rhyme Recognition, Word Reading and Word Meaning. The Middle Income School analysis revealed clearly significant effects for Sentence Comprehension and potential effects were noted for Passage Comprehension (See Table V).

Table V
Summary of Results

<u>Measure</u>	<u>CS</u>	<u>LSES</u>	<u>MIS</u>
Rhyme Recognition	NS	SJ	NS
Word Reading	S	SJ	NS
Word Meaning	NS	SJ	NS
Sent. Comprehension	SJ	NS	S
<u>Pass. Comprehension</u>	<u>NS</u>	<u>NS</u>	<u>SJ</u>

Note. CS= Combined Schools, LSES= Low SES School, MIS= Middle Income School
S = Significant, NS= Not Significant. SJ= Suspend Judgment,

CHAPTER V
SUMMARY, CONCLUSIONS,
IMPLICATIONS, AND RECOMMENDATIONS

Summary of Findings

This research study was designed to investigate the effectiveness of Rhyme-Rime Connection (RRC) training on first semester second grade student's reading performance. The purpose of the study was to determine if after receiving this training the students could demonstrate higher performance on standardized Rhyme Recognition, Word Reading, Word Meaning, Sentence Comprehension, and Passage Comprehension measures than those students who did not receive the training.

The major findings of this study confirm that the RRC training resulted in significant specific improvement in reading performance, which transferred to significant improvement on five standardized reading performance measures. For every measure there was at least one decision to reject the null hypothesis or to suspend judgment. Judgment is suspended for results with a probability between .01 and .05. Results for which judgment is suspended will not carry the same weight as those that are clearly significant; however, because they are not clearly non-significant, they should not be ignored. Rather they "call attention to a potential true difference" (Keppel, 1982, p.163), and therefore will be interpreted, but cautiously.

For the combined school analysis there was significantly greater improvement for the RRC group in Word Reading ($p < .001$), and a strong trend emerged for greater improvement in Sentence Comprehension ($p = .027$). Judgment is suspended on this

measure. It is important to note that the RRC group hit the ceiling limit on the Rhyme Recognition posttest. This limitation prevented enough gain to demonstrate significant improvement on this measure. Based on the performance of both groups on this measurement (see Figure 1), the researcher feels confident that had there not been a ceiling, the RRC group would have demonstrated greater improvement on this Rhyme Recognition posttest than the control group.

The low SES school analysis showed there was a very strong trend toward greater improvement for the RRC group in Rhyme Recognition ($p = .014$), Word Reading ($p = .016$) and Word Meaning ($p = .027$), judgment is suspended on all three measures indicating “potential true differences” (Keppel, 1982 p.163).

The Middle Income School demonstrated significant improvement for the RRC group in Sentence Comprehension ($p = .009$). There was also a strong trend toward greater improvement in Passage Comprehension as well ($p = .05$) therefore judgment is suspended on this measure. It was expected there would have also been significant improvement for Rhyme Recognition had there not been a ceiling limit.

Conclusions

The RRC groups received extensive instruction and practice with learning key words and their spelling patterns to recognize and read new words by analogy in the context of predictable rhyming texts. It was assumed based on previous studies that improvement in Rhyme Recognition and Word Reading would occur regardless of literacy background experience because rime-based analogy instruction is designed to capitalize on children’s sensitivity to rhyme and onset rime division, two skills that

emerge early in reading development (Goswami, 1993; Treiman, 1993). This study's statistical results confirmed this assumption.

The results revealed several other interesting outcomes such as; the significant Sentence Comprehension improvement and the strong trend (suspend judgment) in Passage Comprehension improvement for the Middle Income School, as well as the strong trend in Sentence Comprehension for the Combined School analysis. These results support the importance of providing students specific word recognition strategies in the context of authentic reading and writing experiences. Throughout this study, the framed rhyming innovation writing activity utilized sentence patterns that rhyme and gave the students the opportunity to use their own knowledge about letter sounds and rhymes, to create new rhyming phrases (Walker, 2000). The students had to make sure the words chosen for the innovation fit the sentence pattern and made sense. This activity facilitated word analysis as well as opportunities to comprehend and compose sentences. For the students performing at higher levels, these activities provided practice in higher-level analysis and comprehension skills.

The strong trend in Word Meaning that was found in the Low Socio-Economic School analysis was also very interesting. During the rhyming innovations the students developed new phrases to fit the sentence patterns and they continually checked to see if the new words made sense. This monitoring focused the students on word meaning as well as rhyme. These results support rhyme-rime strategy instruction in the context of authentic reading and rhyming writing activities

Implications

As evidenced in the literature review in Chapter II, many children have trouble manipulating words into phonemes, which may be due to the abstract nature of the phoneme (Perfetti, 1992). The separate sounds in words merge together when spoken, and they are not noticed unless someone consciously focuses on them (Tunmer, Herriman, & Nesdale, 1988; Tunmer & Hoover, 1993). Even when children are paying attention to the sounds in words, phonemes are difficult to discriminate because they do not correspond to individually articulated units (Ball, 1993). While there is a large body of research that shows children have trouble analyzing spoken words into phonemes, there is a growing body of research that shows young children analyze spoken words into onsets and rimes naturally, even before they begin to read (Goswami and Bryant, 1990). Utilizing onsets and rimes raises the possibility that children do not have to analyze spoken words into phonemes in order to learn letter-sound correspondences for word recognition, as we have traditionally believed (Moustafa, 1997). This study points to the validity of utilizing rhyme-rime connection strategies along with writing rhyming innovations as powerful tools to instruct word recognition, word meaning, and sentence comprehension.

The results of this study confirm that Rhyme-Rime Connection training is effective in varying degrees, for students with both adequate and limited literacy background experiences. Thus, this treatment has educational value for both groups and can therefore be justified as a powerful teaching tool in second grade reading instruction.

Low SES students have traditionally been labeled as the most “at-risk” for reading difficulties; this researcher feels the significant improvements in reading performance are

the most meaningful for this group. This study reinforces the need for primary grade teachers to incorporate meaningful interactions with rhyming activities into daily classroom experiences. This is especially necessary for those students who come to school having had few opportunities to interact with and notice the details of print.

This study also reinforces the importance of providing these students with unlimited access to authentic, appropriate literature selections, as well as practice and experience with a variety of reading and writing activities to reinforce rhyme-rime connection strategies. The results of this study further confirm that when these students are provided with opportunities to read and reread authentic texts, recognize and construct words using specific strategies such as making analogies and analysis of spelling patterns and write in a purposeful, meaningful way, measurable progress is made.

Recommendations

An important question raised by these results is the origin of these skills. It would be very helpful to study the effects of the child's environment on rhyming, because this is obviously an activity that might vary a great deal between families and perhaps between cultures. This exposure or lack thereof, could have a significant impact on the child's reading progress.

In this study, Rhyme-Rime Connection training utilizing decoding by rime analogy was shown to be an effective word recognition strategy for learning to pronounce words for children who lack a large enough sight word vocabulary to include most of the rime units presented. On the other hand, the rime units presented in this study might be

too difficult for children who have no decoding skills and little understanding of letter-sound correspondences, yet too easy for children who have extensive word knowledge. Future studies need to explore how the effects of Rhyme-Rime Connection training differ for children along the continuum of phonological awareness. This information would increase understanding of the most appropriate uses for this instructional approach.

Future studies need to determine other options for Rhyme Recognition or possibly Rhyme Production measurement due to the ceiling effects obtained with the GRADE measurement

Finally, future studies should also explore what specific components of this training contributed to what specific growth, in order to fine tune and modify the instruction to maximize effectiveness.

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Appendix A

Sample Instructional Sequence

Day 1:

Shared reading of the selected rhyming text: reread the text.

- Read text aloud and discuss.
- Introduce the rhyming words and rime patterns in context. The context will be from the original text.
- Identify the spelling patterns (the rime-rhyme connection) in the two new target words, write the target word on a blank card in flip card file and underline the rime in red. Organize cards by rime patterns.
- Model for students how to use target words to spell and read words.
- Whole group generates rhymes for framed innovation (See Appendix E for sample).
- Whole group innovation of rhyming text.

Day 2:

Review target words from Day 1.

Reread the selected rhyming text from Day 1.

- Review the target rhyming words in context.
- Model for students how to use target words to spell and read words
- Students build new words by analogy using letter cards.
- In pairs write a framed rhyming text for class book and illustrate.

Day 3:

Review key words from Day 1.

Reread the selected rhyming text from Day 1.

- In pairs from Day 2, finish Framed Rhyming Innovation.
- Each pair shares their completed innovated texts with the group.
- Individual frames may be written and illustrated to add to class book.

* Each week a class book will be compiled using the innovations of the weekly text.

Appendix B

Primary Reading Material:

Annotated Bibliography of Predictable Rhyming Trade Books

Week One: Shaw, N. (1986). *Sheep in a Jeep*. Boston: Houghton Mifflin. Rhyming verse is used to record the crazy adventures of a group of sheep that go riding in a jeep.

Week Two: Boynton, S. (2000). *Hey! Wake Up!* New York: Workman. Playful verse describing the morning rituals of some “big guys” and “little guys.”

Week Three: Martin, B., & Archambault, J. (1987). *Here Are My Hands*. New York: Holt, Rinehart & Winston. The owner of a human body celebrates it by pointing out various parts and mentioning their functions

Week Four: Boynton, S. (2000). *Pajama Time!* New York: Workman. In rhyming verse a variety of adorable animals celebrate everything about their pajamas.

Week Five: Barchas, S. (1986) *I Was Walking Down The Road* (1988). New York: Simon & Shuster. A little girl recounts her experiences walking down the road.

Week Six : Carlstrom, N.W. *Jesse Bear, What Will You Wear?* (1986). New York: Little Simon. In rhyming verse Jesse Bear discovers what he will wear in the morning, at noon and at night

Week Seven: Boynton, S. *But Not The Hippopotamus*. (1995). New York: Little Simon. A variety of animals are doing a variety of interesting activities, but not the hippopotamus.

Week Eight: Hoberman, M.A. (1982). *A house is a house for me*. New York: Puffin Books. Lists in rhyme the dwellings of various animals and things.

Appendix C

Rime Units / Target Rhyming Words

Week One:

-eep: jeep, keep, sheep, beep, steep, weep, sweep
-eap: heap, leap,
-ud: thud, mud
-ug: tug, shrug
-elp: help, yelp
-out: shout, pout
-eer: steer, cheer

Week Two:

-ay: hay, say, day, play
-all: tall, basketball
-ing: swing, thing, ring
-ide: slide, inside

Week Three:

-ow: throw, know, blow
-y: cry, dry, try, my
-in: skin, chin, pin

Week Four:

-ate: late, celebrate, mate
-ine: line, fine, mine
-op: top, bop, mop
-ight: light, night, tight
-ot: not, got, dot
-een: green, seen

Week Five:

-ode: road, toad, load
-ide: ride, side, wide
-age: cage, page, stage
-alk: walk, talk, chalk, stalk
-end: bend, lend, send, mend

Week Six:

-ear: bear, wear
-and: sand, hand
-air: chair, hair
-unch: crunch, bunch, lunch
-oat: boat, float, goat, coat

Week Seven:

-og: frog, log, hog, bog, jog
-at: rat, hat, cat
-oose: moose, goose, loose
-est: best, rest

Week Eight:

-un: sun, fun, run
-ee: three, tree, bee
-ive: hive, five, thrive, jive
-ate: gate, ate
-ine: pine, nine, line fine, mine
-en: den, ten, men, then, when

Appendix D

LIST OF FREQUENTLY USED RIMES / POSSIBLE TARGET WORDS

The rime units here appear in three or more fairly common single syllable words.

-ake	cake	-ate	plate	-at	cat	-eat	seat	-eal	seal
	make		ate		that		eat		meal
	take		late		sat		treat		deal
-ab	cab	-all	ball	-aw	saw	-ean	bean	-ell	bell
	tab		all		draw		mean		well
	crab		fall		straw		clean		tell
-ack	tack	-ale	whale	-ay	hay	-ear	ear	-en	ten
	back		tale		may		near		then
	sack		sale		stay		tear		when
					play				
-ad	had	-am	ham		day	-ed	bed	-end	send
	bad		am		say		red		bend
	mad		jam		way		sled		lend
-ade	made	-ame	name	-alk	chalk	-ee	bee	-ent	tent
	shade		came		walk		see		went
	trade		same		talk		tree		sent
-ag	bag	-an	can	-ast	fast	-eed	seed	-et	net
	wag		an		last		weed		get
	tag		ran		past		speed		let
			man						pet
-age	page	-and	hand	-ar	car	-eel	wheel	-ew	new
	stage		and		jar		feel		blew
	cage		grand		far		peel		crew
-ail	tail	-ank	bank	-e	me	-een	green	-est	best
	pail		thank		he		seen		rest
	fail		drank		she		queen		test
					be				
					we				
-ain	train	-ait	wait			-eep	jeep	-eet	feet
	rain		bait				keep		beet
	pain						sleep		street
-id	lid	-ip	ship	-od	rod	-ool	school	-ut	nut
	did		trip		God		stool		but
	kid		slip		nod		fool		cut

-ide	ride	-ice	mice	-ock	clock	-oy	boy	-us	bus
	side		nice		lock		toy		us
	wide		rice		shock		joy		Gus
-ie	pie	-ish	fish	-og	dog	-oom	broom	-up	cup
	lie		wish		fog		room		up
	tie		dish		log		zoom		pup
-ig	pig	-it	sit	-oil	boil	-oon	moon	-ust	just
	big		it		soil		soon		must
	wig		bit		spoil		spoon		crust
-ight	night	-ite	kite	-oke	smoke	-op	mop	-ue	blue
	might		white		broke		hop		glue
	right		bit		joke		stop		true
	bright		write		choke		shop		Sue
-ike	bike	-ive	hive	-old	gold	-ope	rope	-un	sun
	like		five		old		slope		run
	Mike		drive		told		hope		fun
-ill	hill	-ive	give	-ole	mole	-ound	round	-y	very
	will		live		hole		found		funny
	still				pole		ground		daddy
-im	him	-ind	find	-one	bone	-out	out	-y	my
	Jim		kind		phone		shout		why
	rim		blind		stone		scout		fly
-ime	time	-ile	smile	-ow	cow	-ub	sub		
	slime		while		now		rub		
	crime		pile		how		tub		
-in	pin	-o	no	-own	clown	-uck	duck		
	in		go		down		truck		
	win		so		brown		luck		
-ine	nine	-oad	toad	-ong	song	-ug	rug		
	fine		road		long		bug		
	mine		load		wrong		mug		
-ing	ring	-oat	boat	-ook	book	-um	gum		
	thing		goat		look		sum		
	king		coat		took		drum		
-ink	pink	-ob	Bob	-ot	pot				
	think		rob		not				
	sink		job		got				
					lot				

Appendix E

Framed Rhyming Innovations Approach

Sample Writing Activity (From Barbara Walker's
Diagnostic Teaching of Reading (2000), Prentice Hall).

Description:

The framed innovations approach is the rewriting of a predictable book using a structured frame. The teacher and student rewrite the predictable book using the predictable frame but changing key words.

Procedure:

1. The teacher selects a familiar predictable book that can be easily rewritten and has rhyme. For instance, *I Was Walking Down the Road* by Sara Barchas can easily be rewritten and has rhyming phrases.
2. The teacher prepares a frame for rewriting the predictable book. For *I Was Walking Down the Road* she would write

Complete Frame

I was walking down the road

I saw a little toad

I caught it.

I picked it up.

I put it in the cage.

Frame for innovation

I was walking _____ the _____

I saw a little _____

I caught it.

I picked it up.

I put it in the cage.

3. The teacher and the student read the predictable book.
4. The teacher presents the frame for the innovation.
5. The teacher and student reread the complete frame first.
6. The teacher prompts the student for each blank in the frame. She might say, "What are you going to pick up?" The student suggests a frog and writes the word in the blank. "I saw a little frog."
7. After the student decides what is going to be picked up, then he generates a rhyming word to go with it that makes sense in the first sentence.
frog
dog
log
8. The student rewrites the first line. In this case he thinks of something that fits with "I saw a little frog." The student said "I was running with my dog." He writes this line below frame and rewrites the rest of the phrase.
9. This procedure is repeated several times so that the students can make their own book.
10. The students make a book based on the rewriting of the framed predictable book.

Rhyme Practice

Model Frame

I was walking down the road.

I saw a little toad.

I caught it.

I picked it up.

I put it in a cage.

Frame for You

I was walking down the _____.

I saw a little _____.

I caught it.

I picked it up.

I put it in a cage.

Appendix F

Supplementary Reading Material

Annotated Bibliography of Predictable Rhyming Books

(Made Available For Practice and Reinforcement)

- Alda, A. (1992). *Sheep, sheep, sheep, help me fall asleep*. New York: Bantam Doubleday Dell Books for Young Readers. It's bedtime and once Mom leaves the room, this preschooler who isn't ready to fall asleep counts not just sheep but other animals doing a variety of things.
- Cameron, P. (1961). *"I can't," said the ant*. New York: Coward-McCann. Ant struggles in vain to rescue the teapot from the kitchen floor, but with the help of friends, Miss Teapot is finally saved.
- Carle, E. (1974). *All about Arthur (an absolutely absurd ape)*. New York: Franklin-Watts. Arthur, an accordion-playing ape, travels from city to city making friends whose names begin with the same initial sound of the city in which they live such as "Young Yak in Yonkers."
- Cole, J. (1989). *Anna Banana: 101 jump rope rhymes*. New York: Morrow Junior Books. A collection of 101 jump rope rhymes arranged and illustrated according to the type of jump rope skill required.
- de Regniers, B., Moore, E., White, M., & Carr, J. (1988). *Sing a song of popcorn*. New York: Scholastic. A collection of poetry of well-loved poets from the classic to the contemporary, all beautifully illustrated by Caldecott medal artists.
- Degen, B. (1983). *Jamberry*. New York: Harper & Row. A little boy walking in the forest meets a big lovable bear that takes him on a delicious berry-picking adventure in the magical world of Berryland.
- Fleming, D. (1994). *Barnyard banter*. New York: Holt, Rinehart & Winston. All the farm animals are where they should be, clucking and mucking, mewing and cooing, except for the missing goose.
- Florian, D. (1994). *The beast feast*. New York: Scholastic. Each poem in this collection describes a different "beast" in rhyming verse.
- Fox, M. (1993). *Time for bed*. San Diego: Harcourt Brace Jovanovich. A wonderful bedtime story in verse as one young animal after another is put to sleep, with the last one being a child saying "Goodnight."

- Guarino, D. (1989). *Is your mamma llama?* New York: Scholastic. A young llama asks his friends if their mammas are llamas and finds out, in rhyme, that their mothers are other types of animals.
- Hague, K. (1984). *Alphabears*. New York: Henry Holt & Co. In this beautifully illustrated book, the special qualities of bears named for each letter of the alphabet are described in rhyme.
- Hague, M. (1993). *Teddy bear, teddy bear: A classic action rhyme*. New York: Morrow Junior Books. An illustrated version of the traditional rhyme that follows the activities of a teddy bear.
- Hawkins, C., & Hawkins, J. (1983). *Pat the cat*. New York: G.P. Putnam's Sons.
 Hawkins, C., & Hawkins, J. (1984). *Mig the pig*. New York: G.P. Putnam's Sons.
 Hawkins, C., & Hawkins, J. (1985). *Jen the hen*. New York: G.P. Putnam's Sons.
 Hawkins, C. & Hawkins, J. (1986). *Tog the dog*. New York: G.P. Putnam's Sons.
 In this series of books that focus on changing beginning letters while maintaining the spelling pattern throughout the story, children develop phonemic awareness and familiarity with common spelling patterns.
- Hutchins, P. (1976). *Don't forget the bacon*. New York: Mulberry. In this book of rhyming and language play, a boy is going to the market for his mother and brings back all the wrong items.
- Hymes, L. & Hymes, J. (1964). *Oodles of noodles*. New York: Young Scott Books. In this collection of poems, words both rhyme and make use of the same initial sounds in order to create nonsense words to complete the verse.
- Komaiko, L. (1987). *Annie Bananie*. New York: Harper & Row. Sad because her best friend, Annie Bananie, is moving away, a little girl remembers all the fun they had together.
- Krauss, R. (1985). *I can fly*. New York: Golden Press. Described in rhyme, a child imitates the actions of a variety of animals.
- Lewison, W. (1992). *Buzz said the bee*. New York: Scholastic. As an animal tower is being built, each animal does something that rhymes with the animal he will be climbing on top of, for example, "The hen dances a jig before sitting on the pig."
- Martin, B., & Archambault, J. (1986). *Barn dance!* New York: Holt, Rinehart & Winston. Unable to sleep on the night of a full moon, a young boy follows the sound of music across a field and finds an unusual barn dance in progress.

- Martin, B., & Archambault, J. (1988). *Up and down the merry-go-round*. New York: Henry Holt & Co. In this rhyming story, children describe the sights and sounds of riding on the merry-go-round.
- Martin, B., & Archambault, J. (1989). *Chicka chicka boom boom*. New York: Simon & Schuster. An alphabet rhyme/chant that relates what happens when the whole alphabet tries to climb a coconut tree.
- Martin, B., & Carle E. (1991). *Polar bear, polar bear, what do you hear?* New York: Simon & Schuster Books for Young Readers. Zoo animals from a polar bear to a walrus make their distinctive sounds for each other while children imitate sounds for the zookeeper.
- Martin, L. (1993). *When dinosaurs go visiting*. New York: Scholastic. The preparations and festivities involved in a dinosaur family going on a visit are described in rhyming verse.
- Ochs, C.P. (1991). *Moose on the loose*. Minneapolis, MN: Carolrhoda Books. A zookeeper runs through the town looking for a moose on the loose, and each person he asks has not seen the moose but has seen another animal, such as a pig wearing a wig.
- Oppenheimer, J. (1989). *Not now! Said the cow*. New York: Bantam Books. In this story a little black crow asks his animal friends to help with the planting of some corn seed.
- Patz, N. (1983). *Moses supposes his toeses are roses*. San Diego: Harcourt Brace Jovanovich. A variety of language play including assonance, rhyming, alliteration, and tongue twisters engage the reader in this fun collection of seven rhymes.
- Pilkey, D. (1990). *'Twas the night before Thanksgiving*. New York: Orchard Books. School children on a field trip to Mack Nugget's farm save the lives of eight turkeys in this poem based on "The Night Before Christmas."
- Raffi. (1987). *Down by the bay*. New York: Crown. In this song, Mother asks her son, "Did you ever see a goose kissing a moose, a fly wearing a tie, or llamas eating pajamas down by the bay?"
- Seuss, Dr. (1960). *One fish, two fish, red fish, blue fish*. New York: Beginner Books. A story-poem about the activities of such unusual animals as the Nook, Wump, Yink, Yop, Gack, and the Zeds.
- Seuss, Dr. (1965). *Fox in socks*. New York: Random House. Tricky language play with subtle vowel changes is the focus of this fun book as the fox tries to trip up the reader's tongue.

- Seuss, Dr. (1972). *In a people house*. New York: Random House. Easy-to-read rhyme cites a number of common household items.
- Seuss, Dr. (1974). *There's a wocket in my pocket*. New York: Random House. A child talks about the nonsense creatures he has found around the house ("grush on my brush") in this wonderful book of language play, which substitutes the initial sounds of common household objects to create the nonsense.
- Shaw, N. (1986). *Sheep in a jeep*. Boston: Houghton Mifflin. Rhyming verse is used to record the crazy adventures of a group of sheep that go riding in a jeep.
- Shaw, N. (1989). *Sheep on a ship*. Boston: Houghton Mifflin. Using rhyming and alliteration, this book describes the adventures of some sheep that go on a trip aboard a ship.
- Silverstein, S. (1964). *A giraffe and a half*. New York: HarperCollins. In this cumulative story, Silverstein builds the story of a giraffe using rhyming verses to describe the giraffe and then reverses the events.
- Van Rynbach, I. (1995). *Five little pumpkins*. Honesdale, PA: Boyds Mill Press. The traditional finger rhyme illustrated with lively watercolors.
- Wells, R. (1973). *Noisy Nora*. New York: The Dial Press. Feeling neglected, Nora makes more and more noise to attract her parents attention.
- Westcott, N.B. (1988). *The lady with the alligator purse*. Boston: Little, Brown. The jump rope / nonsense rhyme features an ailing young Tiny Tim.
- Wood, A. (1992). *Silly Sally*. San Diego: Harcourt Brace Jovanovich. A rhyming story of Silly Sally, who makes many friends as she travels into town, backward and upside down.
- Yolen, J. (1987). *The three bears rhyme book*. San Diego: Harcourt Brace Jovanovich. Fifteen poems portray three familiar bears and their friend Goldie engaged in such activities as taking a walk, eating porridge, and having a birthday party.

Oklahoma State University
Institutional Review Board

Protocol Expires: 8/13/02

Date: Tuesday, August 14, 2001

IRB Application No: ED021

Proposal Title: THE EFFECTS OF DECODING BY ANALOGY TRAINING: THE RHYME-RIME
CONNECTION

Principal
Investigator(s)

Metinda L. Smith
256 Willard
Stillwater, OK 74078

Barbara J. Walker
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Stillwater, OK 74078

Reviewed and
Processed as: Expedited

Approval Status Recommended by Reviewer(s): Approved

Dear PI

Your IRB application referenced above has been approved for one calendar year. Please make note of the expiration date indicated above. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research, and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved projects are subject to monitoring by the IRB. If you have questions about the IRB procedures or need any assistance from the Board, please contact Sharon Bacher, the Executive Secretary to the IRB, in 203 Whitehurst (phone: 405-744-8700, sbacher@okstate.edu).

Sincerely,


Carol Olson, Chair
Institutional Review Board

VITA 2

Melinda Smith

Candidate for the Degree of

Doctor of Education

Dissertation: THE EFFECTS OF RHYME-RIME CONNECTION TRAINING ON
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Education: Associate Degree of Health Science: May 1982, Tulsa Community
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State University, Tahlequah, Oklahoma, Emphasis: Reading Education K-12.
Completed the Requirements for the Ed D degree at Oklahoma State University, in
May 2002, Emphasis: Literacy Education.

Credentials: Standard Oklahoma Teaching License, Certificates: Elementary
Education K – 8, Reading Specialist K – 12, Early Childhood, Language Arts, MS -
Junior High - Special Endorsement 7-8 Science, MS - Junior High - Special
Endorsement 7-8 ,Social Studies, MS - Junior High - Special Endorsement 7-8

Professional Experience:

Graduate Assistant, June 2000-Present, Oklahoma State University, School of
Curriculum and Educational Leadership, Graduate College of Education – Oklahoma
State University – Tulsa Responsibilities Include: Coordinator: OSU- Tulsa Reading
Clinic, Co-Teaching with Dr. Barbara Walker, CIED 5523 Diagnosis and Remedial
Reading, Co-Teaching with Dr. David Yellin, CIED 5463 Reading Practicum
Assisting Dr. Sandee Goetze, CIED 5483 Literacy and Technology Across the
Curriculum.

Adjunct Instructor, August 1999-Fall 2001, Langston University at Oklahoma State University-Tulsa College of Education and Behavioral Sciences- Tulsa, Oklahoma
Courses Taught: ED 3053: Reading in the Elementary, ED 4253: Children's Literature Seminars Taught: Successful Reading Programs in Grades 1-3 Tools for Teaching Reading Additional Responsibilities Included: University Member Resident Year Committees (6) per year. Student Teacher Seminar and Observations, Part – Time Instructor- January, 1994-July, 1999. Langston University at Oklahoma State University – Tulsa, College of Education and Behavioral Sciences. Courses taught: ED 2053 Foundations of Reading, ED 3053 Reading in the Elementary, ED 3043 Trends in Reading, ED 4243 Diagnostic and Remedial Reading, ED 4253 Children's Literature. Additional Responsibilities Included: University Member for (6 entry year teachers per year) Resident Teacher Committees 1997: Panel on Enrollment Trends for Langston University 1994 –1996: Interview Committee for Teacher Education Admittance.

Tulsa Public Schools, 1988 – 1992 Reading Specialist- 1st and 2nd grade Early Intervention Reading Program, Emerson Elementary Responsibilities Included: Design and implementation of a reading program for at-risk, early literacy students. The program focused on intensive reading instruction. Inclusion and small group pull –out models were used to meet the needs of diverse learners in inner city first and second grade classrooms. Tulsa Public Schools, 1986 –1988 Teacher 2nd Grade, 1985 –1986 Teacher Kindergarten, 1984 –1985 Teacher, Developmental First Grade. Additional Responsibilities Included: 1990–1992 Trainer: Volunteer High School Tutors, 1990 – 1992 Resident Year Mentor Teacher/ Committee Member, 1990 – 1991 Coordinator: Modified Reading Recovery Tutoring Program, 1989 – 1992 Supervisor/Mentor for Student Teachers, 1989 – 1992 Second Grade Team Leader, 1989 – 1992 Building Staff Development Chairperson, 1989 – 1990 Coordinator: Parent Volunteer Reading Enrichment Program

Workshops and Presentations: 2001: ORA: Rewriting Rhymes to Develop Phonic Analogies, 2001: Successful Reading Programs- Grades 1-3 Training for Teachers Seeking Elementary Recertification, 1999: Integrated Literacy Unit: Teacher Training for Pre-service Teachers, 1998: Kindergarten Phonemic Awareness Teacher Training for Pre-service Teachers. 1992: Tutor Training - Reading and Math

Professional Memberships: International Reading Association, Oklahoma Reading Association, Tulsa County Reading Council, Association for Supervision and Curriculum Development, National and Local, Oklahoma Early Childhood Teacher's Association