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A STUDY TO DETERMINE WHETHER STUDENTS USING THE SRA SPELLING  
MASTERY PROGRAM WILL LEARN TO SPELL MORE WORDS AS  
COMPARED TO STUDENTS UTILIZING THE  
GRAHAM AND FREEMAN STRATEGY

by  
Brian Shakespeare

A THESIS

Submitted in partial fulfillment of the requirements of the  
Master of Arts Degree in the Graduate Division  
of Rowan College of New Jersey  
1997

Approved by \_\_\_\_\_  
(Advisor)

Date Approved 4/24/97

## ABSTRACT

Shakespeare, Brian

A Study to Determine Whether  
Students Using the SRA Spelling  
Mastery Program Will Learn To  
Spell More Words as Compared to  
Students Utilizing the Graham and  
Freeman Strategy, 1997  
Advisor: Dr. J. Kuder  
Special Education

The purpose of this thesis was to determine if the use of the SRA Spelling Mastery Program with emotionally disturbed students would increase the amount of words they could spell as compared to similar students who utilized the Graham and Freeman five step study strategy. All the students in the study have been described as having attentional difficulties. After the completion of the placement test, intervention was begun. Intervention consisted of one hundred words selected from the SRA Spelling Mastery Program. Both the SRA and the Graham group had weekly spelling tests consisting of the same ten words. Unit tests were given to each group every three weeks. The unit tests consisted of twenty-five words selected from the three previous spelling tests.

The results of this study indicate that the differences between the two groups were insignificant. The Graham group showed the higher mean score for both weekly tests and unit tests.

## MINI-ABSTRACT

Shakespeare, Brian

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The purpose of this study was to determine if the use of a Direct Instruction spelling program would increase the amount of words learned as compared to the Graham and Freeman strategy. The results indicate that the difference between the groups was insignificant.

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## CHAPTER I

### RATIONALE AND STATEMENT OF THE PROBLEM

#### Rationale

Teaching spelling has been discussed and debated for many years. An examination of the EIRC and Education database reveal a large number of items that focus specifically on spelling and many more that include spelling integrated with other language arts.

As often as its virtues have been extolled, however, spelling has been reviled, ironically, for similar reasons. Because it was traditionally perceived to be chaotic, irrational, and unreasonable, it was logical to conclude that the ability to spell thousands of words is the best measure of a well endowed and keenly perceptive intellect (Templeton, 1992).

Spelling is experiencing a reawakening, and in the process, we are discovering and rediscovering many striking features of the spelling system and of spelling instruction. One of our discoveries, however, is somewhat disconcerting. For at least one hundred years while researchers have been finding some fascinating things about the spelling system, most teachers and administrators have been looking in other directions (Templeton, 1992). Another important discovery was from a landmark investigation, the Stanford Study of the 1960's. Hanna, Hodges, and Rudorf in 1966 discovered that there is greater letter/sound regularity in spelling than we may think when we consider syllable structure as criteria. Even at the phonetic level there may be more pattern than chaos in the English spelling system (Templeton, 1992).

A significant problem with spelling instruction today is that very few programs use research supported practices. The evidence indicates that the actual spelling procedure



used in most classrooms is based primarily on traditional practices rather than on research results. Research has found that teachers seldom use spelling practices supported by research in their classrooms. The limited application of research supported procedures in spelling instruction is paradoxical (Graham, 1983). Spelling is one of the most thoroughly researched areas in the language arts (Allred, 1977). But, while empirical evidence is available, for the most part it has not been applied (Graham, 1983).

Another problem that has been argued and debated is the necessity of spelling. In a society of electronic computer dictionaries, computer spell checkers, and spelling aces, many may question the necessity of spelling instruction. The answer may be found within the spell check systems themselves. Without some kind of phonetic instruction all the spellcheckers in the world will not find you the correct word. Some approximation of the word is essential for any spell check system to locate a word and provide suggested correct spellings.

With more and more students with disabilities being included in regular education classes, teachers increasingly will need more effective research based teaching strategies. The use of a research based spelling program to help students acquire efficient spelling skills can be traced to early research in the 1970's (Graham, 1983). The purpose of this paper will be to explore the possibility that using one such research based spelling program, SRA Spelling Mastery, students will learn more words as opposed to those utilizing the Graham and Freeman five step study strategy.

#### Statement of the Problem

Will students using the SRA Spelling Mastery Program learn to spell more words as compared to similar students who are utilizing the Graham and Freeman five step study strategy?

The SRA Spelling Mastery program was selected for several reasons. It has been field tested, spelling strategies are taught, subskills are taught, and adequate practice is

provided. In addition, individual provisions for placement and progress have been made and constant immediate feedback is provided throughout each lesson. Finally, perhaps the most important, is learner verification which means the materials and methods have been empirically tested on children before the materials were sold and recommended to teachers. SRA Spelling Mastery provides an efficient, effective model of spelling instruction.

The SRA Spelling Mastery Program and the Graham and Freeman five step study strategy will be used within an emotionally disturbed classroom population. The classification is applied to the program because of the variety of behavioral concerns exhibited by the students. In addition, all the students have been identified as having attentional difficulties.

#### Statement of the Hypothesis

The number of words learned will increase using the SRA Spelling Mastery Program as compared to those using the Graham and Freeman five step study strategy.

#### Significance of Study

To participate fully in today's information based society, students with disabilities need to develop effective writing skills. Although correct spelling may not be the most critical component in every activity, accurate spelling is an important aspect of formal written communication.

The efficacy of spelling instruction for students with disabilities has received only limited research attention. Spelling has received less attention than reading although the spelling difficulties of students with disabilities may be more severe than their reading disabilities and have proven to be more difficult to remediate (Gerber & Hall, 1987). Difficulty in spelling has been identified as the most frequently reported learning problem of adults (Hoffman, 1987).

## CHAPTER II

### REVIEW OF THE LITERATURE

Spelling knowledge serves a purpose far grander than traditionally believed. It emerges from and supports reading, writing, vocabulary study, and connections across the curriculum. Importantly, spelling knowledge also emanates from examining words in and of themselves.

The spelling system is a repository of the history of the English language. The forces and the languages that have shaped English reside still in its spelling. They are like geological strata that remain unobserved until an etymological guide slices through a word to point out the whys and wherefores of the layers of information that are thereby revealed (Templeton, 1992). These etymological strata yield simplicity and unity that affirm the existence of pattern and design in what may appear to be arbitrary and unpredictable (Templeton, 1992; Schlagal & Schlagal, 1992).

Over a period of one thousand years, Danish, French, Latin, and Greek have contributed their vocabulary and their spelling patterns to English. In Old English (450-1066 A.D.), our spelling was essentially alphabetic, matching sounds with individual letters in a left-to-right direction. In Middle English (1066-1500 A.D.), the influence primarily of French changed this straightforward one letter/one sound match. Letter/sound matches became more complex with two vowel letters for a single vowel sound, different letters representing the same sound, and different sounds being represented by a single letter. In addition to the alphabetic principle in which the letter is the unit of sound within a word, because of the influence of the French language, a group of letters or a pattern now corresponded to sound. From 1500 to 1700, during the early

phase of Modern English, Greek and Latin vocabulary and word elements were extensively used to label and describe the phenomenal discoveries in science and exploration. It was this vocabulary that primarily contributed to the semantic function of the spelling system. While a group of letters could still be described as corresponding to sound, they could now also be understood as corresponding to an element of meaning as well (Templeton, 1992).

For those who bemoan what they believe to be the chaos of the system, there was a time when the spelling rules were vague. Learned individuals spelled as they wished, as did scribes and, later, typesetters (Templeton, 1991). It is ironic that spelling is so rigid. We are allowed variability in sentence structure, grammar, and pronunciation, but not in spelling (Templeton, 1992).

When the rules were vague, reading was primarily oral and the process was much slower. Readers would point to each word with a bookmark as they read aloud. As individuals read more for personal enjoyment, they came more often to read silently. Written as opposed to spoken words became more important in reading, and eventually printing. To facilitate standardization in printing, publishing, and efficient reading, it seems logical that spelling should become more fixed and predictable. While individuals centuries ago might invent their spellings, the move towards a fixed spelling standard was approaching (Templeton, 1983).

This standard in spelling is ultimately desirable because of the automaticity in reading and writing that it affords. It allows modern readers and writers to think more while reading and writing than did their individual counterparts (Templeton, 1992).

Spelling did not become such a controversial phenomena until the system became fairly standardized. While the English began to tinker with their spelling system in the interest of bringing it more in line with pronunciation, a xenophobic, Noah Webster, attempted to make a number of changes so that there would be a distinctively American spelling. Though he failed in most of his suggested changes, Webster succeeded with

enough of them so that he provided considerable momentum for the desire to simplify the system and bring it more in line with pronunciation (Templeton, 1991).

#### Developmental View of Spelling

Schlagal and Schlagal (1992) give a valuable overview as to the developmental view of spelling. It is stated that children do not master spelling by rote memory as was once claimed. Instead, it appears that English spelling is principled and orderly. Careful studies of children's spelling errors at different ages and levels of instruction suggest an alternate version of orthographic learning. Children give evidence of learning to spell by advancing through a sequence of increasingly complex intuition about the organizational patterns of words. Although memory is involved, children learn by progressively inferring the principles by which English words are spelled. This developmental view has provided a coherent account of the kinds of errors children make and how error types change over time (Anderson, 1985; Ganschow, 1983).

Young children who teach themselves how to write progress through several stages and rely primarily on sound-letter correspondence. As they move toward conventional spelling and gain more experience with print, they develop a more integrated view of the writing system and its levels (Anderson, 1985).

Ganschow (1983) states that older students and adults who are good spellers have more explicit knowledge of the underlying regularity in the writing system. They have made a qualitative shift from the use of a variety of highly effective strategies which draw on lexical memory and deep levels of linguistic analysis.

Older students and adults who are poor spellers appear to use a limited number of strategies. They rely primarily on phonological, or surface level, information when spelling polysyllabic words as well as derived forms. They apparently have not yet internalized information about the underlying rules and constraints of the writing system and thus fail to generalize those rules when appropriate (Anderson, 1985).

Ganschow (1983) stated that learning to spell need not be a mindless task of memorizing words. According to recent findings about parallels between learning to talk and learning to spell, both oral and written language appear to be highly structured and both develop systematically.

### Developmental Approaches to Teaching Spelling

One finding about how children learn language is the discovery that they actively work at determining the rule systems governing their language and do so in systematic ways unique to them and uninfluenced by adult models. This finding has an important implication for teaching spelling. Just as children acquire and develop language in their own way, teachers need to allow children to test their hypothesis about the writing system through ongoing writing practice (Ganschow, 1983).

Another finding is that children learning language make systematic and predictable mistakes, based on their notions of language rules. Knowing what mistakes children make can help therapists to diagnose what kind of help, if any, are needed. Teachers can use error pattern analysis to diagnose spelling problems and plan remediation strategies (Anderson, 1985).

The errors children make in language learning have been found to be influenced by developmental factors. Speech and language therapists can make qualitative judgments about the appropriateness of an error to the child's age and maturity. Likewise, in spelling, recent findings suggest that teachers can make qualitative judgments about misspellings if they understand that spelling accuracy develops in stages. Some spelling errors might be considered good errors because they are developmentally more mature than others (Ganschow, 1981). A practical technique that helps teachers and children focus on quality of error rather than quantity is to reward children for the number of correctly produced letters. Allowing for letter accuracy gives children credit for parts of words they have hypothesized accurately (Anderson, 1985).

If a child's rendition of a word is nonphonetic or semiphonetic, then the child may not have mastered the rudimentary concept that words are made up of sounds representing specific letters or letter combinations (Hanna, Hanna, Hodges, & Rudorf, 1966). For Dysphonetic spellers teachers may need to focus on breaking down words into component sounds (Ganschow, 1983)

Some learning disabled poor spellers may attempt a phonetic rendition of words by over generalization and use of inappropriate rules. Recent investigations on spelling acquisition suggest that these poor spellers may not be assimilating rules governing intraword relationships. They may be stuck at a surface or phonological level of word knowledge (Hanna, Hanna, Hodges, & Rudorf, 1966), (Templeton, 1983). Teachers may need to assist children in looking at morphological, syntactical, and derivational aspects of words (Ganschow, 1983).

Language therapy intervention programs generally stress induction of a particular rule through language patterning. Teachers can highlight spelling regularities through spelling patterning. Hodges (1982) urges teachers not to teach words strictly by memorization. Rather, he emphasizes beginning with predictable patterns. Support for underlying spelling regularity comes from a computer study of seventeen thousand most common words which showed that fifty percent of these words were spelled with one hundred percent accuracy by the computer and another thirty-seven percent were spelled with only one error (Hanna, Hanna, Hodges, & Rudorf, 1966). To highlight predictability, contrasting spelling patterns can be introduced to children through the technique of sorting games (Sulzby, 1980).

In spelling instruction teachers can show children how to model adult spelling through self-correction. The self-corrected test has been found to be the most important single factor contributing to achievement in spelling (Allred, 1977).

## Traditional Spelling

Traditional spelling instruction as it is implemented in schools leaves much to be desired. Commercial programs often fail to provide solid instructional strategies for teachers, and teachers may rely exclusively on publisher provided workbooks and reinforcers, as well as on the standard testing and retesting of word lists. This reliance on canned "teacher-proof" materials is cause enough for alarm, but is made worse by the fact that under these conditions the teacher herself or himself seldom gives any actual spelling instruction (Hillerich, 1982).

In a year long study, Morris, Blanton, Blanton, and Perney (1995) found that spelling books provided carefully selected lists of grade appropriate words but did not consistently emphasize research based strategies for learning the words (e.g. self-correction, pretest, and a study method). The teachers' instruction followed closely the suggested activities in the spelling books, and the students varied greatly in their mastery of the grade level spelling patterns. Results indicated at years end, two-thirds of the students could spell eighty-six percent of a curriculum based list correctly, but the lowest third of students could spell only forty-six percent correctly. These problems, serious though they may be, are not sufficient reason to abandon the formal spelling curriculum. In fact, work by developmental researchers and clinicians suggest ways that the traditional commercial program can be managed so as to make it both more effective and more stimulating (Schlagal & Schlagal, 1992).

Teachers need to determine and use instructional levels when placing students in a traditional spelling program. One serious problem with the way that spelling programs are implemented is the almost universal use of uniform grade placements. Since children master the principles of English spelling at different rates, unitary placement makes little sense. When children have an inadequate base in word knowledge, they rely heavily on rote memory to learn assigned words. If what is learned by rote does not fit with current intuitions about how words are built, such a strategy fails in the long term. Words



memorized for Friday's test are forgotten by Monday. When children are forced to deal with words at too advanced level, their learning strategies may become confused (Schlagel & Schlagel, 1992).

Adjusting children's placement in spelling instruction can be done easily by determining their instructional level for spelling. A developmental spelling inventory or end-of-unit test given prior to the teaching of the unit words may be used for this purpose. A study by Morris, Nelson, and Perney (1986) suggests that finding children's instructional spelling level is sound practice because the pattern of spelling errors tends to remain fairly coherent until the point where students miss more than fifty percent of the words. Thereafter, invented spellings may deteriorate.

#### Research Based Spelling Strategies

Because spelling skills are essential to effective written expression, they are an important component of language arts instruction for students with disabilities. Unfortunately, some special education teachers have misconceptions about methods of spelling instruction that lead them to use techniques that lack empirical support (Vallecora, Zigmond, & Henderson, 1985).

There are many subskills and abilities demanded in the act of spelling. Individuals must be able, initially, to read the words; they must be knowledgeable and skillful in certain relationships of phonics and structural analysis; they must be able to apply appropriate phonic generalizations; they must be able to visualize the appearance of the word; and finally, they need to have the motor facility to write the word. Difficulties in spelling may be due to a deficit in any combination of the above skills (Lerner, 1985).

In addition to phonological generalizations, the ability to spell appears to be related to visual sequential memory. The student who is unable to remember or visualize the letters and order of the letters in words will be poor in spelling. Many of the techniques that have been successful in teaching spelling have, in effect, been ways to strengthen

visual sequential memory (Lerner, 1985). Fernald (1943) developed a tracing technique to teach spelling that reinforced the visual image of the word by using the tactile and kinesthetic modalities. To spell a word correctly, the individual must not only have stored the word in memory, but also be able to retrieve it completely. Unlike recognizing a word in reading, there are no visual clues (Lerner, 1985).

If visual memory is a problem, activities to help strengthen and reinforce the visual memory of the spelling words are suggested. If deficits in auditory perception of letter sounds or auditory memory problems makes it difficult to hold the sounds or syllables in mind, the teaching plan should take these factors into account. Motor memory is also a factor in spelling, for the speller must remember how the word "felt" when it was previously written. In addition, intersensory transfer probably plays a crucial role in developing efficient spelling ability. A crossing and integrating of visual, auditory, and kinesthetic functions must take place before the spelling of a word becomes a subconscious, automatic process (Lerner, 1985).

Effective methods of teaching spelling to students with disabilities recently have been documented in a number of articles. Frank, Wacker, Keith, and Sagen (1986) found directed spelling instruction to be an effective procedure for teaching spelling. The procedure was demonstrated to be effective with four learning disabled students. During the five week training period, four measures of effectiveness were used: percentage of words spelled correctly on tests; percentage of letter sequences written correctly on tests; special education ratings of the usefulness of the procedures; and spelling performance in written work. The teacher-directed method of spelling instruction includes the following features: each study session is teacher directed; students are responsible for checking the accuracy of their work during each lesson; daily spelling tests are given; and systematic review of the words learned is provided.

Placing successfully practiced words into a "known word" folder will provide a systematic review because these words will move toward the front of the folder over time

and ultimately be put back into the student's word envelope for additional study (Frank, Wacker, Keith, & Sagen, 1986).

The results indicated the teacher directed method of spelling instruction had positive results. However, two pragmatic questions were left unanswered. Can similar improvements in spelling performance be obtained when students are instructed in groups and will these spelling programs result in improved spelling in children's written communication?

Fitzsimmons and Loomer (1984) researched best ways to teach spelling. In this study eight recommendations were made to teach spelling: present spelling words initially in list form; begin with the words used most often in children's and adult's writing; have each child correct his or her own test under teacher direction; teach the spelling of the whole words, don't break them into syllables; don't teach phonics rules while you are teaching spelling - do one thing at a time; spend one hour and twenty-five minutes a week on spelling (seventeen minutes per day); the test-study method is better than the study-test method; and if the object is just to learn to spell the words, it's not necessary for children to know all their meanings. Meanings can be taught later.

Harward, Allred, and Sudweeks (1994) assessed spelling achievement of fourth graders using four self-corrected test methods. Two hundred nine children in two schools were randomly assigned to one of four treatments. Methods included visual and listwise, visual and wordwise, oral and listwise, and oral and wordwise. There were no significant differences in gains between visual and oral modes or among presentation, mode, gender, and ability. However, it was determined that students should use the self-corrected test method of spelling study.

Wirtz, Gardner, Weber, and Bullara (1996) found similar results when conducting a study comparing traditional spelling instruction versus self-correction on six low achieving third grade students. Self-correction was found to be effective in improving the spelling performance of students with disabilities.

The traditional spelling instructional strategy consisted of the students being engaged in several different instructional tactics Monday through Thursdays. The self-correction method provided each student an opportunity to spell each word correctly on his or her spelling list and then to compare his or her effort to an answer key. In the self-correction condition, each of the six subjects improved his or her mean score on the weekly spelling test over his or her mean performance in the traditional condition. The self-correction strategy proved more effective in helping students to maintain their ability to correctly spell previously learned words.

Researchers have become increasingly interested in developing spelling strategies that can be adapted to the specific needs of learners (Dargel, 1989). These strategies can be either teacher centered or student centered. Remedial strategies such as the Fernald (1988) approach, the Gillingham method (Gillingham & Stillman, 1970), and others have demonstrated success in improving the spelling skills of students with learning problems. These remedial strategies allow instruction to be individualized. However, these teacher centered strategies require a significant amount of teacher time.

Students with learning disabilities have also been taught to use a self-directed spelling strategy (Graham & Freeman, 1985). These students were able to learn as many words as students who were instructed with a teacher-directed method, or students who used the self-directed method but who were monitored by the teacher.

Graham (1983) found three principles to effective spelling instruction. One principle upon which an effective program is based is that spelling instruction must be individualized. Individual children do not encounter the same difficulties in learning to spell, nor do they learn at the same rate.

A second principle is that effective spelling instruction is planned, monitored, and modified on the basis of assessment information. Examination of each students' present level of performance, strengths and weaknesses, unique learning needs, and progress is

essential for developing and delivering an appropriate program (Hudson & Graham, 1978).

Third, the effectiveness of a spelling program is heavily dependent upon students' attitudes. Regardless of the quality of the program, progress may be restricted if students are not interested in spelling or are not motivated to spell words correctly. Since students' attitudes and the instruction they receive are related, techniques designed to foster positive attitudes should be an integral part of the total spelling program (Graham, 1983).

In addition, Graham (1983) found seven empirically based practices for use within the classroom. For grades two through six, the test-study-test method is superior to the study-test method. An initial pretest is an important factor in building positive attitudes toward spelling instruction. Students' learning should be directed towards words they cannot spell. The use of the test-study-test method indicates which words in a spelling lesson are unknown. The student is first given a pretest to determine which words require study. Once the unknown words are identified, the student studies them. Next, the test is given a second time and the teacher notes which words are spelled incorrectly. Misspelled words are then incorporated into future lessons.

Under the direction of the teacher, students should correct their own misspellings. Immediately after taking a spelling test, students should correct their spelling errors under the teacher's direction. The corrected-test method is advantageous because it allows students to see which words are difficult for them and to correct errors. The corrected-test method can be applied to both the pretest and the posttest of the test-study-test method (Graham, 1983).

Each student should be taught an efficient, systematic technique to study unknown spelling words. Without proper assistance, most students are not able to generate effective word study techniques. Allowing students to devise their own methods for studying spelling words is not advisable. An effective word-study method should concentrate on the whole word and require careful pronunciation, visual imagery, auditory

and/or kinesthetic reinforcement, and overlearning. Simply having a student write a word several times will not ensure spelling retention (Graham, 1983).

Graham (1983) makes four recommendations for spelling instruction that are empirically based. First, it is more efficient to present words for study in a list or column than in a sentence or paragraph. Presenting words in a list or column focuses attention on each and every word.

Second, words to be studied should not be presented in syllabified form. The attempt to divide words into syllables or parts has not demonstrated any advantage over the whole word method of presentation. It should also be noted that research has consistently shown that drawing attention to the so called hard spots within words is of little benefit in improving spelling ability (Rosemeier, 1965).

Third, spelling games promote student interest. Spelling, in and of itself, is not intrinsically motivating for most students. Games and special devices have often been used as a means of improving spelling attitudes. Games should only supplement rather than supplant instruction (Graham, 1983).

Finally, approximately sixty to seventy-five minutes per week should be allotted to spelling instruction. Most students do not benefit from extended periods of study in spelling. Fitzsimmons and Loomer (1984) made similar recommendations as to allotted time.

#### Graham and Freeman (1985) Study Strategy Spelling Method

Graham and Freeman (1985) conducted one study that examined the recall performance of forty fourth grade learning disabled students in response to strategy training and variations in study conditions. Following individual training in the use of a five step study strategy, students studied fifteen spelling words for thirty minutes under one of the following three conditions: (1) directed study - in which the instructor verbally directed the student's use of the study performance; (2) teacher monitored - in which

students were instructed to use the study procedure independently but were monitored and received assistance from the instructor as necessary; and (3) student controlled - in which students were told to use the study procedure to independently direct their behavior. In addition, students assigned to a free study group first played a spelling game with the instructor and then studied words in any manner they chose.

Two days later, subjects participated in the same study and test procedures, using a new list of fifteen words. Results indicated that while students who were taught the five step study strategy recalled the correct spelling of more words than those who devised their own study method. The spelling performance of students who received strategy training was not differentially affected by variations in study conditions and students' spelling performance did not improve from session one to session two (Graham, 1983).

### Direct Instruction

In research on effective teaching, the term "direct instruction" is used generically to define effective utilization of classroom time. Direct Instruction (DI) in this paper refers specifically to the University of Oregon Direct Instruction Model. This model emerged in the 1960's when the instructional theory of Carl Bereiter and Siegfried Engelmann was fused with the behavior analysis approach of Wesley Becker and Douglas Carnine. The DISTAR programs in reading, language, and arithmetic were the products of this alliance. Today, the Direct Instruction model is unique in its precise, systematic approach for building and maintaining basic cognitive skills (Becker, 1977). The DI model has generated over one hundred instructional programs, method texts in reading and math, and an extensive theory of instruction (Carnine, Silbert, and Kameenui, 1990).

Direct instruction examines all aspects of instruction including: classroom organization and management, quality of teacher-student interactions, curriculum design, and teacher presentation. Its cornerstone is the systematic, explicit teaching of academic strategies to all students. What discriminates DI from other approaches is the linkage of

detailed curriculum with highly refined teaching techniques (Gersten, Carnine, Zoref, and Cronin, 1986). All of the programs are built upon the principle that learning the basic skills is central to intelligent behavior (Becker, 1977), and that unless students master basic academic strategies, there is little likelihood of them ever mastering complex skills (Gersten, 1986).

The key assumptions of DI are as follows: 1) all children can be taught and the teacher is responsible, 2) to "catch up", low performing students must be taught more, not less, and 3) the task of teaching more requires the careful use of educational technology and of time (Becker & Carnine, 1980). Direct Instruction was specifically designed for instructionally naive students because they do not readily retain newly presented information, are easily confused, and have difficulties attending to an instructional presentation for more than a few minutes (Carnine, Silbert, & Karneenui, 1990). The design of Direct Instruction is based upon the principle that for students to learn, materials and teacher presentation must be clear and unambiguous (Stein, Peters, Lloyd, Hasselbring, Goin, & Bransford, 1987).

Research on the outcomes of DI has produced extensive evidence for its effectiveness (Gersten, Carnine, & Zoref, 1986; Becker, 1977; Becker & Carnine, 1980). The best known and perhaps the most persuasive research concerning Direct Instruction surrounds Project Follow Through (Becker, 1977). DI was compared to other models to see which was the most useful in "catching up" disadvantaged students. The results have been discussed by various authors including Gersten, Carnine, Zoref, and Cronin (1986), Becker (1977), Meyer (1984), and Becker and Carnine (1980). Becker's (1977) report will be used to illustrate a sample of the results.

Becker (1977) reports results for students entering the program in 1969-71. The subjects were eight thousand students from a cross section of lower socioeconomic groups including rural and inner-city Blacks, rural Whites, Mexican-Americans, and Native Americans. Outcome measures included Basic Skills (word knowledge, spelling, math



computation, and language), Cognitive-Conceptual Skills (reading, comprehension, math concepts, math problem solving), and Affective Measures (self esteem and locus of control). Becker (1977) reports evidence demonstrating that in all these areas the Direct Instruction model produced more statistically significant differences than any of the other eight models included. On the Metropolitan Achievement Test, students who began DI programs in Kindergarten had achieved the following percentiles by the end of grade three: Total reading - forty-one; Total math - forty-eight; Total spelling - fifty-one; Language - fifty. The average percentiles for the eight other models were respectively twenty-four, sixteen, twenty-eight, and twenty.

The results reported by Becker (1977) showed that although all students in the Follow-Through Project were considered "high risk" because of their disadvantaged backgrounds, the Direct Instruction model produced outcomes at or near the national norms on all of the measures by grade three. Some outcomes with the DI model were even more dramatic. For example, on a measure of word recognition, students who scored at the eighteenth percentile when they entered Kindergarten were scoring at the eighty-third percentile by the end of grade three.

Meyer (1986) conducted a longitudinal study to see how the students who had been in the DI groups had performed after leaving Project Follow-Through. The primary research question was how the Follow-Through graduates compared through high school with a control group. The results showed that significantly fewer Direct Instruction Follow-Through graduates (twenty-eight percent) dropped out of high school than did control group students (sixty-one percent). Twice the percentage of Direct Instruction students (thirty-four percent) as controls (seventeen percent) were accepted for college. This study has demonstrated that there are apparent long-term affects of Direct Instruction (Meyer, 1986).

Brent, DiObilda, and Gavin (1986) researched the effectiveness of Direct Instruction in a "transitional classroom" for students who did not have the necessary skills

to be promoted to the next grade. Results indicated that seventy-eight percent of the students in the Direct Instruction programs were promoted because their academic achievement levels were on target with national norms. Zero percent of the control group was promoted.

Gersten (1985) evaluated six studies using DI with special education students and found DI to be an effective instructional model when used with mentally retarded and learning disabled students. The studies he evaluated demonstrated the effectiveness of Direct Instruction in teaching language skills, functional literacy skills, and independent living skills to moderately retarded students, as well as reading and math to learning disabled students.

In reporting on the teaching of reading to learning disabled students, Becker (1977) found the results so persuasive as to conclude that Direct Instruction could virtually eliminate decoding problems with learning disabled students. Brent (1986) reported that to witness up to two months of gain for each month of instruction using the Direct Instruction reading programs with learning disabled students is not uncommon. Other studies reporting favorable results for DI reading programs with learning disabled students are Lloyd, Cullinan, and Heins, 1980) and Tarver (1986).

A review of Direct Instruction research with special populations led Gersten (1986) to conclude that a reasonably large number of studies have shown that DI reading and language programs consistently produce higher academic gains than traditional approaches in both mainstream settings and self-contained classrooms across a range of handicapping conditions.

Sommers (1995), in a seven year study of the basic skills program at the Big Piney Middle School in Big Piney, Wyoming, found that when using Direct Instruction more than a month was gained each month for each subject when the one hundred twelve students scores were averaged. The learning of students who had fallen behind can be

accelerated so that these same students learn at a faster rate than average, using Direct Instruction.

The Big Piney Middle School basic skills program used the Direct Instruction programs of SRA Corrective Reading, SRA Corrective Mathematics, SRA Expressive Writing, and SRA Corrective Spelling Through Morphographs (Sommers, 1995). All students had to be below the fiftieth percentile on two standardized tests to be placed in the program. Most of the students were two or three years behind their grade level. In the past, they had not gained a month for each month of instruction, but had fallen further behind (Sommers, 1995).

Marston, Deno, Kim, Diment, and Rodgers (1995) found in a comparison of six researched based reading teaching strategies that the Direct Instruction group showed significant achievement. The study was conducted using thirty-seven special education resource teachers and one hundred seventy-six students with mild disabilities. The approaches included peer tutoring, reciprocal teaching, effective teaching principles, computer-aided instruction, and two direct instruction models, all used in reading instruction.

The previous research provides a basis for the study that will be undertaken by this researcher. The study will be looking at the benefits of using the SRA Spelling Mastery program. Since the Direct Instruction method has been shown to be an effective and empirically based method of teaching, it is expected that the students enrolled in the program will increase the number of words learned as compared to the Graham and Freeman (1985) five step method.

## CHAPTER III

### DESIGN OF THE STUDY

The use of Direct Instruction (DI) with students with disabilities in reading and mathematics, has been supported in the research for over twenty years. Most, if not all, of the research deals with the use of DI in reading and mathematics. The purpose of this study is to see if students using the SRA Spelling Mastery Program will learn to spell more words as compared to similar students who are utilizing the Graham and Freeman (1985) five step study strategy.

#### Setting

The setting of this study is in an Emotionally Disturbed Program in the Gloucester County Special Services School District. The classification of emotionally disturbed is given to the classroom due to the variety of behavioral concerns of the students in the program. The classroom is self contained with limited opportunity for integration into the mainstream. The children are integrated into the regular education population in the lunch room and on the playground.

Gloucester County Special Services School District rents classroom space in various sites within the county's public school systems. Most of the children are in out of district placements. The role of the district is to serve the needs of low incidence handicapping conditions or children who do not fit into placements within their home districts.

There are two emotionally disturbed classrooms located in the setting. Between the two classrooms there are eighteen students, two teachers, five classroom assistants, and one MST intern.

### Subjects

The subjects of this study include seven males and two females ranging in age from six years nine months to nine years seven months. Their IQ's range from seventy-three to one hundred twenty-three ( see table number one). Because of the nature of the program, there are many varied types of classifications among the students. The classifications include four emotionally disturbed, two neurologically impaired, two perceptually impaired, and one communications handicapped. The one shared disability among all the subjects is their behavioral concerns.

Gerry - Gerry was classified at five years of age as neurologically impaired. Gerry's abilities in the area of spelling fell within the superior range. The percentile rank was ninety-nine and the standard score was one hundred thirty-four as measured by the results of the Woodcock Johnson Test of Cognitive Ability. Gerry is now six years, nine months of age.

Gerry's IQ, as measured by the Wechsler Intelligence Scale for Children, Third Edition, was verbal IQ one hundred thirty-one, performance IQ one hundred ten, and full scale IQ one hundred twenty-three. A psychiatric evaluation revealed a diagnosis of Attention Deficit Hyperactivity Disorder, and she was started on Ritalin. Gerry's attentional problems are probably secondary to other primary neurological problems. Some of her deficits are typical of children with Asperger Syndrome. Children with this syndrome have average to superior intelligence, but have difficulty socially because of deficits in terms of social intelligence.

James - James was classified at four years of age as preschool handicapped. Results of the Bender Motor Gestalt Test indicated visual motor integration skills to be at an age-appropriate level. Results of the Attention Deficit Disorder Evaluation Scale indicated levels of inattentive, impulsive, and hyperactive behaviors all to be within an acceptable range. James is now seven years, four months of age.

James' IQ, as measured on the Weschler Preschool and Primary Scale of Intelligence in 1993, was verbal IQ ninety-five, performance IQ one hundred eleven, and full scale IQ one hundred three. A psychiatric evaluation revealed a diagnosis of Attention Deficit Disorder, Childhood Depression, as well as a reaction to significant family stress and strain factors. James is taking Ritalin for Attention Deficit Hyperactivity Disorder.

Kerry - Kerry was classified at five years of age as emotionally disturbed. Kerry's score on the Broad Written Language Cluster of the Woodcock Johnson-Revised Test placed him in the very low range with a one year three month grade equivalent. On the Dictation Subtest, he scored in the very low range with a one year one month grade equivalent. This subtest assesses the skill in writing single-word responses involving spelling, punctuation, capitalization, and word usage. He was able to form dictated letters and spelled "I" and "green". Spelling ability is very limited. He tries to spell phonetically, but has much difficulty with medial vowels and consonants. Kerry is now nine years, seven months of age.

Kerry's IQ, as measured on the WISC-III, was performance IQ of eighty-nine, verbal IQ of eighty-five, and a full scale IQ of eighty-six. This places him at the eighteenth percentile and within the low average range of overall intellectual functioning. A psychiatric evaluation revealed an adjustment disorder with disturbance of emotions and conduct. The emotional problems appear to be interfering with his being able to do what is expected of him at school. The evaluation continues to report that his poor academic skills are problematic and that his thoughts of suicide need to be taken seriously.

Tina - Tina was classified at six years of age as emotionally disturbed. On the TEWL, Tina scored well within the average range. Weaknesses were noted with spelling, especially vowel sounds and writing words in meaningful sentences. Tina is now seven years, three months of age.

Tina's IQ, as measured on the WISC-III, was verbal IQ of one hundred seventeen, performance IQ of one hundred two, and a full scale IQ of one hundred ten. This indicated that her overall intellectual functioning is equal to or better than seventy-five of individuals the same age. The corresponding classification is in the high average range of intellectual ability. A psychiatric evaluation revealed a child who becomes easily distracted by external as well as internal stimuli, which compromises her academic focus. She demonstrates selective listening skills and diminished frustration tolerance, with a propensity to abreact. Medication was recommended but not allowed.

Roger - Roger was classified at five years of age as neurologically impaired. Written language skills were marked by weakness in spelling and by limited ability in sentence writing. His writing was marked by inconsistencies in the legibility of his writing. His written language skills were measured to be at a grade equivalency of first grade fourth month on the Woodcock-Johnson Writing Sample subtest. Roger is now nine years, three months of age.

Roger's IQ, as measured on the WISC-III, was a verbal IQ of eighty-one, a performance IQ of sixty-nine, and a full scale IQ of seventy-three. This indicates that he is functioning within the "borderline" range of intellectual ability. The discrepancy between these scores was reported to be significant. Inconsistencies in learning acquisition were suggested given a pattern of intratest scatter. The Bender-Gestalt Test indicated an approximate three year delay in visual-motor integration skills. Significant deficiencies in visual-perceptual reasoning were noted.

From a social, emotional, and behavioral perspective, Roger continues to display impulsive, inattentive, and restless tendencies. Oppositionalism, mood liability, and aggressive, acting-out behaviors are typical. Roger is currently taking medications to deal with the impulsive behaviors.

Steven - Steven was classified at four years of age as preschool handicapped. On the Woodcock-Johnson Psycho-Educational Battery - Revised Test of Achievement, Form A (WJ-R ACH), Steven demonstrated average level abilities in spelling and usage. He receives speech language therapy, occupational therapy, and counseling. He uses an auditory trainer in the classroom. Steven is now seven years, two months of age.

Steven's IQ, as measured on the Stanford-Binet Intelligence Scale, Fourth Edition, was a full scale score of ninety-two. This indicated his overall level of cognitive development is within the average range of intelligence. Steven's strengths are in abstract visual reasoning areas. A neurodiagnostic evaluation diagnosed Steven with a language based learning problem, moderately severe oppositional-defiant behavior and Attention Deficit Hyperactivity Disorder (ADHD). A psychiatric evaluation revealed the same diagnosis. Steven currently takes Ritalin two times daily for his ADHD.

Jimmy - Jimmy was classified at eight years of age as emotionally disturbed. Written expressive skills seem to be a weak area, and his functioning appears in the below average range. On the spelling subtest, Jimmy tended to spell phonetically. Written expressive skills are also below average. Jimmy is now eight years, eleven months of age.

Jimmy's academic performance has suffered in school due to his emotional and behavioral difficulties. Problems have included fire setting behavior, oppositional defiant behavior, aggression towards peers, siblings, and adults. Jimmy's behavior deteriorated sufficiently over the last six months that he has been placed twice in a psychiatric unit to try to gain control of his behavior. He left the psychiatric unit taking medications, which



has had a variable effect in terms of improving his behavior. No formalized testing could be administered due to Jimmy's highly oppositional, defiant behavior.

Aaron - Aaron was classified at seven years of age as perceptually impaired. On the Wechsler Individual Achievement Test (WIAT), Aaron scored below grade expectancy on the reading and writing subtests. Word recognition was slow. Aaron's spelling reflected his weak word recognition. He relied on a visual approach. Letter sequence was frequently confused. Aaron used a visual check to catch his spelling errors. Encoding skills are weak. Aaron confused short vowels and omitted the first sound in consonant blends. His mispronunciation of words hinders his success with spelling. Aaron is now nine years, five months of age.

Aaron's IQ, as measured on the Weschler Intelligence Scale for Children, Third Edition (WISC-III), was one hundred thirteen verbal, one hundred two performance, and a full scale IQ of one hundred eight. The overall picture is of average intelligence capabilities with average functioning in the verbal and functioning in the performance domain in the high average range. Analysis of the IQ results illustrated significant discrepancies between subtests, illustrating the presence of some learning disability(s) and/or general areas of developmental delay. A psychiatric evaluation diagnosed Aaron with Attention Deficit Disorder with Hyperactivity and prescribed Ritalin twice daily. Although medication was tried, the father has discontinued its use.

Tom - Tom was classified at eight years of age as perceptually impaired. Tom received an age score of seven years, eleven months on the Beery Buktenica Developmental Test of Visual-Motor Integration. Although his scores were within the average range for his age, some problem areas were noted. Tom has difficulty expressing himself in written form. The difficulty was seen in both the motoric component of writing the answer and in the expressive component. Frequent spelling errors interfere with the

meaning of his writing. A severe discrepancy was found in the area of spelling when intelligence and academic achievement were compared. Tom is now eight years, two months of age.

Tom's IQ, as measured on the Wechsler Intelligence Scale for Children-Third Edition (WISC-III), was one hundred five verbal, one hundred two performance, and a full scale IQ of one hundred four. His intelligence tested to be within the average range both verbally and performance wise. Weak areas were observed in math reasoning and psychomotor speed. The Bender Gestalt Visual Motor Test demonstrated visual motor problems, disorganization and impulsivity. A psychiatric evaluation revealed a diagnosis of an Impulse Control Disorder, and or Anxiety Disorder. Tom was taking twenty milligrams of Ritalin daily for his ADHD, but his mother has discontinued its use.

**Table Number One - Subject's Information**

Name	Age	IQ	Classification
Gerry	6yr. 9mo.	123	NI
James	7yr. 4mo.	103	ED
Kerry	9yr. 7mo.	86	ED
Tina	7yr. 3mo.	110	ED
Roger	9yr. 3mo.	73	NI
Steven	7yr. 2mo.	92	CH
Jimmy	8yr. 11mo.	none reported	ED
Aaron	9yr. 5mo.	108	PI
Tom	8yr. 2mo.	104	PI

#### Instrument

In order to record the spelling progress of the students, three forms were developed. The first form was designed to follow the Graham-Freeman five step study strategy. It is divided into three sections. In the first section the student records his/her spelling attempt. In the second section the student traces the word, saying each letter as

he/she traces the letters, under teacher direction. In the last section the student records his/her final spelling attempt for the day's spelling exercise.

The second form was designed to record the spelling words from the student's weekly spelling tests. This form has twenty blanks that allows for testing the ten current words and the ten words from the previous week.

The third form was designed to record the student's unit spelling tests. This form has twenty-five blanks that allow for reviewing the thirty words from a three week period. (see appendix number one)

### Procedure

Prior to intervention, each student was given a spelling placement test. The placement test used was from the Science Research Associates (SRA) Spelling Mastery Program A-F. All students were tested during the first two days of school unless they were new students who entered the program later.

After completion of the placement tests, all students were placed in their appropriate groups (A-F). Only those students who placed in level B on the Spelling Mastery placement test were included in this study. The nine students who placed in Spelling Mastery B were then selected to be in either the SRA Spelling Mastery program or the Graham and Freeman Five Step Study Strategy. Students were selected according to IQ and spelling as measured on the SRA Spelling Mastery placement test. Effort was made to keep groups equal according to the above mentioned criteria. Of the nine students, five were selected to participate in the SRA Spelling Mastery B Program and four were selected to participate in the Graham and Freeman Five Step Study Strategy.

After selection of the study groups, intervention was begun. Intervention consisted of teaching the (SRA) group using the Spelling Mastery B scripted program. The Graham and Freeman group used the identical spelling words, but utilized the Graham and Freeman (1985) Five Step Study Strategy.

The SRA Spelling Mastery Program is a scripted program and was used as such. Teacher training for using the program was received. Spelling Mastery B has one hundred twenty lessons, each lasting approximately fifteen to twenty minutes. Level B was designed for grade two students who have finished Level A or have mastered simple phonemic spelling, as determined by the placement test.

Level B was also designed to be taught at the rate of one lesson per day. Each lesson is divided into five different categories. Spelling patterns are introduced through teacher-directed activities. The patterns include: non-contingent generalizations which are spelling patterns that follow rules based on sounds; contingent generalizations; and expansions of non-generalized patterns.

The second category is sentences. Sentences introduce new members of non-generalizable patterns. The sentences also include words that are of high utility but have greatly irregular spellings; an example would be the word "were".

The third category is support activities. These verbal activities do two things. First, they make sure that students pronounce words correctly, and in a way that will facilitate their spelling. Other activities provide students with practice in listening to a spelled word and identifying the word.

The next category is worksheet activities which provide review and reinforcement for skills that are taught. The activities include proofreading, cartoon activities, matching, fill-in-the-missing-letter exercises, and an ongoing, cumulative spelling review. The final category is additional activities which include spelling bees and challenges.

The Graham and Freeman (1985) Five Step Study Strategy consisted of the teacher first saying the word, students repeating the word and attempting to write the word. Under teacher supervision, the students self correct. Next, the students trace a correct spelling of the word. Finally the students attempt to spell the word again.

Each spelling group had spelling each day for approximately twenty minutes. The SRA group completed five lessons, one each day, and had a test consisting of ten learned

words on Fridays. The Graham and Freeman group completed their five step study strategy for five days and had their spelling test consisting of the identical ten words as the SRA group on Fridays. After completion of the first weeks word, the students thereafter were tested on twenty words each Friday - ten words from the current week and ten words from the previous week. Every three weeks the students in both groups were given a unit test consisting of twenty-five words. The spelling study started the first week of October, 1996 and continued for twelve weeks. After twelve weeks, data from both groups was analyzed.

#### Analysis

The data was analyzed according to the number of correctly spelled words on the weekly spelling tests and the number of correctly spelled words on the unit spelling tests. In addition, on the weekly spelling tests, the ten words from the previous week will also be analyzed.

CHAPTER IV  
ANALYSIS OF THE DATA

The purpose of this study was to determine if students using the SRA Spelling Mastery Program would learn to spell more words as compared to similar students who utilized the Graham and Freeman Five Step Study Strategy.

Baseline placement tests were administered to all the students. Those students who placed in Level B of the SRA Spelling Mastery Program were used in this study. After ten weeks of intervention, data was collected and recorded. Results were analyzed within each category.

Table number one reflects the percentage scores achieved on the ten weekly spelling tests. After the first weekly test, a total of twenty words were tested. The twenty words consisted of ten words from the current week and ten words from the previous week. The mean score of the SRA group was seventy-eight on the weekly tests. The mean score of the Graham group was ninety-six. The SRA group had a low score of fifteen and a high score of one hundred, which reflects a range of eighty-five. The Graham group had a low score of eighty and a high score of one hundred, which reflects a range of twenty.

**Table Number One - Percentage Scores**

Name	Age in Months	Classification	I.Q.	Group	Weekly Test Scores										Mean
					1	2	3	4	5	6	7	8	9	10	
James	88	ED	103	SRA	100	100	86	95	100	100	90	100	100	95	96.5
Jimmy	107	ED		SRA	60	45	55	80	100	65	75	40	70	55	64.5
Gerry	81	NI	123	SRA	90	100	100	100	100	100	100	90	95	100	97.5
Tom	98	PI	104	SRA	70	45	50	85	90	90	90	90	85	90	78.5
Aaron	113	PI	108	SRA	60	45	50	65	80	70	70	45	40	15	54.0
Tina	87	ED	110	GRA	100	95	100	100	100	95	100	100	100	100	99.0
Steven	86	CH	92	GRA	100	100	100	100	100	100	100	100	100	100	100
Kerry	115	ED	86	GRA	80	80	85	95	95	100	85	90	90	85	88.5
Roger	111	NI	73	GRA	90	95	95	100	100	95	100	100	100	95	97.0

In the SRA group, James' and Gerry's scores showed relative consistency over the ten week period. James' range reflects a low score of eighty-six and a high score of one hundred. Additionally, James scored one hundred percent six out of the ten weeks. Gerry's range reflects a low score of ninety and a high score of one hundred. Seven out of the ten weeks he scored one hundred percent.

Other students in the SRA group, Jimmy, Tom and Aaron showed no consistency in weekly test scores and had a significantly wider range in percentage scores throughout the ten week period. Jimmy's range reflects a difference of fifty-five percentage points. Tom's range reflects a difference of forty five percentage points. Aaron's range reflects a difference of sixty-five percentage points.

The Graham group's scores showed more overall consistency. Steven scored one hundred percent over the ten week period. Tina's range reflects a low score of ninety-five and a high of one hundred. Eight out of the ten weeks she scored one hundred percent. Roger's range reflects a low score of ninety-five and a high score of one hundred. Five of the ten weeks he scored one hundred percent. Kerry's range reflects a low score of eighty and a high of one hundred.

Table number two reflects the data from the three unit tests. Unit one test data analysis revealed a mean score for the SRA group of seventy-eight with a standard deviation of twenty-three. The Graham group had a mean score of eighty-eight with a standard deviation of thirteen. An analysis of variance was performed on these scores. The procedure yielded an F of .542 which was not significant.

Unit two test data analysis revealed a mean score for the SRA group of eighty-six with a standard deviation of sixteen. The Graham group had a mean score of ninety with a standard deviation of twelve. An analysis of variance was performed on these scores. The procedure yielded an F of .13 which was not significant.

Unit three test data analysis revealed a mean score for the SRA group of seventy-eight with a standard deviation of twenty-nine. The Graham group had a mean score of ninety-six with a standard deviation of five. An analysis of variance was performed on these scores. The procedure yielded an F of 1.53 which was not significant.

**Table number two - Unit test scores**

Name	Age in Months	I.Q.	Group	Unit test 1	Unit test 2	Unit test 3
James	88	103	SRA	100	100	100
Jimmy	107		SRA	72	84	48
Gerry	81	123	SRA	100	100	100
Tom	98	104	SRA	76	88	96
Aaron	113	108	SRA	44	66	44
Tina	87	110	Graham	96	92	100
Steven	86	92	Graham	100	100	100
Kerry	115	86	Graham	72	72	96
Roger	111	73	Graham	84	96	88

Further analysis revealed a mean I.Q. score for the SRA group of one hundred nine. The Graham group had a mean score of ninety. The correlation between the test scores and I.Q. was not significant. The mean age for the SRA group was ninety-seven months. The Graham group had a mean age of one hundred months.

In order to show the differences in words gained between the SRA group and the Graham group, an analysis of the unit test scores was performed. Table number three reflects the gains made in words learned from the first unit test to the third unit test. All students showed an increase in words learned except one student in the SRA group. Three students in the SRA group showed no gain. One student showed a gain of twenty while the other student showed a decrease of twenty-four.

**Table number three - Unit test differences**

Name	Age in months	I.Q.	Group	Differences between unit test one and three
James	88	103	SRA	0
Jimmy	107		SRA	-24
Gerry	81	123	SRA	0
Tom	98	104	SRA	20
Aaron	113	108	SRA	0
Tina	87	110	Graham	4
Steven	86	92	Graham	0
Kerry	115	86	Graham	24
Roger	111	73	Graham	4



In the Graham group one student showed no gain. Two students showed a gain of four, while one student show a gain of twenty-four.

## CHAPTER V

### DISCUSSION AND CONCLUSION

This study was developed to determine if the number of words learned by students classified with learning disabilities and behavioral concerns would increase using the SRA Spelling Mastery Program as compared to those using the Graham and Freeman five step study strategy. The results indicate that although the differences between the two groups were statistically insignificant, the Graham group showed the higher mean score for both weekly tests and unit tests. Although it was hypothesized initially that the SRA group would learn more words than the Graham group, this did not occur.

Three areas were analyzed when reviewing the data. The age of the students, the IQ's of the students, and the classifications of the students. None were found to be a significant factor in the results. Although none were found to be significant, the age differences among the students merits discussion. In the SRA group, the ages of the students ranged from eighty-one months to one hundred thirteen months. This represents a difference of thirty-two months or almost three years. Additionally, in the Graham group, the ages of the students ranged from eighty-six months to one hundred fifteen months which represents a difference of twenty-nine months. Since research indicates that cognitive ability generally follows a chronological path in development, age may have contributed most to the success or failure of any one particular student (Harward, Allred, & Sudweeks, 1994).

Likewise, there are specific strengths and weakness in spelling differences among the nine students. One second grader, for example, seemed to have greater knowledge about spelling rules than did most of the fourth and fifth graders. Students who master

spelling rules appear to be better spellers than those that do not. The research of Becker (1977) agrees that mastery of spelling rules appears to be related to those students who are good spellers.

The classification of the students is another factor which warrants discussion. Even though the classroom is a class for emotionally disturbed students, not all the students had that classification. In the SRA group, three of the five students were identified as having learning disabilities. Additionally, in the Graham group, two of the four students were classified learning disabled. In both groups combined, five of the nine students in this study were classified with learning disabilities.

Even though many of the areas that were analyzed showed differences that were insignificant, one area that was not analyzed was attendance. Two students in the SRA group missed a total of twelve days of instruction. Research has shown a direct correlation between attendance and school achievement.

In analyzing some of the differences between the two teaching strategies, some observations were noted. The two strategies did provide the students with the consistency and structure of an effective program. However, the Graham and Freeman strategy provided a kinesthetic approach utilizing both visual and auditory modalities. Conversely, the SRA strategy relied almost entirely on the auditory modality. It may be concluded that the learning disabled students in the Graham group appeared to have benefited from the multi-modal approach of the strategy.

A serious limitation to this study is the small number of students in the groups. In order to determine conclusively whether the SRA Spelling Mastery Program is an effective program, it would be necessary to have a larger number of subjects divided into groups; a group which utilizes the SRA spelling program and a control group who does not. Results then could be compared more effectively. Further suggestions for a future study would include: expanding the study to include non-learning disabled students; increasing

the time period for the study; and devising both a pre-test and post-test to measure mastery of new spelling rules.

Direct Instruction is a systematic educational approach which combines detailed curriculum with refined teaching techniques. Over the past twenty years the use of Direct Instruction has increased to include millions of students (Becker, 1984). Research on the effectiveness of Direct Instruction during this time has also accumulated and has been briefly mentioned in this paper. There is ample evidence to conclude that the Direct Instruction Model is a powerful approach for remedying the educational deficits of disadvantaged and handicapped students (Meyer, 1986). However, this author would like to see actual studies conducted using the SRA Spelling Mastery Programs with students with learning disabilities.

At the time of this study, this author could not find research supporting the effectiveness of the SRA Spelling Mastery program with students with learning disabilities or any other students. Although there is empirical data supporting Direct Instruction strategies, there is none that directly supports the effectiveness of the SRA Spelling Mastery program.

The results of this study coincide with previous research in the area of the Graham and Freeman five step spelling strategy. The research of Graham (1985) and Graham (1983) agrees that using the test-study-test spelling method is an effective study test method as compared to the study-test method.

An additional benefit to the use of the Graham and Freeman strategy was the use of the self-corrected test method. The research of Harward, Allred, and Sudweeks (1994) agrees that using the self-corrected test method is an effective strategy.

It is this author's opinion that there are no quick and easy solutions to quiet the many voices of concern. We, in education, have been looking for "quick fixes" on too many occasions. In the case of spelling instruction, we must return to what we know. We know we cannot continue some of the spelling instruction practices that are presently all

too common. We know this because they do not work. They do not provide meaningful, purposeful and functional language experiences for students.

It is generally accepted that the purpose of spelling instruction is to write. Thus, our spelling instruction must be part of the writing experience that occurs. We also know that students develop an understanding of language through reading. Therefore spelling instruction must be part of the reading experience. By providing an environment that is rich in meaningful reading and writing experiences, we will go a long way towards helping children become effective language users. We must always remember that the goal of spelling instruction should be to develop the ability of children to communicate their thoughts and ideas to others. It must not, therefore, be seen as an end in itself.

It is time to consider changes in the way we have perceived spelling and the approach to spelling instruction. These changes must be based upon sound and fundamental principles of language development. We have been successful in adopting these principles to make reading and writing meaningful to students. It is now time to adopt a similar stance with respect to spelling. This plea to abandon traditional spelling instruction practices should not be misunderstood. It should not be equated to the notion that spelling is unimportant and should not be taught at all. The goal is to develop in students a "spelling consciousness" and a "spelling responsibility" through a variety of spelling strategies.

In summary, this study shows that using the SRA Spelling Mastery Program had positive results in words learned except with one student. Additionally, the use of the Graham and Freeman five step strategy showed greater positive results. The Graham group learned and retained a larger number of words over the ten week study.

The use of the Graham and Freeman five step study strategy appears to have benefits which would merit its use in the classroom. The Individualized Education Plans of many special education students state that a multi-modal method of instruction should

be used. The Graham and Freeman strategy provides a multi-modal approach to spelling instruction.

Since the completion of the ten week study, all the groups in the classroom are using the Graham and Freeman strategy. One reason for the change is that the students enjoy using the strategy. In addition, it builds in immediate success with the students correcting their own misspellings. During recent progress reporting, this researcher was amazed to find a marked improvement with all the students grades since the implementation of the Graham and Freeman strategy.

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## Appendix

### LIST OF SPELLING WORDS BY WEEKS

#### Week 1

had  
traps  
growl  
skim  
cow  
should  
weeds  
reach  
soil  
saw

#### Week 2

about  
cloud  
coin  
flag  
proud  
scram  
toil  
blast  
south  
flip

#### Week 3

count  
eating  
ground  
leaders  
out  
scrap  
splash  
spring  
strap  
string

#### Week 4

beetle  
feet  
green  
meet  
said  
wanted  
work  
bring  
read  
string

#### Week 5

barked  
fished  
gloves  
joined  
kept  
marked  
loud  
reached  
shouting  
smelled

#### Week 6

does  
little  
skunk  
stink  
dry  
high  
repeated  
rounded  
try  
why

#### Week 7

around  
drank  
handed  
there  
think  
those  
want  
said  
green  
mouth

#### Week 8

home  
could  
found  
pointed  
rank  
sink  
smashed  
thanks  
which  
your

#### Week 9

bird  
clay  
hunted  
day  
shrink  
tested  
spray  
shoes  
blue  
skip

#### Week 10

clouds  
thought  
through  
told  
good  
listed  
shook  
sign  
sound  
friend

#### Week 11

nowhere  
someone  
somewhere  
today  
touch  
working  
bold  
better  
flying  
read