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Walden University
2009

ABSTRACT

A Study of Direct Instructional Spelling Strategies and Their Effect on Students with Special Needs Who are Classified With Mild Mental Disabilities

by

Steven Douglas Preast

M.S., Walden University 2004
B.S., Park College 1988

Doctoral Study Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Education
Teacher Leadership

Walden University
April 2009

ABSTRACT

Spelling is a challenging task for many individuals, especially for those classified as Mild Mentally Disabled. Although considerable literature exists in the areas of special education and spelling, little research is evident involving these two areas in combination. In an attempt to address this gap, the researcher conducted a single subject research study to investigate the hypothesis that direct instruction of spelling enhances the spelling skills of students with special needs. Perceptions of parents, students, and teachers on how this program impacted student spelling skills was also investigated. Quantitative data from this study was collected from the SRA Spelling Mastery Placement pretest and posttest spelling scores of six Mild Mentally Disabled students and were analyzed using an independent measures *t* test. Qualitative data were collected from parents, students, and teachers through field observations, questionnaires, and journals using specific protocols. Qualitative data was analyzed using an adapted open coding approach. Emergent themes included the link between spelling and sentence creation, the link between spelling and reading competency, successful lessons, non-successful lessons, and changes that promoted successful lessons. Quantitative results from the study indicated that direct instruction had a positive impact on the spelling abilities of students with Mild Mental Disabilities. The qualitative data revealed that parents, teachers, and students perceive direct instruction as a viable teaching methodology in the instruction of spelling. This study informs social change by providing an effective approach for spelling instruction for special needs students and by highlighting the positive role spelling has in increasing student's reading and writing abilities.

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DEDICATION

This dissertation is dedicated to my children, parents, and most of all, my loving wife, Lois. Their daily love, support, and encouragement kept me going when things seemed overwhelming.

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I would like to thank, once again, my family for being so supportive during this doctoral journey. They sacrificed an incredible amount of time to allow “Daddy” study time. In addition, I would like to thank the Walden faculty and staff who provided a means to the final end, a Doctorate of Education degree. Special thanks to Dr. Cecil Fore, III for his leadership, guidance, and listening ear when times were tough. I would also like to thank Dr. Cristie Grunwald and Dr. Berry Persky for their help in finalizing this dissertation in an effort to help special needs children everywhere.

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SECTION 1:

INTRODUCTION TO THE STUDY

Background to the Problem

Children with disabilities are expected to achieve in society, both academically and socially. No longer is it acceptable to promote children with special needs through the grades without proven and documented achievement (Drew & Hardman, 2007). However, this achievement will vary with the academic and social abilities of each child (Drew & Hardman). This is what sets the special needs educator apart from their regular education peers; they must find, develop, and implement strategies and methodologies that will ensure success among all their students, no matter the disability (Smith, 2004).

Special education instruction has evolved from a segregated holding facility to one that strives to teach children the skills they will need to be independent, productive citizens. One such skill is spelling (Crawford, 2004). If children with special needs are going to meet the expectations society places upon them, according to Crawford, they will have to have the ability to communicate effectively through the written word. Writing, a direct result of spelling, gives individuals an opportunity to put their thoughts, desires, needs, and even limitations, on paper (Espin, Weissenburger, & Benson, 2004).

Research studies have identified multiple strategies for teaching spelling to children with special needs (Darch, et al., 2000; DiChiara, 1998; Heward, 2006; & Polloway, Patton, & Serna, 2008). There are limited research studies that identified strategies that increase spelling skills for children with special needs (Heward, 2006). Children with special needs have difficulty expressing themselves through the written

word due to a lack of spelling proficiency (Espin, et al., 2004). Westwood (2003), cited in Gregg and Mather, 2002, noted the following:

> Writing competence is based on the successful orchestration of many abilities, including those needed for lower level transcription skills as well as those essential for higher level composing abilities…Students who struggle to develop written language often construct a negative perception of the writing process as well as a negative image of their own capabilities to communicate ideas through writing. (p. 150)

Reasons for this difficulty vary in relation to the individual's disability. Stymied by the process of transferring ideas into logical sentences due to the inability to spell creates an atmosphere of frustration for both the teacher and student. Espin, Weissenburger, and Benson (2004) identified the writing process as a complex task that requires verbal skills, organizational thinking skills, and the ability to take these two processes and transfer them into logical written communication. Although writing is a daunting task for many students with special needs, through specialized instruction in spelling, success is achievable (Crawford, 2004). Larkin (2001) recognized the difficulties and frustration students with special needs experience when spelling. Accordingly, he noted that successful instruction must be systematic and relevant to the student.

Garcia, Meyer, and Walsh (2002) identified several areas where children with special needs are deficient; these include poor handwriting skills, inability to spell, lack of motivation, a lack of understanding or knowledge about a subject, and finally, the inability to take the information they have and organize it into logically sequenced products. In order to help children with special needs overcome these deficiencies, teachers must adopt strategies that address the cognitive and physical aspects of each deficiency. Lindsay (2004) noted, "the success of Direct Instruction is much more than

anecdotal: major long-term studies provide powerful evidence of its success, and disturbing evidence for the futility of the more popular techniques that dominate our schools" (p. 1). Direct instruction is a viable strategy teachers can use to overcome the frustration children with special needs experience when attempting to spell.

Fluent and cohesive writing, enhanced by spelling, addresses two primary functions: cognitive and physical (Crawford, 2004). Teaching the physical mechanics of writing occurs as children learn to transcribe letters onto paper at an early age. Direct instruction focuses on breaking lessons down into mini units designed to address both cognitive and physical strategies, especially for students who are at risk of failure (Smith, 2003). On the other hand, the cognitive function is more difficult as it involves thinking, a common deficiency in children with special needs. Zhang (2000) noted, "The process of writing begins in the mind, as writers first generate their thoughts and ideas, and then mentally plan what they will write" (p. 469). Strassman and D'Amore (2002) viewed writing as an extension of a child's thinking process. An intricate part of thinking in relation to writing is planning and developing a topic to write about, then organizing that topic into a logical sequence of written words that convey a specific message to a specific group of people. Many children with special needs, according to Smith, lack the mental aptitude to reach this higher level of thinking independently due to the inability to spell, but success is possible through illustrated, systematic, direct instruction.

McCulloch (2000) noted that educators need to recognize that language acquisition, including spelling when they asserted, "is a prerequisite for almost all other learning of significance" (p. 5). Darch, Kim, Johnson, and James (2000) explained why

children with limited cognitive functioning struggle with spelling, “they are less adept than students in general education in devising and utilizing spelling strategies that allow for systematic application of spelling rules” (p. 15). Direct instruction focuses on recognizing letter sounds, phonetics, learning common spelling rules and patterns, and sight word recognition (Anonymous, 1998). The premise of direct instruction is based on the, “belief that all children can learn and will do so if each task is analyzed and broken into smaller, minute tasks and taught sequentially” (DiChiara, 1998, p. 12). This breakdown of tasks gives children an opportunity to learn necessary spelling rules and procedures, practice, and make necessary corrections before attempting the formation of sentences.

Educators have the daunting task of teaching, and reaching, all children in every subject area. In order for this to be successful, research and testing of methodologies and strategies are critical. Methods and strategies that prove successful give all children an opportunity to succeed academically and socially in society (Heward, 2006). Larkin (2001) stated, “Students with learning disabilities need a supportive classroom environment that can help them recognize their strengths and feel confident about their abilities in order to achieve at least some degree of independent functioning” (p. 33). Many individuals believe that direct instruction is not a viable methodology or strategy in educating youth (DiChiara, 1998). Direct instruction critics believe that this strategy lacks flexibility, promotes systematic learning rather than creative learning, and does not advocate originality (Butyniec-Thomas & Woloshyn, 1997). The research disagrees as indicated by the data retrieved from Project Follow Through (Kameenul, Simmons,

Chard, & Dickson, 1997). Chapter 2 provides an in-depth discussion of Project Follow Through.

Engelmann and Carnine (1991) recognized that children learn from concrete examples and develop an understanding of new information or skills when generalized examples make connections from the known to new knowledge; bridging this gap is the key to learning. Learning does not stop here; using this new knowledge in various situations creates a new cycle of prior to new knowledge according to Engelmann and Carnine. Direct instruction advocates the breakdown of tasks into a series of sequential steps. Children are to master the tasks before moving on to the next task required (Smith, 2003). This provides children with special needs an opportunity to learn specific spelling skills, practice those skills, and make necessary corrections before attempting to generalize learned information in the formation of sentences using real life examples (Tarver, 2002). In addition to learning through examples, many scholars note that beginning spellers need to focus on recognizing letter sounds (Anonymous, 1998). Direct instruction shares this same theory and expands it to learning spelling rules and patterns.

Although there is research on direct instruction and spelling, little research exists in the area of direct instruction of a specific skill, spelling, to enhance the spelling abilities of children with special needs. For example, Crawford (2004) identified two specific aspects of writing: *authoring*, the topic or idea written about, and *secretarial*, spelling abilities and handwriting skills. Crawford believed that teachers should focus on the secretarial first in order to build the child's confidence and fluency in spelling and writing. This idea addressed two skills in unison, rather than just the skill of spelling.

Additionally, three of the deficiencies that Garcia, Meyer, and Walsh (2002) cited as deficiencies in learning to write are handwriting, spelling, and motivation. Although critical to the writing process, combining spelling with other skills does not give a true picture of the actual impact spelling has upon writing.

Not all scholars believed that spelling is a critical part in educating children with special needs. Darch, Kim, Johnson, and James (2000) noted that children with limited cognitive functioning have a difficult time writing since the process is, "one that includes handwriting, composition, and grammar that correct spelling was the least of their concerns" (p. 20). This is an idea that is controversial in the scholarly community and requires further studies to vindicate or dispute.

Children with learning disabilities can accomplish the task of spelling. Most children with disabilities realize they learn at a different pace than their peers (Thomas, 1996). Once the gap between the abilities of children with special needs and their regular education peers begin to close, a positive atmosphere that is conducive to learning will appear (Zhang, 2000). Additionally, Zhang found that children who increased their spelling skills had a notable change in their attitude toward the writing process and were positively motivated in other subject areas. In order to create this positive atmosphere, educators must attack these deficiencies full force with strategies that increase the child's cognitive functioning abilities according to Zhang. The ultimate goal of every educator should be to develop children into independent, productive citizens that will make positive contributions to society (Drew & Hardman, 2007). Larkin (2001) noted that everyone associated with children with disabilities needs to, "help them recognize their

strengths and feel confident about their abilities in order to achieve at least some degree of independent functioning" (p. 33). Direct spelling instruction has the potential to accomplish this daunting task (Lindsay, 2004). McCulloch (2000) stated, "what was correct linguistically decades ago is still correct today" (p. 3). The argument does not lie with the skill or concept; it lies with the instruction. Because of these discrepancies, further research is need into effective instructional methods.

Problem Statement

Current research that focuses on the direct instruction of spelling as an enhancement tool to increase the academic spelling skills of children with special needs is deficient (Garcia, Meyer, & Walsh, 2002). Broad research exists that evaluated several disabilities rather than targeting one specific disability for study (Westwood, 2003). For example, educators believed that children with limited cognitive abilities are not capable of creating and writing logical, comprehensive sentences due to, (a) a lack of understanding of the topic, (b) the inability to spell, (c) poor motor skills in handwriting, and (d) the inability to organize thoughts or ideas (Darch, Kim, Johnson, & James 2000; Strassman & D'Amore, 2002; Zhang, 2000). Contrary to these beliefs, researchers have discovered that by using systematic instruction teachers can help children with special needs can produce work compatible to their regular education peers (DiChiara, 1998; Henley, Ramsey, & Algozzine, 1996; Strassman & D'Amore, 2002; Zhang, 2000). Given these two conflicting views, the research problem addressed in this study is to discover what impact, if any, direct instruction has in the enhancement of academic spelling skills of children with special needs.

Purpose of the Study

The purpose of this study is to determine if direct instruction has a positive effect on the spelling ability in the development of Mild Mentally Disabled special needs students. Through a multiple baseline, single-case research inquiry, direct instructional spelling strategies were explored that impact, positively, negatively, or neutrally, the development of the child with special needs. Evaluation using the SRA Spelling Mastery Placement Test determined the baseline data (Dixon, Engelmann, & Bauer, 1999). The SRA Spelling Mastery Placement Test acts as an "initial guide for placement" (Dixon, et al., p. G7). Utilizing research that supports this study, the development of intervention instructional methods supported the participants in developing effective spelling skills. This study expanded on the current research by focusing on one specific deficiency, spelling acquisition, which potentially affects the academic abilities of children with special needs.

Conceptual Framework

Bandura (2001) developed the behavioral theory known as the Social Cognitive Theory. This theory advocated that children learn through imitation. A child observes a task or behavior and then repeats it (Grusec, 1992). If educators are going to create learning environments that benefit all children, they must be committed and flexible in utilizing proven learning theories (Thomas, 1996); one such learning theory is direct instruction. The direct instruction teaching approach is a proven methodology that is, "instructor centered and emphasizes the teaching of skills and concept" (Lefrancois, 1992, p. 352).

The conceptual framework of the Social Cognitive Theory developed by Bandura (2001) is the basis of this study (Lefrancois, 1992). Bandura focused on the connection between the individual learner, the environment, and the act learned or performed. Lefrancois noted that the bulk of responsibility for learning rests upon the learner who is required to, (a) pay attention to the specific task modeled; (b) think through the steps in performing the task; (c) physically perform the task, correcting any mistakes; and, (d) develop a sense of relevancy between the task and its practical use. In addition to the student learning and performing the actual task, Bernstein, Clarke-Stewart, Roy, and Wickens (1997) noted that the learner must develop a sense of self-efficacy if they are going to be successful in performing the tasks.

Many special needs curriculums focus on direct instructional teaching strategies (Polloway, Patton, & Serna, 2008). Embedded within the Social Cognitive Theory are direct instructional strategies (Kameenal, et al., 1997). Teachers model the tasks; students practice tasks with assistance, and finally, practice without assistance until the task is mastered (DiChiara, 1998). This study addressed spelling strategies with the direct instructional method, focusing primarily on the environment stated within the Social Cognitive Theory to explore what impact direct instruction and spelling plays in the academic development of children with special needs.

Research supporting the Social Cognitive Theory, such as Project Follow Through proved that direct instruction for teaching children with low functioning cognitive abilities is effective in increasing basic reading, language, and math skills (Kameenui, et al., 1997). Henley, Ramsey, and Algozzine (1996) also note, “when

teachers follow a hierarchy of instructional steps in their lessons, low achieving students demonstrated increased academic achievement in basic skills" (p. 235). Using this instructional method allows the teacher to model each required task, observe the students performing the task, and give immediate feedback for corrective actions. Section Two of this study provides further discussion concerning the Social Cognitive Theory and direct instruction.

Assumptions and Limitations of the Study

The participants, who were readily available to the researcher, were based on their special education classification of Mild Mentally Disabled. The student participants consist of 1 fifth grade Caucasian male, 4 fourth students, 3 Black males and 1 Black female, and 1 third grade Caucasian female for a total of 6 students. In addition to the student participants, a special education teacher who uses direct instruction as an instructional spelling strategy participated in the study. The special education teacher conducted one, 30-minute direct instructional spelling lesson each school day for a period of 7 weeks. The assumption is that the participants in this study represent the general population of children with special needs identified as Mild Mentally Disabled and special educators who use the direct instruction curriculum model.

The limitations of this study include, difficulty in generalizing the results to a larger population due to the variance in student's academic abilities and special education classification, interpretation as to the meaning of an effective speller, the disproportionate number of males compared to female student participates, and the disproportionate number of Black students compared to Caucasian students. These students are located in

an elementary school setting. Although the teacher participant received training in direct instructional techniques to standardize presentations, the vulnerability of human error is present. As a result, biases among the teacher participant may exist. Perceived biases may exist between the participating teacher and researcher, as they are colleagues. All efforts were made to eliminate this perception through precise data collection methods, interpretation of the data, and validation of the data.

Noncontrollable variables in the study include the students' attitudes toward school, their motivation to spell, IQ level, and functional level, both academic and social. Additionally, control of the teacher's attitude toward the utilization of direct instruction in the classroom and toward the students is not within the confines of this study. Due to the complexity of the human nature, multiple baseline, single-case research design offered the most accurate depiction of the effects direct instruction has upon children with special needs.

The theoretical framing for the use of single subject research designs can be traced back to the work of Skinner (Kazdin, 1982). Skinner was a Behaviorist who wanted to study the behavior of individuals, and the events that influenced those behaviors. Single subject research follows the same ideals. Through individual or small group study, researchers are able to observe individuals or small groups, provide treatments or events that may influence those being studied and collect data on specific behaviors exhibited according to Kazdin.

Research Questions

The question this study addressed is the impact, positive or negative, that direct instruction of spelling has in the enhancement of spelling skills of children with special needs identified as Mild Mentally Disabled. In addition, the researcher looked for emerging themes as to the perception participants, both student and teacher, have toward direct instructional spelling strategies. Using a multiple baseline, single-case research design, this study attempted to determine the answer to this question and sub-questions:

1. What effect, if any, does direct instruction of spelling have on the improvement of spelling skills for children with special needs?

2. What are the perceived improvement levels in spelling obtained by the student participants as reported by their teacher? Their parents? The students?

3. What are the self-reported perceptions students have toward the effects of direct instruction in spelling?

4. What are teacher perceptions toward the improvement of spelling ability of MMD students as a result of using direct instruction?

Ho1: There is no statistically significant difference in the students' spelling abilities following 7 weeks of spelling direct instruction as measured by the SRA Spelling Mastery Placement Test.

Alternative Ho: There is a statistically significant difference in the students' spelling abilities following 7 weeks of spelling direct instruction as measured by the SRA Spelling Mastery Placement Test.

Collection of quantitative data occurred through weekly spelling evaluations. In addition, qualitative data was collected through the coding of the researcher's field observation journal, the teacher's reflection journal, and student reflection journals as to themes that may exist that relate to the sub-questions developed. (see Appendix A) Qualitative data collected through a social validity questionnaire presented to the participants, both teacher and students, and the students' parents at the conclusion of the 7 week study period provided additional data into the perceptions each participant had toward direct instruction. The primary data collection utilized in determination of the research question was through an SRA Spelling Mastery Placement pretest and posttest, determining if the baseline established changes after treatment.

Definition of Terms

Children with special needs: individuals who have limited cognitive abilities with an Intellectual Quotient, *IQ*, between the ranges of 55 to 70 (Heward, 2000).

Direct instruction: a systematic instructional strategy that focuses on learner imitation of a task or skill that is broken into multi-step functions (Lefrancois, 1992). These functions include demonstration of task, practice task with assistance, practice task without assistance, and perform task until mastered (DiChiara, 1998).

Mastery of task: accomplished when children can perform a task or concept without assistance to a standard designated by the teacher or predetermined standard.

Although perfection is the ultimate goal, it is not necessary to constitute mastery. In addition, mastery of the task occurs when children develop a sense of relevancy between the task and its practical use, and are able to use the task in general settings (DiChiara, 1998).

Behavioral theorist: individuals who direct their focus of learning on the acquisition of appropriate behavior or tasks, and the elimination of inappropriate behavior or tasks. This focus is in conjunction with environmental factors such as, but not limited to, one's culture, physical surroundings, personal beliefs, and values (Lefrancois, 1992).

Cognitive abilities: the thinking process a person goes through in order to learn, know, and remember information rather than what is actually learned. Children with limited cognitive abilities have difficulties identifying problems, selecting appropriate techniques to solve problems, and being able to generalize learned skills or tasks in different situations (Lefrancois, 1992).

Environment: defined within the Social Cognitive Theory as the individual who is teaching the task or skill (Lefrancois, 1992). Normally this is primarily the teacher, but may include written or visual materials.

Self-Efficiency theory: the perception one has of themselves as learners. The self-efficiency level of an individual gauges one's motivation. The higher the level of self-efficiency, the greater the likelihood that the learner will be motivated to complete the task. Conversely, lower self-efficiency decreases motivation and increases the likelihood of failure (Bandura, 1993).

Collegial Coaching: a process that involves teacher collaboration in order to enhance an area of instruction that one teacher wishes to study through planning, observing, reflecting and debriefing (Black, Molseed, and Sayler, 2005 & Dantonio, 2001).

Mild Mentally Disabled: individuals who have an Intellectual Quotient (IQ) between 50 and 69, and deficits in adaptive behavior skills two to four years behind their same age peers (Watson, 2006).

Single subject research design: a, "rigorous, scientific methodology used to define basic principals of behavior and establish evidence-based practices" (Horner, Carr, Halle, McGee, Odom, & Wolery, 2005, p. 165). The design is beneficial in the study of children with special needs in a small group setting when evaluating a specific teaching strategy or instructional design (Horner, et al., 2005).

Social Validity: a process in which the researcher solicits the, "opinions of others who by expertise, consensus, or familiarity with the client are in a position to judge or evaluate the behaviors in need of treatment" (Kazdin, 1982, p. 21). Social validity confirms or negates that a specific problem exists among a selected group of individuals with similar social, economic, or educational backgrounds according to Kazdin.

Nature of the Study

Using a multiple baseline, single-case research design of the SRA Spelling Mastery Placement pretest, a posttest, teacher and student journals, along with field observations, parent, teacher, and student questionnaires, the researcher evaluated the performance skills and behavioral impact, positive and/or negative, toward the direct

instructional spelling strategies for children with special needs. Participation, both adult and student, is voluntary and based on their roles in special education programs. The participating teacher has received training in direct instruction of spelling lesson plans and presentation of the direct instruction lessons. Analysis of weekly spelling evaluations, the pretest and posttest, followed quantitative protocol according the SRA Spelling Mastery Placement Test criteria and measure the growth, or lack of, students' progress through an increase in the individual's baseline score. Analysis of student and teacher reflection journals and field observations followed qualitative protocol. The researcher attempted to note treads that may exist, such as motivational factors that affect learning and teaching of spelling, positive and negative attributes of spelling instruction, and positive and negative attributes of direct instruction, through analysis of the reflection journals. Results from the study were validated using the SRA Spelling Mastery Placement Test, triangulation, and member checking. The researcher noted any discrepancies. Personnel directly involved in the education of children with special needs received the results of this study in order to enhance and facilitate instructional spelling strategies in the special education field.

Significance of the Study

There are a number of studies concerning the instruction of spelling strategies, direct instruction methodology, and children with special needs in today's research setting (Fore III, Boon, & Lowrie, 2007; Polloway, Patton, & Serna, 2008). Using direct instructional strategies to teach spelling to children with special needs in order to enhance the children's academic spelling abilities is significant (Crawford, 2004).

Educators, administrators, the research community, and children with special needs will all benefit from this study. As spelling skills increase, the motivation of children with special needs to learn will increase, thus creating a positive attitude toward education and increasing the children's self-esteem. Zhang (2000) noted that once children with special needs learn the basics of spelling and writing, it, "motivated the students to share their finished products with peers, teachers, and family but also diminished much of the residual reluctance to writing, creating a heretofore unprecedented positive attitude toward writing" (p. 471). Expediting the spelling process will have a direct effect upon special educators, but more importantly, children with special needs.

In addition to special educators, administrators, the research community, and children with special needs, caregivers of the children and society will also benefit from this study. Larkin (2001) noted that everyone associated with children with disabilities needs to, "help them recognize their strengths and feel confident about their abilities in order to achieve at least some degree of independent functioning" (p. 33). The ultimate goal of every educator should be to develop children into productive citizens that will make positive contributions to society. DuFour (2004) stated that educators must, "shift-from a focus on teaching to a focus on learning" (p. 6). The ability to spell correctly is a vital function that will help children with special needs achieve this goal.

If educators are going to make an impact on the next generation of children, they must take the lead in creating opportunities for all individuals. Heward (2006) stated:

> No longer can special educators be satisfied with students' improved performance on classroom-related tasks. We must work equally hard to ensure that the

> education students receive during their school years plays a direct and positive role in helping them deal successfully with the multifaceted demands of adulthood. (p. 599)

Children with special needs are no exception. Helping children with special needs become productive citizens in society will benefit each citizen (Drew & Hardman, 2007). Heward (2006) noted, "being a successful adult involves much more than holding a job; it means achieving status as an independent and active member of society" (p. 598). If children with special needs are able to become independent citizens, then they will be less dependent on caregivers or agencies designed specifically for their needs, benefiting society as a whole. Thus, creating the opportunity for individuals with special needs to be an equal contributor in our society and exhibiting the foundation of our nation that social justice is for all, even those with special needs.

Summary

Spelling is a challenge for many individuals. Present this task to an individual with limited cognitive functioning abilities just learning to spell and the potential for failure dramatically increases. Chief among the reasons children with special needs struggle with the writing process is their inability to spell (Garcia, Meyer, & Walsh, 2002).

Many studies have been conducted concerning the spelling process, in addition to strategies that are most effective in teaching this discipline. Zhang (2000) and Strassman and D'Amore (2002) described the thinking process, cogitative functioning ability, that is required for individuals to spell successfully. Crawford (2004) explained how important it is for individuals to have a firm foundation in spelling before attempting the writing

process. Finally, links between the Social Cognitive Theory and direct instruction established the basis for successful instruction of children with special needs (Bandura, 2001; DiChiara, 1998).

Participants in the study included children classified as having limited cognitive functioning abilities and identified with Mild Mentally Disabled. In addition, a special education teacher participated in this study. The certified special education teacher instructs children with special needs classified as Mild Mentally Disabled and is proficient in using the direct instruction curriculum.

A lack of research connecting spelling and the use of direct instruction as an instructional tool for children with special needs prompted the following question for this study. What impact, if any, does direct instruction of spelling have upon the enhancement of spelling skills for children with special needs and identified as Mild Mentally Disabled? Through a multiple baseline, single-subject research design, the researcher explored the question and the implications the results have in making a positive impact to society.

Section 2 presents a comprehensive examination of the literature regarding direct instruction as an instructional delivery method and alternative instruction for children with special needs. The review begins by identifying the characteristics of students with special needs, and the instructional methods that are effective in their learning. Section 3 discusses the methodology of the multiple baseline, single-subject research design. In addition, description of participants, data collection, and analysis procedures occurs. Section 4 discusses the findings of the research study and describes any implications that

result from the findings. Additionally, validity and reliability is discussed in relation to the research findings. Finally, Section 5 presents a summary of the study, along with recommendations for implication of the results, and/or a need for further research in the use of direct instructional strategies as an effective instructional tool to enhance the spelling abilities of students with special needs.

SECTION 2:

LITERATURE REVIEW

Introduction

In this section, the learning aspects of students with special needs identified with Mild Mentally Disabilities are explored in relation to the acquisition of academic spelling skills. The literature review examined various teaching strategies for students with special needs. Accomplishment of this review utilized Academic Search Premier, ERIC, EBSCO, Questia, Primary Search, and Discus. Research protocol for the above databases included: spelling instruction, writing instruction, whole language instruction, direct instruction, scaffolding, writing skills, spelling skills, language arts, learning strategies, teaching strategies, learning theories, phonics, special needs children, exceptional children, Social Cogitative Theory.

Professional journals utilized within the literature review included: *Elementary School Journal, Educational Psychologist, National Staff Development Council, Journal of Education, Journal of Instructional Psychology, Experimental Education, Educational Leadership, Exceptionality, Journal of the National Staff Development Council, Educational Psychologist, Developmental Psychology, T H E Journal (Technological Horizons In Education), Phi Delta Kappan, Teaching Exceptional Children, The Journal of Educational Research, National Staff Development Council, Exceptional Children, Learning Disability Quarterly, Council for Exceptional Children, Journal of Research on Technology in Education, Anxiety, Stress and Coping, Teaching Exceptional Children,* and, *Journal of Research on Computing in Education.*

The literature review revealed that the primary source of research for students with special needs was qualitative case studies with limited quantitative studies. Limited research was found in relation to the instruction of spelling to enhance the spelling skills for students with special needs. The research indicated that those students who were requiring special education services fell into the category of Learning Disabled. The purpose of this study is to explore the effects, if any, direct instruction of spelling strategies have upon Mild Mentally Disabled students. Discussed within this section are seven main topics: students with special needs, learning strategies for Mild Mentally Disabled (MMD) students, teaching strategies for spelling, spelling evaluation criteria, the Social Cogitative Theory, Direct Instruction methodology, and the social impact learning has upon students with special needs.

Students with Special Needs

The classification of a student requiring special education services covers a broad spectrum. Ranges of disabilities vary from severely profound physically and mentally to those individuals with minor learning deficiencies. Heward (2006) noted that the United States Department of Education categorizes 13 different disabilities, not to include individuals who have multiple disabilities. For the purpose of this study, the researcher identified one specific group of individuals, those classified as MMD, a subcategory of the United States Department of Education's Mental Retardation classification.

The Individuals with Disabilities Education Act, IDEA of 2004, defined mental retardation as, "significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental

period that adversely affects a child's educational performance" (cited in Heward, 2006, p. 141). Students identified as MMD, formally Mild Mentally Retarded, must meet two specific criteria: have an Intellectual Quotient (IQ) between 50 and 69, and deficits in adaptive behavior skills 2 to 4 years behind their same age peers (Watson, 2006). Both the substandard IQ and adaptive behavior deficiencies must exist simultaneously before the individual reaches the age of 18 (Watson, 2006).

Identifying students with MMD consists of establishing an IQ score and assessing the individual's adaptive behavior. Although IQ scores may be culturally biased and measure how a student performs at one given point in time, they do provide a baseline for overall academic performance (Heward, 2006). Two commonly used IQ tests found in the public school system are the Wechsler Intelligence Scale for Children – Fourth Edition, *WISC-IV*, and the Stanford-Binet Intelligence Scale – Fifth Edition (Overton, 2006).

In addition to establishing an IQ score, the student suspected as being MMD is evaluated by an adaptive behavior test. Two commonly used adaptive behavior tests are the Vineland Adaptive Behavior Scales and the AAMR Adaptive Behavior Scale – School, Second Edition, *ABS-S2*. Adaptive behavior tests evaluate independent living skills, communication skills, social behavior skills, and physical motor functioning (Overton, 2006). It is imperative that a substandard IQ and a substandard adaptive behavior rating exist at the same time in order for an individual to be classified as Mild Mentally Disabled (Heward, 2006).

Research indicates that students with MMD face challenges in the areas of cognitive and adaptive behavior functioning. Cognitive deficits include (a) difficulty remembering information, (b) learning information at a slower pace than their regular education peers, (c) having a limited attention span, (d) having trouble transferring new knowledge to general tasks, and, (e) lacking the motivation to learn (Heward, 2006). Adaptive behavior skills deficits may include caring for personal hygiene, health, and safety needs, home and community living skills, and social behavior (Heward, 2000). It was the researcher's intent to explore the connection between these limiting factors and students with special needs acquisition of spelling skills.

Learning Strategies for Mild Mentally Disabled Students

Individuals are constantly learning. How the learning process takes place is dependent on several factors such as what is being learned, who is learning it, and the method of instruction (Polloway, Patton, & Serna, 2008). Roeser, Stobel, and Quihuis (2002) noted that all children could learn when they are engaged in formal instruction based on specific learning strategies. Educators provide thoughtful, well-planned lessons that not only engage students, but also provide them a sense of relativity (Thomas, 1996). Once a student engages within the lesson and realizes the value of obtaining the new knowledge, motivation to continue learning increases (Maehr & Andermen, 1993). This process is not only true for students with normal cognitive functioning, but also for the student with special needs. Brouillette (2006) supported this concept by noting:

> Stobel (2002) along with Sibley and Aldridge (1996) added, cognitive engagement in learning impact student's academic achievement, efficacy beliefs, value placed on school participation, emotional functioning, and perceived goals. Likewise, despite academic and emotional risks associated with poverty, students

> who were motivated to learn were more likely to report use self-regulated learning strategies, and got higher grades than their less motivated peers. This suggests successful learning is linked to self-efficacy or a belief in one's capabilities to learn or perform. (p. 54)

Numerous theories have evolved as to how children learn. One such theory is Gardner's (1983) eight multiple learning intelligences. These include verbal-linguistic, logical-mathematical, spatial, musical, bodily-kinesthetic, interpersonal, intrapersonal, and naturalist (Silver, Strong, & Perini, 2000). Of the eight intelligences, the one most directed toward the spelling process is the linguistic intelligence. Nolen (2003) stated, "linguistic intelligence enables one to pay special attention to grammar and vocabulary" (p. 115). Although teachers should incorporate all, or as many as possible of the learning intelligences into each lesson, lessons designed for the student with special needs should focus primarily on their specific learning style in order to "optimize learning" (Nolen, p. 118).

One should not use multiple learning intelligences in isolation. Jitendra, Edwards, Sacks, and Jacobson (2004) indicated that learning strategies are employable across the spectrum. For example, when teaching students new skills, direct instruction allows the teacher to (a) check for understanding, (b) facilitate participation through modeling, and, (c) transfer the responsibility of learning from the teacher to the student (Jitendra, et al.). Combining learning strategies enhances the learning process for all students, especially those with special needs (Nolen, 2003).

Students with special needs are as capable of learning as their regular education peers. Henley, Ramsey, and Algozzine (1996) noted this, but added that students with special needs, "may require more time to achieve satisfactory levels of performance and

typically require special instruction and extra practice to generalize what they have learned to settings other than the classroom" (p. 69). It is vital that learning strategies give students with special needs every opportunity possible to live an independent, high-quality life (Heward, 2006).

What instructional methods are successful in teaching students with special needs? There is not a concrete answer, but educators, researchers, and scholars have developed some general guidelines in designing lessons that meet the needs of students with special needs, particularly those identified as Mild Mentally Disabled (MMD). These guidelines include:

1. designing lessons and activities that give students numerous opportunities for supervised and independent practice
2. designing lesson tasks or skills in multi-step, small units that require high student participation
3. develop lessons and activities that are relevant and real-world
4. provide systematic reinforcement, feedback, and error correction, never use trial-and-error feedback, provide corrective actions immediately
5. develop lessons that promote generalization skills that allows the student to use new knowledge or skill outside the classroom
6. provide frequent evaluations of student's progress (Hallahan & Kauffman, 1988; Henley, et al., 1996; Heward, 2006).

Using carefully designed lessons that use proven instructional strategies promote success for the student with special needs.

Teaching of Spelling

Spelling words correctly when writing is a challenge for many individuals, especially students with special needs. Attributed to the negativity toward writing is a lack of basic skills, particularly spelling and grammar (Garcia, Meyer, & Walsh, 2002; Zhang, 2000). Zhang stated, "students with learning disabilities and with written language deficits seldom produce written work of a quality comparable to that of their 'normal' counterparts" (p.467). Chief among these deficits is the inability to spell (Crawford, 2004). Interruption of the natural writing process occurs when the child stops to think about spelling a word. For a student with special needs, such an interruption is detrimental.

Darch, Kim, Johnson, and James (2000) explained why children with limited cognitive functioning struggle with spelling, "they are less adept than students in general education in devising and utilizing spelling strategies that allow for systematic application of spelling rules" (p. 15). In addition, Zhang (2000) noted that students with special needs would increase their motivation to spell when they can produce work comparable to their regular education peers. According to Crawford (2004), teachers should focus on the spelling strategies in order to build the student's confidence before attempting the writing process. When children have to stop and think how to spell a word it interrupts the thought process. For students with special needs this can increase frustration and decrease their motivational drive to succeed (Crawford)

Darch, et al. (2000) complement the above ideology by noting that students with special needs who, "frequently experience problems with spelling, benefit from programs

that incorporate rule-based strategies that are intensive and skill directed, and provide specific connection and practice procedures" (p. 24). Developing lessons that combine real life situations with rule-based strategies that make the connections of prior knowledge to new knowledge enhances the learning capability of students with special needs.

Students learn to place words side by side that eventually make a logically, comprehensive sentence to the teacher's and student's expectation. Supporting this concept, McCulloch (2000) noted that what was linguistically correct in the past is still linguistically correct today. The argument does not lie with the skill or concept it lies with the instruction (Heward, 2006). Professionals vary on how this process can be accomplished, but do agree that instruction must begin in the primary grades, focus on recognizing letter sounds (phonetics), learning common spelling rules and patterns, and recognizing sight words (Anonymous, 1998, p. 22).

Although there are several methodologies in the instruction of spelling, this research review explored three major methods. They include the whole-language approach, scaffolding, and direct instruction. Further research is required as to the effectiveness of each instructional method in relation to the instruction of spelling.

Whole Language Approach

The whole language approach advocated, "that children learn to read, write, and spell best when they are immersed in literature and are provided with authentic reading and writing opportunities" (Butyniec-Thomas & Woloshyn, 1997, p. 2). This accomplishment occurs by targeting primary writing skills, spelling, and word formation.

Two specific strategies employed in the instruction of spelling that promote the whole language approach are sight word recognition and inventive spelling.

Rankin-Erickson and Pressley (2000) noted that inventive spelling, the spelling of words by their sound. For example, “bot” instead of the correct “bought”, allow children to transfer ideas they have from their brain to paper without interrupting the thought process. Newcomer, Nodine, and Barenbaum (1988) saw the mechanics of writing, such as spelling, unimportant. Correction of spelling is possible through technologies or understood through inventive spelling. It is more important for children to get their thoughts down on paper without interruption.

In addition to inventive spelling, the whole language approach promoted sight word recognition, the most commonly spelled words in the English language. Crawford (2004) created a list of the 340 most commonly used words that emergent writers should learn and be able to spell automatically. Again, having a bank of words to draw from promotes the writing process without disrupting the thought process.

Graham and Harris (1994) described many of the attributes of the whole language approach. They include:

1. children spend more time writing
2. children take ownership of their work since they are encouraged to select topics of their interest
3. promotes self-confidence
4. teachers take a supportive role, as instruction is student centered (p. 188-189).

When children have the opportunity to choose what they are interested in and take ownership of the final product, motivation increases. Thus, when motivation increases, learning increases.

Raven (1997), a whole language advocate, indicated that, “Teaching children the necessary skills to decode words while peaking their interest in reading and literature should go hand in hand in any reading program” (p. 3). Roberts (2003) recognized the need for students to learn from their experiences in real life situations. This philosophy is one of the key elements of the whole language approach. Immersing the student in a plethora of literature and language promotes reading, spelling, and writing, keeping the student engaged in the learning process.

In contrast to those who promote the whole-language approach, there are those who are opposed to such a learning technique, especially for children with special needs. Henley, Ramsey, and Algozzine (1996) described the whole language approach as a strategy where emphasis is on, “imagination and expression rather than editorial skills as spelling and punctuation” (p. 215). Furthering this idea, Rankin-Erickson and Pressley (2000) addressed the negative impact inventive spelling has upon the emergent writer that will eventually have to be unlearned. They contend that children with special needs have difficulty in cogitative functioning. Whole-language teaching strategies require a higher level of intellect, thus automatically handicapping children with special needs leading to frustration and decreased motivation for learning according to Rankin-Erickson and Pressley.

Scaffolding

Scaffolding is perhaps one of the oldest methods of instruction that is still effective in the instruction of students with special needs today (Larkin, 2001). Additionally, Larkin described this strategy as a step-by-step process leading to student achievement. Teachers take the information the child already knows and builds upon it in small mini lessons. As the child becomes both proficient and confident in their ability to perform the identified task, the teacher introduces the next layer of instruction that compliments the previous one. These layers include brainstorming ideas, spelling strategies, basic grammar rules, the actual writing process, editing, and revising. This process continues until the student produces an acceptable product.

Although this strategy has proven to be successful, flexibility is not an attribute of scaffolding. Design of the lessons builds upon one another; this does not allow for any deviation from the set plan. In addition, many students may stalemate at a specific step, giving the instructor a false indication that the child has reached their full potential on the particular task. Finally, scaffolding does not consider the various skill levels children may have in a classroom setting. Group instruction is difficult. This strategy is best suited for individual instruction or small groups where the learning abilities of the students are relatively similar (Larkin, 2001).

Direct Instruction

The basis of direct instruction is a systematic process focused on observing and modeling to influence behavior. This process includes (a) *orientation*, teacher clarifies learning task and student expectations; (b) *presentation*, teacher explains and

demonstrates new task; (c) *structured practice*, examples are used to guide students in learning new task; (d) *guided practice*, students practice with teacher's help; and, (e) *independent practice*, students practice until mastering the task (DiChiara, 1998). This systematic process is, "especially effective with students with disabilities" (DiChiara, p. 20).

Direct instruction provides the means to enhance student achievement. This is based on the, "belief that all children can learn and will do so if each task is analyzed and broken into smaller, minute tasks and taught sequentially" (DiChiara, 1998, p. 12). The breakdown of tasks gives all children, especially children with special needs, an opportunity to learn necessary spelling rules and procedures, practice the task or skill, and make necessary corrections before attempting the formation of sentences. DiChiara noted that direct instruction lessons build upon each other until the student has mastered the required task. What constitutes mastery? Accomplishment of mastery occurs when children can perform the task or concept without assistance to a standard designated by the teacher. Although perfection is the ultimate goal, it is not necessary to constitute mastery. DiChiara described how direct instruction specifically addresses this goal by:

1. being teacher centered, lessons are taught through carefully scripted instruction
2. every task or concept is taught and demonstrated by the teacher
3. clear, understandable, and obtainable goals are communicated to the student

4. practice of the task or concept is provided with errors corrected immediately by the teacher
5. mastery of the task or concept gives the children a sense of accomplishment that motivates them to seek further knowledge.

One of the basic premises of direct instruction is using relevant examples to teach tasks or skills. In addition to learning through examples, many scholars note that beginning writers need to focus on recognizing letter sounds (Anonymous, 1998). Direct instruction shares this same theory and expands it to learning spelling rules and patterns.

Direct instruction can provide the tools to motivate children to learn. Crawford (2004) noted the frustration children with special needs experienced when they had to stop and think of how to spell words while writing. Knowing how to spell enhances the writing process. Not only is this a motivating factor in using direction instruction, but a positive attribute. Seeing a need for structured, systematic instruction motivates many special educators to use direct instructional strategies. It is a proven method of instruction having a high rate of success among children with special needs.

Direct instruction advocates such as Darch, et al. (2000) complement the above ideology by noting that children with special needs who, “frequently experience problems with spelling, benefit from programs that incorporates rule-based strategies that are intensive and skill directed, and provide specific connection and practice procedures” (p. 24). Developing lessons that combine real life situations with rule-based strategies that make the connections of prior knowledge to new knowledge enhances the learning

capability of children with special needs. In addition, direct instruction advocates emphasize the need for teaching spelling by:

> Research-validated "direct instruction" which imparts knowledge through Socratic questioning, engages students in give-and-take questions and answers, illustrates concepts, demands reasoning and analysis, the independent use of reference materials, and assigns and supervises varieties of practice for mastery. (McCulloch, 2000, p. 3)

Although the majority of special needs curriculums focus on direct instructional teaching strategies, it is not without its critics. These critics believe that direct instruction is too rigid, mechanical, and stifles the creativity of the student (Butyniec-Thomas & Woloshyn, 1997). Some scholars believe that direct instruction focuses primarily on the teacher and task rather than the student being the focal point (Graham & Harris, 1994). Both of these arguments have merits, but do not address the unique learning abilities of the child with special needs. Engelmann and Carnine (1991) recognized that children learn from concrete examples. Direct instruction provides the concrete examples that lead the child with disabilities from the unknown to the known.

Social Cognitive Theory

Spelling is an intricate part of everyday life. If students are going to achieve inside and outside of the classroom, they must be able to perform basic spelling skills (Heward, 2006). Bandura (2001) who developed a specific behavioral theory known as the Social Cognitive Theory supports this belief. Bandura believed that children learn through imitation and focused primarily on the connection between the individual learner, the environment, and the act learned or performed. Learning takes place primarily through observing and modeling behavior (Bandura). Silver, Strong, and Perini (2002)

described various ways in which teachers can present their lessons, all of which can be modeled within the realm of the behaviorist theory. Activities such as role playing, hands on activities, graphing, experimentation, and learning groups are methods that grab the students' attention. These activities provide systematic instruction, promote retention and motor replication when applicable, and are high interest teaching tools that motivate students.

Bandura (1993) described the role of educators when he wrote:

> A major goal of formal education should be to equip students with intellectual tools, self-beliefs, and self-regulatory capabilities to educate themselves throughout their lifetime. These personal resources enable individuals to gain new knowledge and to cultivate skills either for their own sake or to better their lives. (p. 136)

The attributes that Bandura (2001) describes in the Social Cognitive Theory mirror the foundation of the direct instructional strategy. Students learn by watching and repeating the same steps performed in the task modeled, imitation. Direct instruction emphasizes the need for learners to follow the model steps and then repeat those steps until the task is completed (Darch, et al., 2000).

Direct Instructional Methodology

Individuals believe that direct instruction is not a viable method of teaching today's youth. The research overwhelming disagrees. First, what is direct instruction? Lefrancois (1992) described this instructional method as one that the teacher focuses on basic skills, primarily in reading, language, and math. Teachers present or model the information or task; the students review the information or practice the task, and finally, the teacher gives immediate feedback to the student.

Between 1968 and 1978, researchers conducted one of the largest longitudinal studies ever concerning instructional practices. The study, known as Project Follow Through, "revealed that the Direct Instruction approach produced greater gains in basic skills, cognitive problem solving, and affective learning (e.g. self-esteem) than other educational models"(Kameenal, Simmons, Chard, & Dickens, 1997, p. 65). This was evident with the actual scores achieved by the participating schools. Grossen (1995) noted that researchers had only expected a 20 percentile gain across all subject matter. Yet after analyzing the final data from Project Follow Through, the results indicated that the participating schools had increased between 40 and 50 percentile points depending on the subject. Reading had the lowest gain at 42%; spelling had the most improvement at 51%. In addition to Project Follow Through, Henley, Ramsey, and Algozzine (1996) cited the benefits of direct instruction, "research indicated that when teachers follow a hierarchy of instructional steps in their lessons, low achieving students demonstrated increased academic achievement in basic skills" (p. 235).

Silver, Strong, and Perini (2000) coordinated four of the eight multiple intelligences: verbal linguistic, logical mathematical, spatial, and body kinesthetic, into the direct instruction strategy in an effort to apply direct instruction in the classroom. Further research is needed to evaluate the possibility of additional intelligences being directly linked to effective teaching methods using direct instruction.

Background of Direct Instruction

The origins of direct instruction relate to the Social Cognitive Theory developed by Bandura (2001) discussed earlier. Bandura noted that learning takes place primarily

through observing and modeling behavior. Though the foundation of direct instruction lies within the Social Cognitive Theory, Engelmann, a professor at the University of Illinois at the time, conceived the methodology in 1964 (DiChiara, 1998). Kameenal, et al. (1997) noted Engelmann's passion for teaching students through direct instruction, "children's failure to learn is unacceptable and unnecessary if we understand what we want to teach and design the teaching carefully, strategically, and with full consideration of the learner" (cited from Engelmann, 1969). The basis of Engelmann's theory derived from his philosophy that, "learners learn from concrete examples and develop an understanding of how these examples can be generalized in learning new information and skills" demonstrating true understanding of the concepts taught (Engelmann & Carnine, 1991, p. 4).

One study that contributed to the success and legitimacy of direct instruction was Project Follow Through. This study involved over 75,000 low-income children in 180 communities conducted between 1968 and 1978 at an astounding cost of over $600 million dollars in grades kindergarten through third. Over a 5-year period, multiple educational teaching programs were presented to elementary school students in order to determine which instructional method(s) had the greatest impact in academic and social gains in an attempt to enhance the Head Start program in the United States. The Stanford Research Institute and ABT Associates analyzed the results, which stunned the research community at that time (Lindsey, 2004). Project Follow Through proved that the direct instructional approach for teaching elementary school children with low functioning cognitive abilities is effective in increasing basic reading, language, and math skills

(Kameenal, Simmons, Chard, & Dickens, 1997). In addition, Kameenal, et al. also noted, "Project Follow Through revealed that the direct instruction approach produced greater gains in basic skills, cognitive problem solving, and affective learning (e.g. self-esteem) than other educational models" (p. 65). Although conducted many years ago, Project Follow Through has provided the foundation for many new studies related to direct instruction and the continued success it has in learning of basic academic subject.

Social Impact Learning has upon Students with Special Needs

Standards in academic world, and society, determine how individuals perceive one another. In order to be a good student, according to these standards, one must conform to society and academia's norms, such as the use of, or the ability to spell accurately (Mosenthal, 1998). Mosenthal additionally noted that educators must strengthen the student's spelling abilities, which will in turn strengthen their writing skills. Other scholars such as Crawford (2004) believed that teachers should focus on building the student's confidence and fluency in writing through spelling acquisition. As students develop their abilities in spelling, they experience an appreciation and determination to write. Zhang (2000) noted that students with special needs would increase their motivation to spell and write when they can produce work comparable to their regular education peers.

Rule-based spelling instruction provides the means for students to communicate independently through the written word. Through constant practice and memorization, students are able to achieve a level of proficiency in learning basic spelling and grammar rules that increase their achievement in other subjects, such as writing (Polloway, Patton,

& Serna, 2008). As students with special needs experience success in spelling, the success builds their confidence. This new found confidence,"enables students to use writing as a means of thinking, not just of completing an assigned task" (Strassman & D'Amore, 2002, p. 28). Enhancement of the spelling skills of students with special needs promotes independence. This in turn promotes independent, productive citizens that make positive contributions to society. Rubado (2002) described students with special needs as follows, "They have learned to follow directions in order to stay out of trouble but have no self-direction or ability to challenge anyone who tells them they won't succeed" (p. 233). Success for the student with special needs is achievable. Larkin (2001) stated that everyone associated with children having special needs should, "help them recognize their strengths and feel confident about their abilities in order to achieve at least some degree of independent functioning" (p.33).

Summary

The literature review indicated that children with special needs have the ability to learn. The key to teaching the student with a learning disability lies within the presentation of the lesson or skill. Scholars differ on what is most effective, yet agree that interventions for children with special needs must begin at an early age (Drew & Hardman, 2007). In addition to early intervention, scholars also stressed the importance of presenting lessons in a systematic manner. For example, lessons are taught in stages, teachers model the task or skill, provide ample practice opportunities for the student, give immediate feedback and corrective action suggestions, and finally, develop lessons that are real life, relevant, and valued by the students.

Three teaching strategies that address many of these suggested requirements are the whole-language approach, scaffolding, and direct instruction. Each strategy provides students with special needs the tools they need to be successful in accomplishing specific tasks set before them, although each has their merits and limitations. The one strategy that stands out from the others in successfully teaching new knowledge and skills to students with limited cognitive functioning is direct instruction, as indicated in longitudinal research study Project Follow Through.

The roots of direct instruction lie within the confines of the Social Cognitive Theory. As a behavioral theory, the Social Cognitive Theory focuses on learning through imitation. Direct instruction adopts the same primus as the Social Cognitive Theory; teachers model the skill or task taught, students practice the skill or task, and then perform the task or skill to a mastery level. Scholars do note that direct instruction is most effective when learning new skills. As students become proficient in the skill learned, and are able to generalize the skill outside the classroom setting, other learning strategies can be employed. Direct instruction increases its effectiveness when used in conjunction with other learning strategies, such as Gardener's multiple intelligences.

As students with special needs strive to become independent, they must be able to spell correctly in order to communicate effectively with others. Scholars note that many students with learning disabilities struggle with the writing process due to inadequate spelling skills. Once a student learns the basic grammar and spelling rules, they are more apt to increase their motivation to write. Darch, et al. (2000) noted, "students with learning disabilities who received instruction based on a rule-based strategy approach

displayed significant spelling achievement gains" (p. 16). Although the research is rich in special education and spelling strategies, there is a need for further research in the area of specific spelling strategies that improve the academic spelling efficiency of students with special needs. Section 3 presents a comprehensive examination of a multiple baseline, single case research methodology focusing primarily on quantitative data collected from 6 student participants. The research design begins by identifying the relationship between direct instruction as an instructional delivery method and the acquisition of basic spelling rules that will improve the spelling abilities for children with special needs. Furthermore, Section 4 discusses the findings, implications, validity, and reliability of the research study. Section 5 presents a summary of the study, along with recommendations for implication of the results.

SECTION 3:

RESEARCH METHOD

Introduction

The purpose of this study was to determine if direct instruction of spelling enhances the spelling abilities of children with special needs. The researcher chose a multiple baseline, single-subject research design in order to determine the effectiveness of spelling instruction in the classroom. Further, the perceptions that teachers and students have toward direct instruction was evaluated through coding of weekly reflection journal entries as the researcher sought to identify specific trends. Finally, the actual spelling abilities of the students were assessed as indicated by performance on weekly spelling evaluations, and the administration of a pretest and posttest. In addition, the researcher conducted classroom observations during direct instruction spelling lessons noting, "behavior and activities of individuals at the research site" (Creswell, 2003, p. 185).

The researcher also reviewed the reflection journals of the instructing teacher and student participants weekly in an attempt to provide vital data as to how direct instruction affects teaching and learning goals. Review of the journals allowed the researcher to collect pertinent data from a sample group of special needs students and a special needs teacher without disrupting normal daily school operations. Finally, verification of social validity occurred through a questionnaire presented to students, parents of participating students, and the participating teacher (see Appendix B). Student participants, parents, and the participating teacher rated perceived spelling improvement levels through the

questionnaire. Data from the questionnaires helped verify the researcher's findings in the journals.

The participating teacher conducted daily, 30 minute, spelling instruction following direct instruction protocol and guidelines developed in the SRA Spelling Mastery Teacher Presentation Book. Smith (2003) indicated that direct instruction follows a set instructional pattern of:

1. the teacher will establish an anticipatory set that captures the students' attention, an overview of the lesson, and statement of the objective(s)
2. the teacher will demonstrate the correct performance of the objective (primarily through the SRA Spelling Mastery Teacher Presentation Book), question students as to their understanding of the objective, and allow students to question the teacher for better understanding of the objective
3. the students will have guided practice (primarily through the SRA Spelling Mastery Workbook), and the teacher will provide immediate feedback to the students for correction
4. the students will have independent practice (primarily through the SRA Spelling Mastery Workbook) until the objective is mastered according to the acceptable standards outlined in the SRA Spelling Mastery Teacher Presentation Book
5. generalization – the students will perform their new found knowledge in various settings such as spelling bees, identification of spelling words in the newspaper or magazines, and writing basic sentences using spelling words

6. formative and summative assessment – the teacher will administer weekly spelling evaluation using the "spelling word list" from the SRA Spelling Mastery, Level A Teacher Presentation Book (Dixon, Engelmann, & Bauer, 1999, p. G3)
7. finally, the teacher will review each daily lesson and provide for the next anticipatory set.

Students were asked to participate in all spelling lessons, take all spelling evaluations, and make entries into their reflection journals weekly with the assistance of the teacher and/or teacher assistant. The basic guide to the weekly journal for the students was, "Think about your spellings lessons this week. What did you like? What did you dislike? Tell me one thing that you learned this week that you did not already know and how you may use it outside the classroom." The basic guide for the weekly journal of the participating teacher was, "Think about the spelling lessons you conducted this week. What would you consider to be successful? What perhaps was not as successful? What would you change if you had to do the lesson over? How would you change lessons that you feel were not successful?"

Research Design

The study utilized a multiple baseline, single-subject research design to investigate quantitative changes across baseline and treatment phases for 6 student participants. Kazdin (1982), along with Alberto and Troutman (2006), noted that if a baseline changes after an intervention, the effects are attributed to the intervention rather than extraneous factors. Furthermore, Kratochwill (1992) supported Kazdin's research by developing the idea of *single-N* design. "Single-N designs involve measurement of a

single subject or group and allow a within-subject or group comparison of intervention effects in a time-series framework" (Kratochwill, p. 6). This research method relates to actual teaching practices in which teachers assess and modify their curriculums and instruction to meet the needs of each student within the classroom. Additional advantages of the single subject research design allow for the systematic and detailed analysis of individual data, comparison of intervention treatments with performance achievement, focuses on the individual student, allows testing of conceptual theories, is cost effective, and permits experimental research without disruption of daily routines (Horner, et al., 2005).

In support of the multiple baseline, single-subject research design, qualitative data retrieved from field observations and reflection journals attempted to identify the perception a special education teacher and her students have toward direct instructional strategies involving spelling. Quantitative data from a pretest and posttest identified any change in spelling skill levels. Utilization of the multiple baseline, single-subject design allows the teacher to implement the treatment and gradually modify or increase the treatment after mastery of the initial application (Kratochwill & Levin, 1992).

Once the researcher obtained parental permission for participants and the participants had thorough knowledge of their expectations, the study period commenced and lasted for seven weeks. The researcher began by presenting a pretest designed by SRA Spelling Mastery on day one. The results of the pretest were documented for each individual student and the score graphed as a group. Obtaining this information, the study continued by:

1. the participating teacher conducting approximately 30 minute direct instruction spelling lessons daily
2. the participating teacher conducting weekly spelling evaluations in accordance with SRA Spelling Mastery guidelines
3. the participating teacher providing one weekly reflection journal entry in relation to the week's spelling lessons conducted
4. the student participants engaging in daily spelling lessons
5. the student participants taking weekly spelling evaluations in accordance with SRA Spelling Mastery guidelines
6. the student participants providing one weekly reflection journal entry in relation to the weeks spelling lessons conducted
7. the researcher observing the participating teacher and participating students once each week using a Procedural Reliability Form
8. the researcher making note of the weekly lesson in a researcher journal focusing on the observed conduct of the participating teacher and students
9. the researcher collecting the weekly spelling evaluations for each student and graphed the students' weekly progress
10. the researcher presenting a questionnaire at the end of the sixth week to the participating teacher, students, and parents / guardians of the students for the purpose of rating perceived spelling improvement levels in order to verify or negate finding in the teacher and student reflection journals
11. the researcher conducting a posttest on the last day of the seventh week

12. the researcher graphing the results of the posttest and compared the posttest and pretest data, and the results of weekly spelling evaluations
13. the researcher meeting with the participants and reviewed the data in accordance with member checking guidelines, and any discrepancies being noted at this time (Creswell, 1998)
14. the researcher sharing the data with relevant school personnel, parents of the students, and the participating students through a scheduled meeting one week after the posttest or through a letter if the students, parents, or school personnel were not able to attend the meeting

Setting and Sample Selection

The instructional setting was located at a single site in the MMD self-contained classroom where the students already receive special education services. The classroom consists of three student tables with four student chairs at each table. The students were assigned seats prior to conducting the study based on their academic functional level indicated by their Individual Education Plan, IEP. A laptop and computer projector is located in the center of the room facing a white dry erase board. The teacher's desk is located in the back of the room along with five desktop student computers. A small table beside the teacher's desk acted as an observational post for the researcher.

The participants consisted of MMD students ranging from third to fifth grade levels, one certified Mild Mentally Disabled special education teacher, and one certified teacher assistant. Six self-contained MMD students ranging in ages from 8 to 11 years, located in a rural elementary school in central South Carolina participated in the study.

The students, who are readily available to the researcher, were selected based on their Special Education classification. Watson (2006) identified MMD as a disability where the child is 2 to 4 years behind in adaptive and social skills, and has an Intelligent Quotient between 50 and 69. All students are in a self-contained classroom, one in which all academic lessons are taught.

Ethnicity of the students consists of 1 Caucasian boy, 1 Caucasian girl, 3 Black boys, and 1 Black girl. One of the students is in fifth grade, 4 students are in fourth grade, and 1 is in the third grade. All of the students have a secondary disability of speech and attend 1 hour of speech therapy weekly. Four of the 6 students are currently taking medication for hyperactivity and/or attention deficit disorder. The students' socioeconomic status is that of lower class as all the participants receive free lunch.

All of the students have received special education services for a minimum of 2 years in a self-contained classroom setting. Classification as MMD occurred under the guidelines from the South Carolina Department of Education, South Carolina Special Education Department, and the Individual with Disabilities Education Act, IDEA, 2004. Evaluation measurement tools to determine if a student qualifies as MMD included the Vineland-II Adaptive Behavior Scales, Wechsler Intelligence Scale for Children – Third Edition (WISC-3), and finally, the Brigance Inventory of Basic Skills. Each of the students is at least 2 years or more below grade level abilities in spelling. The student's Individual Education Plan, IEP, identifies spelling and writing as a deficit area. Anonymity of the student participants was accomplished using aliases; only those individuals who have a direct relationship in the study knew the student's actual name

and progress, such as the participating teacher, individual parents, the school administration, and the director of special education services for the school district (Creswell, 2003).

The teacher is a certified Educable Mentally Disabled (equivalent to Mild Mentally Disabled), self-contained teacher with 10 years of teaching experience in a self-contained special education classroom. The certified teacher assistant has worked in the special education self-contained classroom for 8 years. Prior to conducting the study and subsequent questionnaire, permission was obtained from the school's administrator and teacher, along with parental or guardian permission (see Appendix C, D, E, F, and G) for the student participants. The Special Education Department for the district, the school's administrator, students, and parents or guardians was informed of the purpose and nature of the study. Upon completion of the study, the researcher shared the results with the above-mentioned individuals. Any participant who wished to withdraw from the study had the opportunity to do so at any time. All data collected through weekly spelling evaluations, pretest and posttest scores, field notes, observations, and reflection journals will remain confidential and secured by the researcher for a period of 5 years. There was no control group for this study. In order to ensure that each student participant remains anonymous, the researcher gave each student an alias that was used throughout the study.

Materials and Equipment

The materials needed to conduct this study included the SRA Direct Instructional Spelling Mastery Teacher Presentation Book, Level A, and six SRA Spelling Mastery Student Workbooks. In addition to the instructional material, a laptop with a word

processing program and computer projector was used to present spelling lessons. Paper, pencil, and a journal notebook were required for each of the participating students. The SRA Spelling Mastery Placement Test, Level A acted as a pretest and posttest for the student participants. (see Appendix H)

Additional equipment consisted of an Excel software program to compute weekly spelling evaluations, the pretest and posttest scores, and the software program SPSS to analyze the data retrieved from the weekly spelling evaluations, pretest, and posttest. Notebook journals, a portable tape recorder, tapes, batteries, and observational guide outlines were necessary to record classroom observations and audio record participants' to validate the actual verbal transactions that occur during the lesson observed.

Role of the Researcher

The role of the researcher was one of study coordinator, observer, test administrator, and data analyzer. None of the 6 student participants obtained direct instruction from the researcher. The researcher is a certified Educable Mentally Disabled, self-contained teacher. In addition, the researcher is classified by the state of South Carolina as highly qualified. Prior to conducting the study, permission was obtained from the administrators at the participating elementary school, the participating teacher, and the school district's special education director. Furthermore, the researcher obtained parental or guardian permission for the student participants. The district special education director, the elementary school administrators, the participating classroom teacher and students, along with parents or guardians were informed of the purpose and nature of the study. Upon completion of the study, the results were shared with the above-mentioned

individuals. Any participant who wished to withdraw from the study had the opportunity to do so at any time. All data collected through observations and journals will remain confidential and secured by the researcher for a period of 5 years.

Sources of Data

Using the SRA Spelling Mastery Placement Test, Level A, the effects of direct instructional spelling strategies were evaluated in order to determine improvement in spelling skills (Crawford, 2003). In addition to the pretest and posttest, the researcher collected weekly spelling evaluations for data analysis to chart progress, and student and teacher reflection journals for perceptional patterns that existed. The researcher conducted field observations each Friday using an Observation Guide and Procedural Reliability Form for consistency (see Appendixes I and J). Documentation of the participants' perceptions, as coded in the participants' reflection journals toward spelling, positive or negative, were noted in the researcher's journal.

The need for improvement in spelling skills motivated the researcher to review the participants' reflection journals in order to explore potential trends or areas that arose regarding teacher perceptions toward the effectiveness of direct instruction of spelling and the impact it had on student spelling evaluation grades. Data retrieved from the journals has the potential of enhancing the spelling proficiencies of all students. In addition, the reflection journals provided a means for the participants to reflect on their current attitude and perceptions toward the idea of direct instructional curriculums, along with their instructional commitment to spelling.

Research Questions and Hypotheses

Using a multiple baseline, single-subject research design, this study attempted to answer the following questions:

1. What effect, if any, does direct instruction of spelling have on the improvement of spelling skills for children with special needs?

2. What are the perceived improvement levels in spelling obtained by the student participants as reported by their teacher? Their parents? The students?

3. What are the self-reported perceptions students have toward the effects of direct instruction in spelling?

4. What are teacher perceptions toward the improvement of spelling ability of MMD students as a result of using direct instruction?

Ho1: There is no statistically significant difference in the students' spelling abilities following 7 weeks of spelling direct instruction as measured by the SRA Spelling Mastery Placement Test.

Alternative Ho: There is a statistically significant difference in the students' spelling abilities following 7 weeks of spelling direct instruction as measured by the SRA Spelling Mastery Placement Test.

Variables and Data Collection Procedures

The dependent variable is the grade the students received on the pretest and posttest. Increasing the student participants' net gains in spelling achievement is the

target behavior. This calls for the student participants to improve from pretest to posttest. The independent variable is the direct instructional spelling lessons over a 7 week period.

Direct instruction of spelling was utilized in this study. Lefrancois (1992) and Dichiara (1998) described this instructional method as one that the teacher focuses on basic skills, primarily in reading, language, and math. Teachers present or model the information or task, the students review the information or practice the task, students then perform the task without assistance, and finally, the teacher gives immediate feedback to the student until mastery is achieved. The special needs teacher conducting the instruction has 10 years of experience in the direct instruction curriculum and considered Highly Qualified in this technique by the State of South Carolina.

During the study, each student participant kept a reflection journal documenting his or her perceived weekly progress in spelling. The teacher also kept a weekly reflection journal as to the progress each student was making and any notes pertaining to success or failure of particular lessons. The researcher observed one spelling lesson presentation per week, collected and copied the teacher's and students' reflection journals each Friday, and documented in the researcher's journal finding of interest.

The coding process for this study, notably teacher, student, and researcher journals and observations, evolved over a series of steps. Rubin and Rubin (2005) indicated that the coding process allowed the researcher to clarify and develop concepts and themes, group particular information, and store information by these groups or categories for further review. With this in mind, the researcher directed the coding process around the prompts the researcher gave to the teacher and student participants.

Primarily, “Think about the spelling lessons you conducted this week. What would you consider successful? What perhaps was not as successful? What would you change if you had to do the lesson over? How would you change lessons that you feel were not successful?”

Creswell (2003) indicated that researchers need to identify topics from journals and observations; with this information, categories are developed. Reading the journal and observation transcripts twice, the researcher developed categories relating to the research question. Afterward, having a list of color-coded categories, the researcher reread the journals and observation transcript line for line color coding statements that related to each category. Once the journals and observation categories were identified and color coded, the researcher listened to the audio taping of the weekly lesson validating or disputing the categories developed. Finally, the color-coded statements were grouped accordingly in relation to their specific category.

The process of coding allows the researcher to develop data categories that support the research study question. Mills (2003) noted, once data is collected, researchers need to, “consider the big picture and start to list themes that you have seen emerge in your literature review and in the data collection” (p. 105). Using member checking as a source of validation, the teacher and student participants had the opportunity to read the observation transcripts and categories developed by the researcher. The researcher read the transcripts and categories to students who are not able to read. Information gathered from the observations and coding process provided a source of validation, or negated the hypothesis of the reach study.

Direct Instruction Procedures

The direct instructional approach focuses on basic instruction that must begin in the primary grades, focus on recognizing letter sounds (phonetics), learning common spelling rules and patterns, and sight word recognition (Anonymous, 1998). On a daily basis, the teacher correctly modeled letter sounds in order for the students to decode and spell commonly used words. These words are part of the SRA Direct Instruction of Spelling curriculum. Next, the teacher introduced basic spelling rules and patterns followed by two new sight words for mastery per day. Each week thereafter, the teacher increased the goal for each participant according to his or her mastery of previous goals established prior to the conclusion of the study. A spelling evaluation was conducted weekly as outlined in the SRA Spelling Mastery Teacher Presentation Book. Spelling instruction occurred 30 minutes daily for each student participant during the entire study period of 7 weeks.

Generalization Assessment Procedures

The students demonstrated the transfer of spelling skills through the SRA Spelling Mastery Placement Test, Level A, at the conclusion of the study. Student participants received the same test used for the pretest. The results of the two tests provided data as to improvement, if any, of acquired spelling skills.

Data Analysis

The researcher used line and bar graphs to display the data graphically. Percentile increases or decreases in student weekly spelling evaluations established the level of achievement obtained by each student participant. The goal was for each student to

increase his/her spelling score from pretest to posttest on the SRA Spelling Mastery Placement Test. All data retrieved from the reflection journals were color coded into categories as they develop. The researcher was primarily looking for common trends that develop among the participants in relation to direct instruction and spelling achievement.

Methods of Validity and Reliability

The SRA Spelling Mastery Placement Test, Level A was used to score the pretest and posttest; this validated test; "determines the level of Spelling Mastery" (Dixon, Engelmann, & Bauer, 1999, p. G6) for each student. Threats to internal validity may have existed within the teacher's personality and perceptions on the need for spelling instruction for special needs children, the teacher's presentation of direct instructional lessons, students' attitudes, positive or negative, toward spelling, students' actual academic abilities and using the same test as the pretest and posttest. Identifying external validity, all research data was directed toward MMD students receiving direct instructional spelling instruction. Finally, construct validity was addressed through the SRA Spelling Mastery Placement Test, Level A, which is a reliable evaluation tool for evaluating spelling proficiency (Dixon, Engelmann, & Bauer).

The primary data collection for this study was the pretest and posttest conducted by the researcher. Additional data from the teacher and students' reflection journals and field observations assisted in developing a perceptional trend among the teacher and student participants in relation to spelling instruction. The researcher was responsible for conducting and collecting all data from a pretest, posttest, weekly spelling evaluations, participant reflection journals, and field observations. Employment of structured and

semi-structured questions throughout the observation periods allowed the researcher to focus on specific themes or categories that developed.

All data retrieved from journals and observations was recorded and coded in a research journal following, “observational protocol” (Creswell, 2003, p. 188-189). A research journal contained documentation of any pertinent information retrieved from the audio tapes. The researcher in accordance with Orangeburg Consolidated School District’s Four security policies and those of Walden University will secure all data for up to 5 years.

The researcher used two primary methods of quality control; triangulation, and member checking. Creswell (1998) identified triangulation as a means of, “corroborating evidence from different sources to shed light on a theme or perspective” (p. 202). The researcher triangulated the data through comparison of the SRA Spelling Mastery pretest and posttest results, weekly spelling evaluations, coded trends that developed within the teacher / student reflection journals, the teacher / student / parent questionnaire, and the researcher’s field observations. Through comparison of various theorists of direct instruction and the results of this study, the researcher approved the findings.

Creswell (2003) noted that member checking is a process where the researcher presents the findings to the participants and they will determine if they are accurate. Upon completion of the study, the researcher scheduled two meetings. The first involved only the participating teacher and students to verify the findings and note any discrepancies. The researcher noted all discrepancies in the researcher’s journal and the data became part of the overall study results. The special education director from

Orangeburg Consolidated School District Four, administrators at the participating school, parents or guardians of the student participants, and the teacher and student participants discussed the overall findings of the study at a second meeting scheduled by the researcher. A written copy of the findings was available for those individuals who were not able to attend the meeting.

Ethical Considerations, Protection, and Rights of the Participants

The researcher reviewed the *APA Ethical Principles of Psychologists and Code of Conduct* (2002). This document provides guidelines as to ethical practices and legal issues concerning studies involving human subjects. The researcher strived to eliminate biases, promote fairness, and avoid misunderstandings or misrepresentations within the study. Additionally, the researcher discussed voluntary participation in the study thoroughly among the student participants, parents or guardians of the students, and the participating teacher. In addition to the APA guidelines on ethics, the researcher followed all ethical and procedural guidelines outlined by the participating administration, school district, and Walden University.

Summary

This study sought to discover if direct instruction of spelling enhances the spelling abilities of children with special needs. Through a multiple baseline, single-subject research design, the researcher wished to investigate changes across baseline and treatment phases for 6 student participants. Statistical analysis of a pretest and posttest scores, weekly spelling evaluations, along with field observations and the teacher / student reflection journals, provided the data needed in order to determine if direct

instructional strategies indeed have an effect on the spelling abilities of students with special needs. Provided within the next section are the research question, hypothesis, data gathering and analysis procedures, results from the study, and interpretation of those results.

SECTION 4:

RESULTS

Introduction

The purpose of this study was to determine if direct instruction has a positive effect on the spelling ability in the development of MMD special needs students. The study used direct instruction teaching methodology and SRA Spelling Mastery (1999) evaluations to determine the effectiveness direct instruction has upon the spelling abilities of MMD special needs students.

The researcher conducted two independent-measures *t* tests and five frequency measurements using statistical software SPSS (2006) over 36 spelling sessions. During this time, 14 sessions were set aside to conduct spelling evaluations. These tests measured the difference between pretest and posttest scores and the differences between weekly evaluation scores as a group and individually. In addition, the differences between the perception students, parents, and the participating teacher have in relation to direct instruction of spelling were also measured. Measurement of these questions was conducted individually. All students began the study and ended the study at the same time. However, students were randomly phased into the intervention phase of the study in groups of two once a baseline was established. Kazdin (1982) noted that baselines are established, "to help predict performance in the immediate future before treatment is implemented" (p. 105).

Research Question and Hypothesis

Question 1: What effect, if any, does direct instruction of spelling have on the improvement of spelling skills for children with special needs?

The null hypothesis states that no statistically significant difference exists in the students' spelling abilities following 7 weeks of direct instruction of spelling as measured by the SRA Spelling Mastery Placement Test.

The alternative hypothesis states that there is a statistically significant difference existing in the students' spelling abilities following 7 weeks of direct instruction of spelling as measured by the SRA Spelling Mastery Placement Test.

Pretest and Posttest Results

Data from the pretest and posttest was limited to MMD students taught spelling through direct instruction over a 7 week period in a self-contained classroom setting. The sample size for the independent-measures *t* test for the pretest and posttest was: N = 6. Refer to Table 1 and Figure 1 for the results of the pretest and posttest.

Table 1

Pretest and Posttest Results

Student	Pretest Score	Posttest Score
Peter	4	5
Mark	4	9
Lois	0	3
Luke	1	3
Matthew	6	10
Ruth	0	4

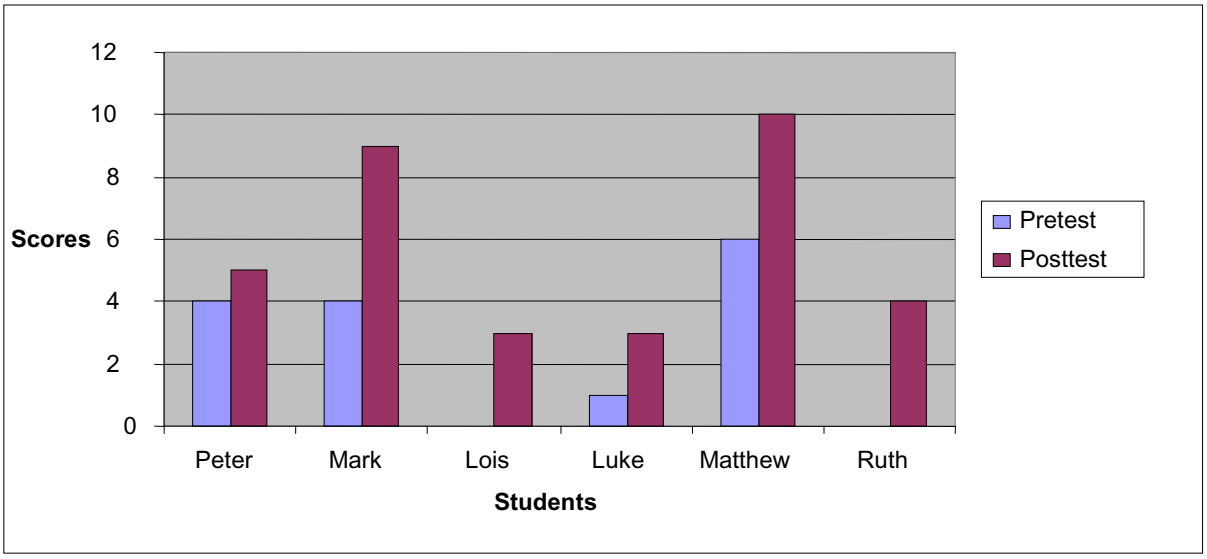

Figure 1: Pretest and Posttest Results

Statistical Summary

Pretest and Posttest

The sample size of the pretest and posttest was N = 6. The students had an M = 2.50 with a SD = 2.51 on the pretest. Accordingly, the students had an M = 5.67 with a SD = 3.08 on the posttest. This information is found on Table 2. The difference is significant, *t* (10), = ± 2.29, *t* value = - 1.95, p > .05, notably an increase of 32% overall. The results were statistically significant. This indicates that direct instruction had a significant impact on spelling instruction for students with Mild Mental Disabilities. Having a significant impact on the difference of scores between the pretest and posttest rejects the null hypothesis.

Table 2

General Statistics and Independent- Measures

	Mean	Mean Difference	Standard Deviation	*t* value
Pretest	2.50	3.17	2.51	-1.95
Posttest	5.67		3.08	-1.95

Fluency Measure

Over the 36 session period, 14 evaluation periods were administered. Theses evaluations consisted of a pretest, baseline phase, intervention phase, maintenance phase, and finally a posttest. This data is found in Figure 2 and 3. Data varied for each student in the pretest and baseline phase, yet indicated rather low scores overall. In contrast, once intervention of direct instruction was implemented, scores rose significantly for each student during the intervention phase, maintenance phase, and the posttest.

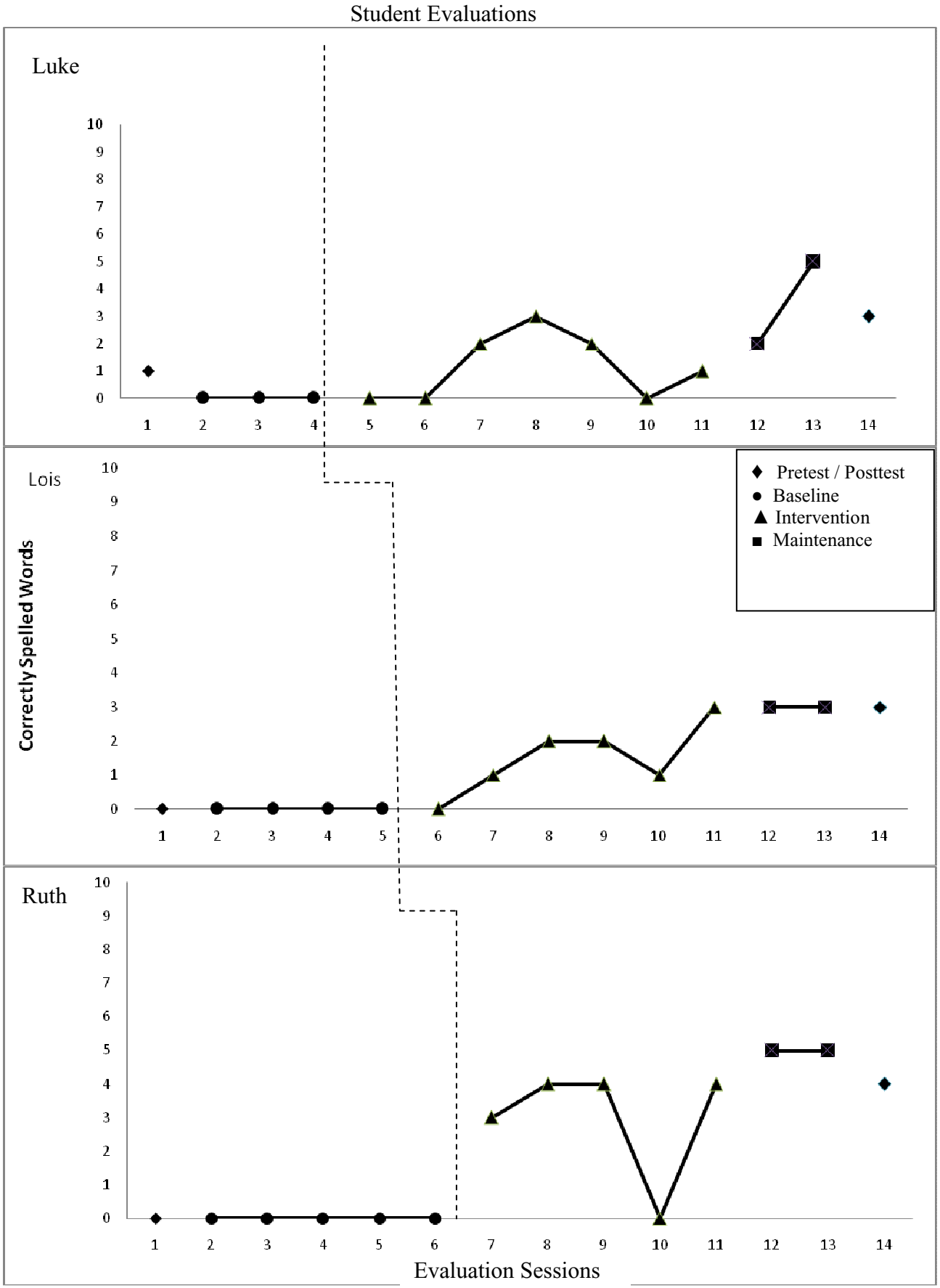

Figure 2: Student Evaluations

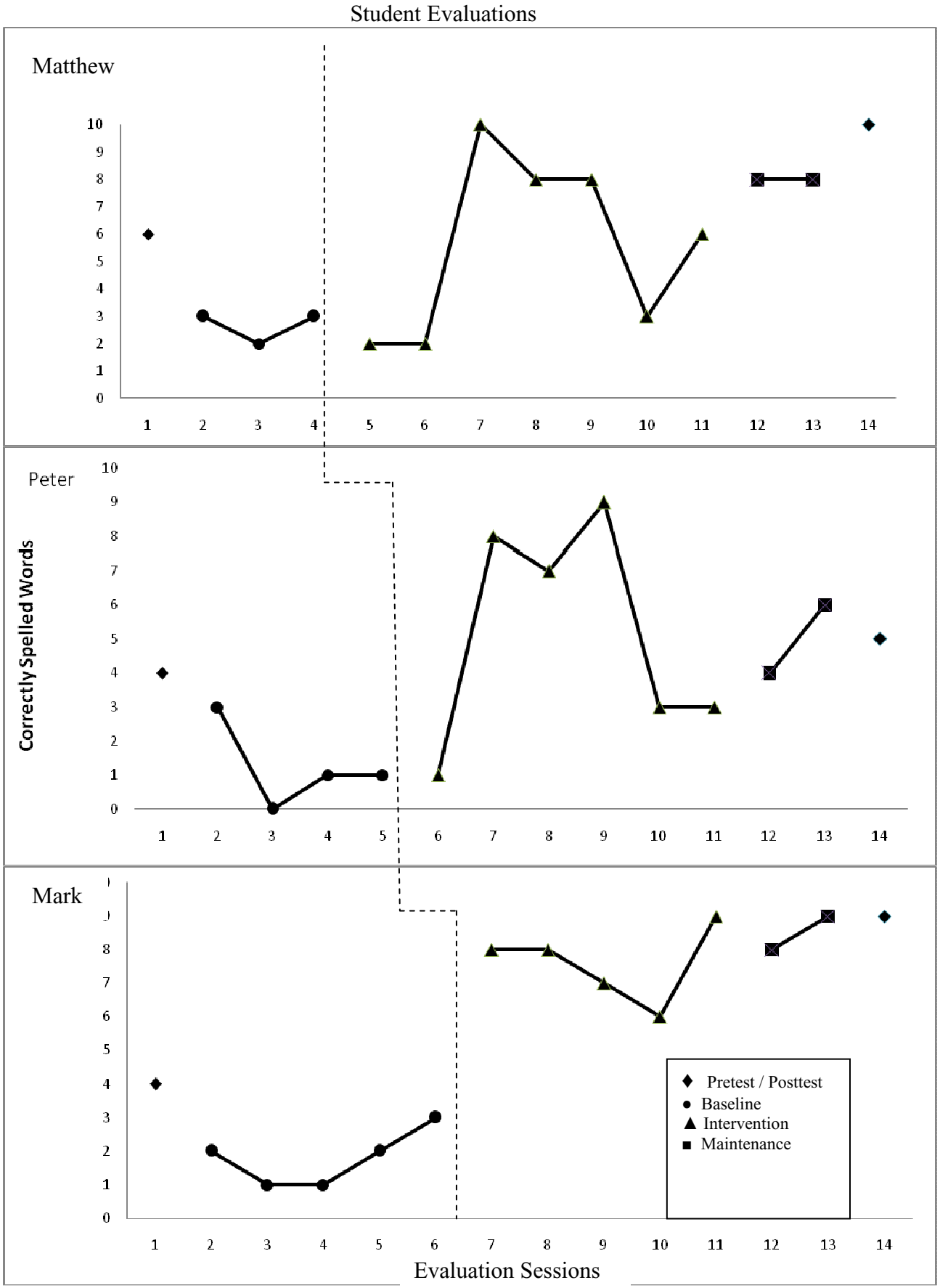

Figure 3: Student Evaluations

Individual Weekly Evaluations

Luke is a fourth grade, Black male who is 10 years old. Figure 2 indicates Luke's progress over the 14 weekly spelling evaluations. Luke's scores indicated the effectiveness of direct instruction intervention. During the pretest and baseline phase of the study, Luke scored low, scoring a one on the pretest and three zeros in the baseline. Once the intervention was initialized, Luke started making progress during the seventh evaluation period and peaked on the eighth. Luke's number of correctly spelled words declined on the tenth evaluation period before gradually increasing in the maintenance and posttest phase.

Luke's score in the baseline was zero words spelled correctly. He increased to 11% during intervention and increased further to a rate average of 35% during maintenance before obtaining a pretest score of 3.0, indicating an increase of 20% from pretest to posttest. The data indicates that Luke progressed over the study period.

Matthew is a third grade, Black male who is 10 years old. Figure 3 indicates Matthew's progress over the 14 weekly spelling evaluations. Matthew's scores indicate the effectiveness of direct instruction intervention. During the pretest and baseline phase of the study, Matthew scored moderately high, scoring a six on the pretest and an average rate of 27% in the baseline. Once the intervention was initialized, Matthew flat lined at two correctly spelled words for two consecutive evaluation periods before dramatically increasing his score. Matthew's number of correctly spelled words peaked during the

seventh evaluation period, declined on the tenth, then gradually increased in the maintenance and posttest phase.

Matthew's baseline average was 27% words spelled correctly. He increased to 56% during intervention and increased further to an average rate of 80% during maintenance before obtaining a pretest score of 10.0. The data indicates that Matthew progressed over the study period.

Lois is a fourth grade, Black female who is 11 years old. Figure 2 indicates Lois's progress over the 14 weekly spelling evaluations. Lois's scores indicate the effectiveness of direct instruction intervention. During the pretest and baseline phase of the study, Lois scored extremely low, scoring a zero on the pretest and four zeros in the baseline. Once the intervention was initialized, Lois started making progress during the seventh evaluation period and peaked on the eleventh. Lois's number of correctly spelled words declined on the tenth evaluation period before gradually increasing in the maintenance and posttest phase.

Lois's average rate in the baseline was zero words spelled correctly. She increased to 15% during intervention and increased further to an average rate of 30% during maintenance before obtaining a pretest score of 3.0. The data indicates that Lois progressed over the study period. Figure 2 notes Lois's progress as being the most consistent of the 6 student participants.

Peter is a fourth grade, Black male who is 10 years old. Figure 3 indicates Peter's progress over the 14 weekly spelling evaluations. Peter's scores indicate the effectiveness of direct instruction intervention. During the pretest and baseline phase of the study, Peter obtained a moderately low score of four on the pretest and a low rate 13% in the baseline. Once the intervention was initialized, Peter started making progress during the seventh evaluation period and peaked on the ninth. Peter's number of correctly spelled words declined on the tenth evaluation period before gradually increasing in the maintenance and posttest phase.

Peter's average rate in the baseline was 13% words spelled correctly. He increased to 52% during intervention and decreased to a rate of 50% during maintenance before obtaining a pretest score of 5.0. The data indicates that Peter progressed over the study period, although inconsistently. Figure 2 notes Peter's progress as being the only inconsistent progress of the 6student participants.

Ruth is a third grade, Caucasian female who is 8 years old. Figure 2 indicates Ruth's progress over the 14 weekly spelling evaluations. Ruth's scores indicate the effectiveness of direct instruction intervention. During the pretest and baseline phase of the study, Ruth scored low, scoring zero on the pretest and five zeros in the baseline. Once the intervention was initialized, Ruth started making progress immediately and peaked on the eighth and ninth evaluation periods. Ruth's number of correctly spelled words declined on the tenth evaluation period before gradually increasing in the maintenance and posttest phase.

Ruth's rate in the baseline was zero words spelled correctly. She increased to 30% during intervention and increased further to an average rate of 50% during maintenance before obtaining a pretest score of 4.0. The data indicates that Ruth progressed over the study period.

Mark is a fifth grade, Caucasian male who is 11 years old. Figure 3 indicates Mark's progress over the 14 weekly spelling evaluations. Mark's scores indicate the effectiveness of direct instruction intervention. During the pretest and baseline phase of the study, Mark scored moderately low, scoring a four on the pretest and an average rate of 18% in the baseline. Once the intervention was initialized, Mark started making progress immediately and peaked on the eleventh evaluation period. Mark's number of correctly spelled words declined on the tenth evaluation period before gradually increasing in the maintenance and posttest phase.

Mark's average rate in the baseline was 18% words spelled correctly. He increased to 76% during intervention and increased to an average rate of 85% during maintenance before obtaining a pretest score of 9.0. The data indicates that Mark progressed over the study period. Mark had the largest overall gain of the 6 student participants.

Social Validity Questionnaire Results

Results for Question 2

Question 2: What are the perceived improvement levels in spelling obtained by the student participants as reported by their teacher? Their parents? The students?

A questionnaire was presented to each of the participants, teacher and students, as well as the students' parents. The questionnaire reflected each participants', teacher and students', as well as parents,' perceived improvement level in spelling as a result of 7 weeks of direct instruction. A (1) indicated that there was no improvement, (2) indicated little improvement, (3) indicated some improvement, and, (4) indicated great improvement. The questionnaire consisted of six questions, five of which were statically measured using statistical software SPSS (2006). The last question allowed for additional comments if the participant so desired. Below are the results of the questionnaire.

Question 1: Overall spelling improvement

Table 3

Question 1 results

Group	n	M	Med	Mod	SD
Student	6	3.17	4.00	4	1.33
Teacher	1	3.00	3.00	3	--
Parent	6	3.00	3.00	3	0.62

Question 2: Acquisition of spelling rules

Table 4

Question 2 results

Group	n	M	Med	Mod	SD
Student	6	3.00	3.00	2	0.90
Teacher	1	3.00	3.00	3	--
Parent	6	2.50	2.50	2	1.05

Question 3: Acquisition of sight words

Table 5

Question 3 results

Group	n	M	Med	Mod	SD
Student	6	3.50	3.50	3	0.55
Teacher	1	3.00	3.00	3	--
Parent	6	2.50	2.50	2	1.05

Question 4: Overall spelling confidence

Table 6

Question 4 results

Group	n	M	Med	Mod	SD
Student	6	3.00	3.50	4	1.27
Teacher	1	4.00	4.00	4	--
Parent	6	3.00	3.00	3	0.63

Question 5: Improvement in other academic areas

Table 7

Question 5 results

Group	n	M	Med	Mod	SD
Student	6	3.50	4.00	4	0.84
Teacher	1	3.00	3.00	3	--
Parent	6	3.00	3.00	3	0.63

Statistical Summary for Question 2

The following data indicates the overall means for each question. Table 14 reflects the means of the students, teacher, and parents per question. Evaluation of the data indicates that there are not statistical significant differences between the perceived improvement levels between students, parents, and teacher.

Table 8

Perceived improvement levels

Question	Mean	Rating
1	3.06	some improvement
2	2.83	little improvement
3	3.00	some improvement
4	3.33	some improvement
5	3.17	some improvement

Self-Reported Perceptions of Direct Instruction

Results for Question 3

Question 3: What are the self-reported perceptions students have toward the effect of direct instruction in spelling?

Each student participant maintained a reflection journal throughout the study. The researcher asked the students to write in the refection journals a minimum of once a week. The researcher prompted the students with questions such as, “Do you like spelling since you started using direct instruction? Why? Why not? How would you make direct

instruction spelling lessons fun? Why do you think spelling is so important to learn?" The researcher coded the participants' responses in accordance with qualitative protocol into two categories, motivation to spell and personal perception of spelling (Creswell, 2003).

Using the reflection journal entries, the researcher was able to conclude that the majority of student participants had a positive perception toward direct instruction of spelling. Four of the 6 student participants indicated this positive perception through comments such as Mark's, "I like spelling because it's fun putting the words together." and Matthew's, " I like spelling because it's fun learning new things and being able to spell the words right without having to ask the teacher how to spell them." The two student participants who reflected a negative perception of spelling, Peter and Luke, each noted that spelling was just "too hard" to learn.

In addition to the perception student participants had toward spelling, the researcher wanted to discover what motivated the students to learn spelling and how they would make spelling fun. All of the participants indicated that they enjoyed the direct instructional spelling more when the participating teacher incorporated games into the lessons. Comments such as Ruth's, "I like using the (letter) tiles to spell better than using the workbook" and Lois's, "I like writing out the words on the board better when we play battleship than standing up and spelling them" reflected the overall students' desire to learn spelling through entertaining and creative methods.

Finally, the researcher wanted to discover why student participants thought spelling was important. Two recurring themes emerged throughout the reflection

journals. The first, stated by Mark, was, “you need spelling in order to learn how to write sentences and stories” and secondly, stated by Matthew, spelling, “helps you become a better reader.” Referring to Table 13, the questionnaire asked if the students believed that spelling had helped them improve in other academic areas, the students’ mean for this question was 3.50 out of 4.00. The perceptions the student participants indicated on the questionnaire support the perceptions in their reflection journals; thus, the questionnaire and reflection journals is valid data. Based on the student participants’ comments, the data indicates that there was no self-reported perceptions change toward the effect of direct instruction in spelling following 7 weeks of direct instruction of spelling indicated by the students’ reflection journals.

Teacher Perceptions of Improvement

Results of Question 4

Question 4: What are the teacher perceptions toward the improvement of spelling ability of MMD students as a result of using direct instruction?

The participating teacher maintained a reflection journal throughout the 7 week study period. The researcher asked the participating teacher to make at least one reflection entry per week. Focus of the entry pertained to the teacher’s perception of direct instruction as an instructional method for teaching spelling. As with the students, the researcher prompted the teacher with questions such as, “Think about the spelling lessons you conducted this week. What would you consider to be successful? What perhaps was not as successful? What would you change if you had to do the lessons over? How would you change lessons that you feel were not successful?”

Using qualitative protocol (Creswell, 2003), the researcher developed three themes from the participating teacher's reflection journal. These themes included successful lessons, non-successful lessons, and changes that promoted successful lessons.

The participating teacher's reflection journal indicated that direct instruction over the 7 week study period had overall been very successful. Comments from the participating teacher such as, "Students had little difficulty identifying letter sounds, an intricate part of direct instruction spelling lessons. When students hear the four letter words broken down in isolation, they have a high success rate in spelling them. I am excited about the students' overall progress." reflected the positive perception the participating teacher had toward direct instruction as a viable teaching method for student with special needs.

In contrast, the participating teacher noted areas of concern. During Week 4 of the study, the students moved from two and three letter words to four and five letter words. The participating teacher noted, "This week has been challenging, as noted in the students' weekly evaluation scores." Referring to Table 8, there was a 31.66% drop in the mean from the previous week. Each participating student dropped dramatically during this time. Asking the participating teacher why she thought there was such a disparity from the previous 3 weeks of instruction, she stated that, "They understand the first sounds of the word, but do not follow through with the ending sounds. For example, the word "wish", many students spelled it "w-i-s".

Finally, when the researcher asked what changes the participating teacher suggested to promote success in direct instruction of spelling, she noted two. These

changes were to spend more time on general spelling rules and letter blends. The participating teacher indicated that the students made progress over the 7 week period, as indicated on the Social Validity Questionnaire, refer to Tables 9 – 13. In all areas except spelling confidence, the participating teacher rated the students as “some progress”. Spelling confidence received a rating of “great progress”. Thus, the ratings the participating teacher indicated on the Social Validity Questionnaire and the notes in her reflection journal are consistent and considered valid. Evaluation of the data indicates that there are no differences of self-reported perceptions toward the effect of direct instruction in spelling following 7 weeks of direct instruction of spelling indicated by the teacher’s reflection journal.

The parents of the student participants indicated that the students made progress over the 7 week period, as indicated on the Social Validity Questionnaire. In all areas except spelling rule acquisition, the parents rated the students as “some progress”. Spelling rule acquisition received a rating of “little progress”. Evaluation of the data indicates that there are no differences of self-reported perceptions toward the effect of direct instruction in spelling following 7 weeks of direct instruction of spelling indicated by the parents.

Section 5 will include a brief summary of why this study was conducted along with the methodology utilized and findings. In addition, Section 5 provides interpretation of the findings and their relationship to current literature, how this study can benefit social change, recommendations for actions, and finally, the need for further studies.

SECTION 5:

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Introduction

The current study utilized a single subject multiple baseline research design (Kazdin, 1982) in an attempt to evaluate the effectiveness direct instruction has upon the spelling abilities of student with special needs classified as Mild Mentally Disabled. This study sought to answer four research questions:

1. What effect, if any, does direct instruction of spelling have on the improvement of spelling skills for children with special needs?

2. What are the perceived improvement levels in spelling obtained by the student participants as reported by their teacher? Their parents? The students?

3. What are the self-reported perceptions students have toward the effects of direct instruction of spelling?

4. What are teacher perceptions toward the improvement of spelling ability of MMD students as a result of using direct instruction?

Results from the study are consistent with previous studies involving students with special needs who have received direct instruction. One of the largest longitudinal research studies ever conducted was Project Follow Through (Lindsay, 2004). This project involved over 75,000 low income children across the United States for a period of ten years. Researchers concluded, “direct instruction approach produced greater gains in basic skills, cognitive problem solving, and affective learning” (Kameenul, et al., 1997, p.

65). Henley, Ramsey, and Algozzine (1996) further concluded, “when teachers follow a hierarchy of instructional steps in their lessons, low achieving students demonstrated increased academic achievement in basic skills” (p. 235). Direct instruction provides the means for teachers to develop thorough, step by step lessons that promote learning basic skills needed for success in and out of the classroom setting. DiChiara (1998) noted the greatest advantage of direct instruction, “Learning is not left to chance” (pp. 17-18).

Summary

Question one was the primary focus of the study: What effect, if any, does direct instruction of spelling have on the improvement of spelling skills for children with special needs? A common problem found in today’s classrooms is the indifference many educators have toward spelling. The lack of formal spelling instruction gives the impression that spelling is not important (Newcomer, Nodine, & Barenbaum, 1988). Yet in the current era of high stakes testing, spelling is a vital area that is evaluated.

Darch, et al. (2006) noted, “One explanation for why students with learning disabilities have difficulties in spelling is that they are less adapt than students in general education in devising and utilizing spelling strategies that allow for the systematic application of spelling rules” (p. 15). In addition, Darch, et al. indicated that students with special needs had greater gains in spelling achievement when the students received rules based spelling instruction. Furthering this idea, Darch, et al. stated, “students with learning disabilities who frequently experience problems with spelling, benefit from programs that incorporate rule based strategies that are intensive and skill directed, and provide specific corrections and practice procedures” (p. 23). Key factors in direct

instruction of spelling include rule based, step by step skills instruction that encompasses immediate correction with guided and independent practice.

Findings

The results of this study indicated an increase in overall scores from the pretest, baseline evaluations, intervention phase, maintenance phase, and finally, the posttest. The 6 student participants accumulated a mean rate of 25% on the pretest. Once the intervention was initiated, each student participant made steady, yet inconsistent, progress. Evaluation ten saw a decline in progress for all students. This was the first evaluation conducted after introducing four and five letter words. All students increased during the following evaluation period and maintained or continued to progress during the maintenance phase of the study. The final posttest resulted in a mean rate of 57%. This indicated an increase in overall achievement of 32%. Using an independent measures *t* test, the results indicated a *t* value of -1.95 or negative 20%. This is a significant difference which reflects that direct instruction was indeed effective in the instruction of spelling for students with Mild Mental Disabilities.

The second question asked, what are the perceived improvement levels in spelling obtained by the student participants as reported by their teacher? Their parents? The students? Data retrieved from a six question questionnaire presented to the participating teacher, students, and the students' parents indicated perceptions toward the levels of spelling performance did not change. Two notable areas in which the students rated themselves high were in the acquisition of sight words and in the improvement in other academic areas. Tables five and seven reflect this data. The mean rate for both areas was

3.5 on a scale of 4.0, indicating a moderately high level of improvement. Supporting the students' perception of improvement in other academic areas, both the teacher and parents had a mean rate of 3.0. In contrast though, the teacher and parents did not have the same perception concerning the acquisition of sight words. The teacher noted a rate of 3.0, but the parents' mean rate for this area was 2.5, a full point difference from the students. Parents perceived that their children had made little improvement in sight word acquisition through direct instruction.

The teacher's perception of improvement remained consistent throughout the questionnaire with the exception of one area; overall spelling confidence (see Table 6). A rating of "some improvement" dominated all categories except spelling confidence. Here the teacher indicated a 4.0, reflecting "great improvement". Both students and the students' parents noted a 3.0 rating of "some improvement". It is worthy to note that this category received the highest rating of all categories with a mean rating of 3.33 (see Table 8).

Finally, the parents consistently rated their childrens' levels of performance as "some improvement" with the exception of two categories. These are the acquisition of spelling rules and the acquisition of sight words. The acquisition of sight words was previously discussed above. Acquisition of spelling rules netted an overall rating from the parents of 2.5. This indicated a perception of "little improvement". Additionally, this category had the lowest mean rating of 2.83 (see Table 8).

The data reveals that there is no difference between the perceived improvement levels as indicated by the students, their parents, or the participating teacher. The mean rate for

four of the five questioned categories fell within the “some improvement” level. Only one category, acquisition of spelling rules, had a mean rate of “little improvement”. This mean rate was greatly affected by the low score from the parents. The researcher concluded that the parents of the student participants may not have had complete knowledge of instruction regarding spelling rules, or may not understand the concept of spelling rules themselves. Not being able to confirm either theory, further research would need to be conducted in order to determine why parents scored their particular category low.

The third question asked, what are the self-reported perceptions students have toward the effects of direct instruction in spelling? Student reflection journals were used during the entire study. Each week students were asked to make any entry, sometimes prompted by the researcher, concerning their perception of direct instruction and spelling. Overall, the entries were positive, as noted in Section 4. Students indicated they enjoyed learning spelling through step by step mini lessons. They also noted that they did not have to rush through a lesson, and the teacher could re-teach the same lesson if they did not understand it.

Two students, Peter and Luke, reflected the only negative comments in their journals. Each noted that spelling was “too hard” for them to learn, yet enjoyed the mini lessons and that they did not have to move on to the next lesson before learning the previous. Both of these students improved during the 7 week period, but they had the lowest rate of improvement. Peter progressed 10%, while Luke progressed 20% from the pretest to the posttest.

The final question sought to answer, what are teacher perceptions toward the improvement of spelling of MMD as a result of using direct instruction? As with the students, the participating teacher maintained a reflection journal. The researcher asked the teacher to make weekly journal entries that pertained to her perception of how direct instruction was effective, or ineffective, to the spelling lessons presented. Overall, the teacher indicated that direct instruction had played a vital role in the students obtaining new spelling skills. The teacher rated all areas a 3.0, some improvement, with the exception of overall spelling confidence, which was rated a 4.0, great improvement, (refer to Table 6).

Two areas of concern for the teacher though were spelling rules and letter blends. The teacher noted that all the students were making progress until the tenth evaluation. Here four letter words were introduced; the students had difficulty with the final letter blends of many of these words. Using direct instruction allowed the teacher more time to break the lesson into smaller parts in order to promote success. This strategy worked as 5 of the 6 students increased their spelling scores the following evaluation period. The lone student, Peter, maintained his same score from the previous evaluation period, (refer to Figure 3).

The reflection journal of the teacher, and the Social Validity Questionnaire completed by the teacher, supported the data presented. Direct instruction had a perceived positive effect for the teacher and students. Although further research is needed to broaden the scope of these perceptions for generalization of MMD students and teachers, the data supported the researcher's findings.

Limitations

This research study was limited in many areas. The study only included 6 elementary students identified as MMD. Further research is needed to include various cognitive disabilities before generalization can occur. Additionally, there was an over representation of Black males in the study. The gender group comprised of 60% male participants compared to 40% female. This is close to the national average according to the Twenty-Fifth Annual Report to Congress on the Implementation of IDEA. This document noted that 56% of special education students identified as Mentally Disabled in the elementary school age range were male compared to 44% female. Of the male participants though, 75% were Black in the study. This is quite a contrast to the national average of 20.5% of Black males receiving special education serves. Further research is needed in developing study groups that are more conducive to the national average of gender and ethnicity special education students.

Another type of limitation in the study was the type of instruction presented, direct instruction. Direct instruction was the only instructional methodology employed by the participating teacher. However, further research is needed in various instructional methodologies such as whole language or constructivism. This will allow researchers the opportunity to determine the possible effects these different methodologies have on the spelling development of students with special needs identified as MMD.

Social Change Implications

This study will play a role in social change. In the past many individuals, and educators, ignored the potential children with special needs have in contributing to

society (Drew & Hardman, 2007). This was evident by the special schools established to keep disabled students from their general education peers. Fortunately, through legislation and educating the public, as well as academia, it is no longer acceptable to keep children with special needs separate from their peers. Special education programs have flourished and taken the lead in helping children with special needs become a positive contributor in society.

The results of this study will further aid in the development of the child with special needs. Data obtained in this study found that direct instruction has a direct, positive effect on the spelling abilities of student with MMD. Once a student has learned fundamental spelling rules and phonics, the potential for growth academically and socially is unlimited. No longer will the child be intimidated by their general education peers in and out of the classroom. Learning to spell increases one's reading abilities, likewise, learning to read increases one's writing abilities. As the child with special needs prospers, so will their self-esteem, further increasing the likelihood that they will become productive, independent citizens who contribute to society rather than become dependent upon it.

Conclusions

Direct instruction is a proven instructional methodology that has fostered success in learning basic spelling skills. Data from the study supports this idea. All 6 of the student participants increased their scores from pretest to posttest. The range of progress was from 10% to a high of 50% individually. The group mean from pretest to posttest had a mean increase of 32%. Tables 1 and 2, along with Figure 1 represent this data.

Data from the Social Validity Questionnaire supported the findings of the study. Student participants, parents, and the participating teacher indicated that they all noticed some improvement in spelling abilities as a result of direct instruction. Tables 3 and 8 reflect this data. This was evident in all questionnaire categories except one, acquisition of spelling rules. This category resulted in a rating of little improvement, primarily from the ratings given by the parents. Tables 2 and 8 reflect this data.

Finally, the perception the participating teacher and students was predominantly positive in regards to direct instruction of spelling. Both the teacher and students noted the advantages of direct instruction, along with a few disadvantages in their reflection journals. These comments can be found in Section 4. As a result of the data gathered from the pretest, posttest, Social Validity Questionnaire, and the participating teacher's and students' reflection journals, it can be concluded that direct instruction has a positive effect on the spelling abilities of children with special needs who are identified as MMD.

Recommendations

Recommendations for General Practice

The findings from this study need to be made available to four groups: parents or guardians of children with special needs, special education classroom teachers, state and district level special education curriculum coordinators, and college and universities that have special education teacher programs. Data from the study would help parents better understand direct instruction methodology in order to assist their children in the learning process. Special education teachers can use the data to promote direct instruction as a viable teaching tool in the instruction of spelling and basic core skills, as well as daily

living skills. State and district level special education curriculum coordinators can use the data in the creation of professional development programs or to support the implementation of direct instruction into the special education curriculum. Finally, college and university special education teacher programs can use the data to inform potential teachers as to the benefits of direct instruction in teaching students with special needs basic learning skills, both academic and living. This study hopes that by sharing the benefits of direct instruction more special education programs would be willing to implement the methodology into their curriculums. In summary, the recommendations for general practice are:

1. Provide this information to parents, special educators, state and district level special education curriculum coordinators, and college and universities with special education teaching programs.
2. Construct a professional development presentation to share data with educators at all levels and with parents of children with special needs as a community service.

Recommendations for Future Research

It is vital that research continue in these areas of direct instruction, spelling instruction techniques, and students with special needs. Further research in these areas will ensure that proven instructional methods will be utilized in the instruction of students with special needs and to the teachers who instruct them. It is the researcher's goal to include this study in current literature to increase the utilization of direct instruction of spelling as a viable instructional method for teaching

individuals classified as Mild Mentally Disabled. In summary, the recommendations for future research are:

1. Conduct further research into the effects direct instruction has upon the enhancement of writing skills supported by spelling instruction.
2. Conduct further research into the effects direct instruction of spelling has upon students with cognitive disabilities other than MMD.
3. Conduct further research regarding the effectiveness of other instructional models such as whole language or constructivism as to the effect they have upon the spelling abilities of children with special needs identified as MMD.

Researcher's Reflection

Children with special needs struggle daily to conform to school and society's norms. When reflecting on these special children, the researcher realized how vital it is for educators, especially special educators, to help prepare these children for the future. This challenge was never more evident when the researcher spoke to a parent of a former student who had completed school and was now in the work force. The parent indicated that her son was doing well, but she had to complete his job application and other documents due to his inability to spell. The researcher saw an opportunity to help eliminate some of the stress this former parent and student was experiencing, thus, the creation of this study.

The researcher was blessed to have 6 MMD students and a cooperating teacher who displayed a love for learning and teaching, even during those few difficult times

when things just did not go as planned. In addition, the researcher acknowledged the cooperation of the students' parents. Each parent the researcher spoke to conveyed a sincere desire for their child to learn and succeed in school and eventually in society.

During the course of the study, the researcher and participating teacher followed the initial study proposal and SRA Spelling Mastery guide without change. Having such thoroughly planned documents aided in the overall success of the study. Each day the students and teacher knew exactly what to do and what was expected, a valuable aspect of direct instruction.

The area of concern the researcher experienced was during the tenth evaluation period. All students were making progress up to this point. The participating teacher had noted that it had been a difficult week as the students had been introduced to four and five letter words that mainly had blending sounds. It was the teacher's decision to reteach these lessons the following week, another valuable strategy employed by direct instruction and part of the SRA Spelling Mastery guide. It was encouraging to see the following week's data; all but one student increased their score from the previous period.

As the students moved from phase to phase the researcher was pleased to see the enthusiasm and success each student was achieving. Even the two students who had negative comments toward spelling in their reflection journal, Luke and Peter, strived to do their very best on each task. This was observed by the researcher and noted by the participating teacher. Finally, the study concluded with a posttest exam. Confidence was the word used to describe the students and teacher. The apprehensive look on the students' faces had disappeared. They were now comfortable with spelling and ready to

tackle this final challenge. Tackle they did, an overall 32% increase in just 7 weeks of spelling instruction.

The researcher shared the data with the participating teacher and students first. The pride and confidence expressed by the students was overwhelming. Scholars of direct instruction such as Engelmann (1991) and Lindsay (2004) note that direct instruction can play an intricate part in building the self-esteem of children. This it did.

The final step of the study was to present the data to the parents of the participating students. The researcher conducted individual parent / teacher conferences to maintain anonymity of the students. Five of the 6 students' parents were present, one conference was held via telephone. Each of these parents was excited to learn about the accomplishment of their child. They too expressed their joy in the success their child had experienced.

After conducting this study, it is the researcher's opinion that direct instruction is a viable means in which basic skills, such as spelling, can prepare children with special needs for the future. Educators and researchers need to continue to promote proven instructional methodologies to ensure all children have the opportunity to learn and succeed. The researcher began this reflection by noting the difficulties children with special needs face. Technology and skills required to perform tasks in the work force are becoming more difficult. The researcher believes that educators can meet this challenge through step by step instruction advocated by direct instruction.

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APPENDIX A:

Journal Coding Guide

BGE – background information / experience

MOT – motivation for teaching direct instruction

MOL – motivation for learning through direct instruction

MSP – motivation for learning spelling

DI – general information about direct instruction

DIP – direct instruction positive attributes

SP – spelling positive attributes

DIN – direct instruction negative

SN – spelling negative attributes

DIA- direct instruction activities

SA – spelling activities

APPENDIX B:

SOCIAL VALIDITY
Questionnaire

Please circle one: Teacher Parent Student

Circle only one number per question that indicates your response to the following questions. The numbers are scored as:

1 – no improvement

2 – little improvement

3 – some improvement

4 – great improvement

1. How would you rate your own / child's / student's spelling ability since implementation of the direct instruction spelling treatment?

1 2 3 4

2. How would you rate your own / child's / student's acquisition of spelling rules since implementation of the direct instruction spelling treatment?

1 2 3 4

3. How would you rate your own / child's / student's acquisition of sight word recognition since implementation of the direct instruction spelling treatment?

1 2 3 4

4. How would you rate your own / child's / student's spelling confidence since implementation of the direct instruction spelling treatment?

1 2 3 4

5. Do you see improvement in other academic areas?

1 2 3 4

6. You may write any additional comments on the back or on a separate paper.

APPENDIX C:

ASSENT FORM for STUDENTS

Hello, my name is Mr. Preast and I am doing a project to learn about how you can improve your spelling skills. The purpose of this study is to determine if direct instruction, this is the method in which your teacher will present the lessons, has any effect on improving your spelling abilities.
I am inviting you to join my project. I picked you for this project because you are a small class, and according to your teacher, would like to learn how to spell better. I am going to read this form to you. You can ask any questions you have before you decide if you want to do this project.

WHO I AM:
I am a student at Walden University. I am working on my doctoral degree.

ABOUT THE PROJECT:
If you agree to join this project, you will be asked to:

- Take a pretest, but you will not receive a grade on it that would affect your report card. This should only take about 10 minutes to complete.
- Take a weekly spelling evaluation; this will not count as a grade on your report card.
- Meet with me once a week and I will help you complete a reflection journal entry about how you feel you are doing in spelling.
- Take a posttest at the end of the seventh week period. Again, you will not receive a grade that would affect your report card.
- The work you complete in this project will have **NO** bearings on your grades in the classroom.

IT'S YOUR CHOICE:
You **do not** have to join this project if you don't want to. You **will not get into trouble** with the school or your teacher if you say no, or if you decide to stop participating in the project after you have started. If you decide now that you want to join the project, you can still change your mind later just by telling me. If you want to skip some parts of the project, just let me know.

It's possible that being in this project might make you feel frustrated at times since this is something new to you. But this project might help others by teaching them a better way to learn how to spell.

PRIVACY:
Everything you tell me during this project will be kept private. That means that no one else will know your name or what answers you gave. Each of you will be given an alias, this is a name that is not your own that only you, your teacher, and myself know. The only time I have to tell someone is if I learn about something that could hurt you or someone else.

ASKING QUESTIONS:
You can ask me any questions you want now. If you think of a question later, you or your parents, or teacher can reach me at 803-531-7646 or e-mail at preastl@yahoo.com. You can also contact my professor, Dr. Cecil Fore, III at cecil.fore@waldenu.edu. If you, your parents, or teacher, would like to ask my university a question, you can call Dr. Leilani Endicott. Her phone number is 1-800-925-3368, extension 1210.

I will give you a copy of this form.

Please sign your name below if you want to join this project.

Name of Child _____

Child Signature _____

Researcher Signature _____

APPENDIX D:

CONSENT FORM for PARENTS

Your child is invited to take part in a research study of how direct instruction of spelling affects their overall spelling abilities. They were chosen for the study based on their spelling goals listed in their IEP. Please read this form and ask any questions you have before agreeing to allow your child to be part of the study.

A researcher named Steven D. Preast, who is a doctoral student at Walden University, is conducting this study. You may contact Mr. Preast if you have questions or comments concerning this study at 803-531-7646.

Background Information:

The purpose of this study is to determine if direct instruction has a positive effect on the spelling ability in the development of special needs students. Using research that supports this study, the development of instructional methods will support the students in developing effective spelling skills. It is the researcher's hope that this study will expand on the current research by focusing on one specific deficiency, spelling acquisition, which potentially affects the academic abilities of children with special needs.

Voluntary Nature of the Study:
Your child's participation in this study is voluntary. This means that everyone will respect your decision of whether or not you allow your child to be in this study. No one at Edisto Elementary School will treat your child differently if you decide not to allow him or her to participate. If you decide to allow them to join the study now, you can still change your mind later. If your child feels stressed during the study, they may stop at any time **without fear of being penalized**.

Risks and Benefits of Being in the Study:
Minimal risk is associated with this study as this project might make your child feel frustrated at times since this is something new to them. However, this project might help others by teaching them a better way to learn how to spell.

Compensation:
There is no compensation for participating in this study.

Confidentiality:
Any information provided by your child will be kept confidential. The researcher will not use your child's information for any purposes outside of this research project. Also, the researcher will not include your, or your child's name, or anything else that could identify you or your child in any reports of the study.

Contact and Questions:
The researcher's name is Steven D. Preast. The researcher's faculty advisor is Dr. Cecil Fore, III. You may ask any questions you have now. Or if you have questions later, you may contact the researcher via telephone, 803-531-7646 or email at preastl@yahoo.com or the advisor at cecil.fore@waldenu.edu. If you want to talk privately about your and your child's rights as a participant, you can call Dr. Leilani Endicott. She is the Director of the Research Center at Walden University. Her phone number is 1-800-925-3368, extension 1210.

The researcher will give you a copy of this form to keep.

Statement of Consent:

- ○ **I have read the above information. I have received answers to any questions I have at this time. I am 18 years of age or older, the guardian or parent of the child participating in the study and give consent for them to participate in the study.**

Printed Name of the Participant (Child): _____

Printed Name of the Guardian or Parent: _____

Signature of the Guardian or Parent: _____

Signature of the Researcher: _____

APPENDIX E:

CONSENT FORM for TEACHER

You are invited to take part in a research study of how direct instruction of spelling affects the overall spelling abilities of students with special needs. You were chosen for the study based on your identification as a highly qualified special educator and are familiar with the utilization of direct instruction methodology in the classroom. Please read this form and ask any questions you have before agreeing to be part of the study.

A researcher named Steven D. Preast, who is a doctoral student at Walden University, is conducting this study. You may contact Mr. Preast if you have questions or comments concerning this study at 803-531-7646.

Background Information:

The purpose of this study is to determine if direct instruction has a positive effect on the spelling ability in the development of special needs students. Using research that supports this study, the development of instructional methods will support the students in developing effective spelling skills. It is the researcher's hope that this study will expand on the current research by focusing on one specific deficiency, spelling acquisition, which potentially affects the academic abilities of children with special needs.

Procedures:
If you agree to be in this study, you will be asked to:

8. conduct approximately 30 minute direct instruction spelling lessons daily

9. establish an anticipatory set that captures the students' attention, an overview of the lesson, and statement of the objective(s)

10. demonstrate the correct performance of the objective (primarily through the SRA Spelling Mastery Teacher Presentation Book), question students as to their understanding of the objective, and allow students to question the teacher for better understanding of the objective

11. administer weekly spelling evaluation using the "spelling word list" from the SRA Spelling Mastery, Level A Teacher Presentation Book (Dixon, Engelmann, & Bauer, 1999, p. G3)

12. review each daily lesson and provide for the next anticipatory set.

13. provide one weekly reflection journal entry in relation to the week's spelling lessons conducted

Voluntary Nature of the Study:
Your participation in this study is voluntary. This means that everyone will respect your decision of whether or not you want to be in this study. No one at Edisto Elementary School will treat you differently if you decide not to participate. If you decide to join the study now, you can still change your mind later. If you feel stressed during the study, or want to skip any questions that are too personal, you may stop at any time without fear of being penalized.

Risks and Benefits of Being in the Study:
Minimal risk is associated with this study as this project might make your students feel frustrated at times since this is something new to them. However, this project might help others by teaching them a better way to learn how to spell.

Compensation:
There is no compensation for participating in this study.

Confidentiality:
Any information provided by you will be kept confidential. The researcher will not use your information for any purposes outside of this research project. Also, the researcher will not include your name, or anything else that could identify you in any reports of the study.

Contact and Questions:
The researcher's name is Steven D. Preast. The researcher's faculty advisor is Dr. Cecil Fore, III. You may ask any questions you have now. Or if you have questions later, you may contact the researcher via telephone, 803-531-7646 or email at preastl@yahoo.com or the advisor at cecil.fore@waldenu.edu. If you want to talk privately about your as a participant, you can call Dr. Leilani Endicott. She is the Director of the Research Center at Walden University. Her phone number is 1-800-925-3368, extension 1210.

The researcher will give you a copy of this form to keep.

Statement of Consent:

- **I have read the above information. I have received answers to any questions I have at this time. I am 18 years of age or older, and I consent to participate in the study.**

Printed Name of Participant: _____

Signature of the Participant: _____

Signature of the Researcher: _____

APPENDIX F:

CONSENT FORM for PARENTS
Questionnaire

Your child is invited to take part in a questionnaire of how they perceived direct instruction of spelling and their overall spelling abilities after completing the research study "*A Study of Direct Instructional Spelling Strategies and Their Effect on Students with Special Needs Who are Classified with Mild Mental Disabilities*". They were chosen to take this questionnaire based on their participation in the research study. Please read this form and ask any questions you have before agreeing to allow your child to complete the questionnaire. You may contact me, Steven D. Preast, at 803-531-7646.

Voluntary Nature of the Questionnaire:
Your child's participation in this questionnaire is voluntary. This means that everyone will respect your decision of whether or not you allow your child to complete the questionnaire. No one at Edisto Elementary School will treat your child differently if you decide not to allow him or her to complete the questionnaire. If you decide to allow them to complete the questionnaire now, you can still change your mind prior to administration of the questionnaire. If your child feels stressed during the questionnaire, they may stop at any time **without fear of being penalized.**

Risks and Benefits of Being in the Study:
Minimal risk is associated with this questionnaire might make your child feel frustrated at times since this is something new to them. However, this questionnaire might help others by understanding the perception students have toward direct instruction and spelling.

Compensation:
There is no compensation for participating in this questionnaire.

Confidentiality:
Any information provided by your child will be kept confidential. The researcher will not use your child's information for any purposes outside of this research project. Also, the researcher will not include your, or your child's name, or anything else that could identify you or your child in any reports of the study.

Contact and Questions:
The researcher's name is Steven D. Preast. The researcher's faculty advisor is Dr. Cecil Fore, III. You may ask any questions you have now. Or if you have questions later, you may contact the researcher via telephone, 803-531-7646 or email at preastl@yahoo.com or the advisor at cecil.fore@waldenu.edu. If you want to talk privately about your and your child's rights as a participant, you can call Dr. Leilani Endicott. She is the Director of the Research Center at Walden University. Her phone number is 1-800-925-3368, extension 1210.

The researcher will give you a copy of this form to keep.

Statement of Consent:

- **I have read the above information. I have received answers to any questions I have at this time. I am 18 years of age or older, the guardian or parent of the child participating in the questionnaire and give consent for them to participate in the questionnaire.**

Printed Name of the Participant (Child): _____

Printed Name of the Guardian or Parent: _____

Signature of the Guardian or Parent: _____

Signature of the Researcher: _____

APPENDIX G:

CONSENT FORM for TEACHER
Questionnaire

Your are invited to take part in a questionnaire of how you perceived direct instruction of spelling and the overall spelling abilities of your students after completing the research study "*A Study of Direct Instructional Spelling Strategies and Their Effect on Students with Special Needs Who are Classified with Mild Mental Disabilities*". You were chosen to take this questionnaire based on your participation in the research study. Please read this form and ask any questions you have before agreeing to complete the questionnaire. You may contact me, Steven D. Preast, at 803-531-7646.

Voluntary Nature of the Questionnaire:
Your participation in this questionnaire is voluntary. This means that everyone will respect your decision of whether or not you complete the questionnaire. No one at Edisto Elementary School will treat you differently if you decide not to complete the questionnaire. If you decide to complete the questionnaire now, you can still change your mind prior to administration of the questionnaire. If you feel stressed during the questionnaire, you may stop at any time **without fear of being penalized.**

Risks and Benefits of Being in the Study:
Minimal risk is associated with this questionnaire; it might make you feel frustrated at times since this is something new. However, this questionnaire might help others by understanding the perception students have toward direct instruction and spelling.

Compensation:
There is no compensation for participating in this questionnaire.

Confidentiality:
Any information provided by you will be kept confidential. The researcher will not use your information for any purposes outside of this research project. Also, the researcher will not include your name, or anything else that could identify you in any reports of the study.

Contact and Questions:
The researcher's name is Steven D. Preast. The researcher's faculty advisor is Dr. Cecil Fore, III. You may ask any questions you have now. Or if you have questions later, you may contact the researcher via telephone, 803-531-7646 or email at preastl@yahoo.com or the advisor at cecil.fore@waldenu.edu. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Director of the Research Center at Walden University. Her phone number is 1-800-925-3368, extension 1210.

The researcher will give you a copy of this form to keep.

Statement of Consent:

- **I have read the above information. I have received answers to any questions I have at this time. I am 18 years of age or older, and I consent to participate in the questionnaire.**

Printed Name of Participant: _____

Signature of the Participant: _____

Signature of the Researcher: _____

APPENDIX H

SRA Spelling Mastery Placement Test, Level A

Pretest / Post Test Guide

Script: "You are going to write some words. Some of the words are hard to spell, so don't worry if you don't know them all. But you should do the best you can."
Present the first word

Script: "First word: **many**. What word?"

Script: "The word is **many**. There are **many** colors."

Script: "Everybody, write many."

Repeat step 2 for each remaining word. (Words are dictated in sentences only if students do not correctly identify the words in isolation.)

Word List

1. many
2. hands
3. come
4. going
5. book
6. sharp
7. they
8. stop
9. give
10. friend

Score test according to number of errors the students received. (Dixon, Engelmann, & Bauer, 1999, pp. G6-G7)

APPENDIX I:
Observation Guide

Classroom Observation Form

Notes	**Observation**
Date: Time: Number of Participants: Driving Question(s):	

APPENDIX J:

Procedural Reliability Form

Date: _____

Time: _____

Number of student participants present: _____

Indicate YES or NO if the teacher followed procedure.

Procedure The teacher	YES	NO	Comments
stated the overall objective or goal of the lesson.			
modeled a step or procedure of the objective or goal.			
allowed students time to imitate (practice) objective or goal.			
monitored and provided feedback to students as they practiced objective or goal.			
provided immediate corrective action if necessary to students.			
allowed students to perform objective or goal without assistance.			
evaluated students as to their "Mastery" level of objective or goal.			
provide additional instructional time for students who did not meet "Mastery" standard.			
summarize objective or goal.			

CURRICULUM VITAE

CONTACT INFORMATION

Name: Steven Douglas Preast
Address: 195 Fair Oaks Court, Branchville, SC, 29432
Phone: (Home) 803-829-1591 (Cell) 803-707-8037
Work e-mail: preasts@orangeburg4.com
Home e-mail: preastl@yahoo.com

PERSONAL INFORMATION

Date of Birth: October 12, 1961
Place of Birth: Mt. Clemons, MI
Citizenship: American
Sex: Male
Martial Status: Married with four children

EMPLOYMENT HISTORY

January 1980 – April 1988:	United States Air Force
May 1988 – July 1989:	Hertz Corporation
July 1989 – December 1995:	McDonnell Douglas Corporation
January 1996 – September 1997:	Still-Walter Manufacturing
December 1998 – Present:	Edisto Elementary School

EDUCATION

1979	Midland Trail HS, Hico, WV	High School Diploma
1984	CC of the Air Force	AS Metal Technology
1988	Park College	BS Management
1998	South Carolina State University	Certification: Special Education
2004	Walden University	MS Integrating Technology in Classroom

PROFESSIONAL QUALIFICATIONS

Certification in Special Education - Mild Mentally Disabled
Qualified in Special Education – Generic
Rated "Highly Qualified"

Proficient in Microsoft Office

AWARDS

Teacher of the Year (Edisto Elementary School) 2004

PROFESSIONAL MEMBERSHIIP

Palmetto Teacher's Association

INTERESTS

Family
Travel
Reading Historical Fiction
Working Outside
Collecting Firearms