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The Effects of Direct Instruction on the Decoding Skills of Learning Disabled Student With an Attention Deficit Hyperactivity Disorder

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Abstract

The purpose of the study was to investigate the effects of direct instruction on the decoding skills of a student identified as learning disabled and with an attention deficit hyperactivity disorder. A procedure called the Corrective Reading Decoding Program was used to test this hypothesis. A single subject design was used for this study. The subject received a direct instruction decoding program that consisted of sixty-five lessons, that took approximately six weeks to complete. An analysis by descriptive statistics showed that the subject improved his percentages at each grade level on the word lists, and improved at each reading level on the word recognition section of the graded passages. The findings suggest that direct instruction was effective in improving the decoding skills of a subject identified as learning disabled and with an attention deficit disorder.

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The Effects of Direct Instruction on the Decoding Skills of a Learning Disabled Student With an Attention Deficit Hyperactivity Disorder

Introduction

According to Lindsey and Kerlin (1979), reading is the most frequently mentioned academic subject in which students with learning disabilities experience failure. Other researchers (McCormick & Samuels, 1979; Perfetti & Hogaboam, 1975) attributed these problems in reading to poor decoding skills.

Practices and philosophies about beginning reading instruction vary, but research strongly supports an early emphasis on letter-sound correspondences especially for children at risk for reading failure (Anderson, Hiebert, Scott, & Wilkinson, 1985; Bond & Dykstra, 1967). Adams (1990) suggested that reading methods that include phonics instruction result in higher achievement in word recognition and spelling.

One method of teaching reading to students with learning disabilities is through direct instruction.

The term direct instruction was introduced by Bereiter and Engelmann (1966), who advocated the use of a highly structured repetitive approach to teaching basic skills to disadvantaged preschoolers.

Later, the term direct instruction entered the wider educational sphere through the work of Rosenshine (1976), who used the terminology with reference to certain teacher behaviors correlated with the academic achievement of their students. According to Englert (1984), similar patterns of teacher behaviors also correlate with the academic achievement of students in special education classrooms.

The key principle in Direct Instruction is deceptively simple: For all students to learn, both the curriculum materials and teacher presentation of these materials must be clear and unambiguous. Direct Instruction is comprised of six critical features:

1. An explicit step-by-step strategy.
2. Development of mastery at each step in the process.

3. Strategy (or process) corrections for student errors.
4. Gradual fading from teacher directed activities toward independent work.
5. Use of adequate, systematic practice with a range of examples.
6. Cumulative review of newly learned concepts (Mercer, 1992).

Direct instruction is an effective teaching model that emphasizes fast-paced, well-sequenced, highly focused lessons (Gersten & Keating, 1987; White, 1988). These lessons are delivered to small groups of students who are given many opportunities to respond and receive feedback about the accuracy of their responses (Lloyd, 1988). The teacher teaches from a script and pupils follow the lead of the teacher, who often uses hand signals to prompt participation. Teachers provide repetition of key lesson elements and engage all students equally in active practice. For students who are already behind their same-age peers, students with mild disabilities, or students facing possible school

failure, the quality, intensity, and clarity of instruction are of vital importance. Therefore, direct instruction appears particularly well-suited to meet their needs (Englert, 1984).

Review of Related Literature

It is widely believed that direct instruction focuses on the teaching process, offering special educators powerful techniques for improving the academic achievement of their students with mild disabilities (Lloyd, 1988). One program that has been demonstrated through research studies to be effective in improving student performance is a direct instruction procedure called the Corrective Reading Decoding Program. Research studies indicate that this program works effectively with students identified as learning disabled, educationally handicapped, and perceptually handicapped (Engelmann, Hanner & Johnson, 1989). However, there is no mention of how effective this program is with a child labeled learning disabled and with an attention deficit hyperactivity disorder (ADHD).

The Corrective Reading Decoding Program was developed in 1988 and was designed to help a wide range of students in grades three through twelve who virtually lack decoding skills. This program consists of four series: Decoding A (sixty-five lessons), Decoding B1 (sixty lessons), Decoding B2 (sixty-five lessons), and Decoding C (one hundred twenty-five lessons). The series is designed so that there is a careful progression of skill development from level to level.

Decoding A is appropriate for students in the second half of grade three through high school who virtually lack decoding skills. These students may recognize a few words, but functionally are nonreaders.

Decoding B1 is appropriate for most problem readers in grades four through twelve. They guess at words and have trouble reading words like *what*, *that*, *a*, and *the* when the words appear in a sentence context. They often read synonyms for printed words and are generally inconsistent in their reading

behavior (reading a word correctly one time and missing it the next time).

Decoding B2 is appropriate for students in grades four through twelve who have some decoding problems, who do not read at an adequate rate, who still tend to confuse words with similar spellings, and who tend to make word-guessing mistakes.

Decoding C is appropriate for students who have mastered many basic reading skills, but who have trouble with multisyllabic words and typical textbook material.

Although direct instruction is one of the most broadly applicable principles in special education, it has not been without its critics. Many researchers believe that direct instruction is "teacher-centered" rather than "learner-centered" (Spiegel, 1992, P. 42). As Baumann (1983 b) noted, however, at the heart of any direct instructional paradigm is the teacher:

> In direct instruction, the teacher, in a face-to-face, reasonably formal manner, tells, shows, models, demonstrates,

> teaches the skill to be learned. The key word here is teacher, for it is the teacher who is in command of the learning situation and leads the lesson, as opposed to having instruction "directed" by a worksheet, kit, learning center, or workbook (p. 287).

Therefore the teacher is responsible for the academic focus, sequence of content, pupil engagement, monitoring, and corrective feedback, with a gradual shift of responsibility for learning from the teacher to the student as a lesson progressed.

Other researchers stated that direct instruction is not suitable for all types of content or learners (Goodman, 1979; Jones & Cooper, 1987; Peterson, 1979). According to Berliner (1982), it is most applicable to teaching a well-structured body of knowledge or the steps in a process or skill. In addition, direct instruction has often been falsely associated with skilling and drilling,

in which children are taught to apply skills in artificial situations (Spiegel, 1992).

Critics state that students may be stifled by the structure of direct instruction and that the effects dissipate when students are left on their own. In fact, some say direct instruction can cause students future harm. These criticisms intensified with the release of a study of the later effects of preschool programs for at-risk children (Schweinhart, Weikart, & Larner, 1986). According to these authors, although eighteen year olds taught with direct instruction in preschool accelerated academic achievement during elementary years, the early academic focus harmed these students in later life, especially in the sphere of social behavior.

Despite some criticism of direct instruction, numerous studies support direct instruction as an effective strategy at both elementary and secondary levels from teaching higher level reading comprehension skills (Alexander, White, & Mangano, 1983; Baumann, 1984; Reutzel, Hollingsworth, & Daines, 1988). Fitzgerald and Spiegel (1983)

enhanced children's comprehension of stories by direct instruction on narrative structure. Tharp (1982) reported consistently higher levels of reading comprehension achievement in a study involving educationally high-risk, Polynesian-Hawaiian primary grade children who received massed, active comprehensive instruction when compared to children who experienced a more traditional decoding-focused program; and Patching, Kameenui, Carnine, Gersten, and Colvin (1983) trained fifth grade students in critical reading comprehension skills and found that students who received a systematic, direct instruction approach outperformed comparable students who received a workbook with corrective feedback approach and controls.

In another study which involved sixth grade students, one experimental group (Strategy group) was administered a series of main idea lessons which adhered to a direct instruction paradigm developed by Baumann (1983 b), in which each lesson followed a five-step procedure: (a) introducing the skill (b) providing an example (c) directly teaching the skill

(d) providing application and transfer exercises under the teachers' supervision and (e) administering practice exercises. A second experimental group (Basal group) was administered a series of main idea and supporting detail lessons taken directly from a basal reader series. A control group received an equivalent amount of instructional time on unrelated language arts activities. Results of the study indicated that the application of the direct instruction paradigm is very effective for teaching sixth-grade students to comprehend main ideas in written prose.

Eminent educators such as Bloom (1981) have asserted that structured instructional programs for at-risk students in primary grades have enduring effects on students' lives. These educators argued that students who develop academic competence in reading, language, and mathematics in the primary grades are more likely to benefit from any type of instruction in higher grades. A follow-up study of over one thousand low-income minority students in compensatory education was illuminating. In both

rural and urban areas, results indicated positive long term effects, as well as students achieving higher reading, language, and mathematics scores on standardized tests than students who either had not participated in direct instruction or who had participated in other programs. Participating in direct instruction also lowered dropout rates and raised the proportion of students applying to college (Gersten, R., & Keating, T., 1987).

Many kindergarten and first-grade students in rural Montana have also benefited from the use of direct instruction (Keating & Russell, 1987). After completing two years in the Reading Mastery Program, not one second grader qualified for Chapter 1 assistance. Teachers observed that their students were neither bored nor stressed. They loved to read and were highly successful. A parent survey (Keating & Russell, 1987) showed one hundred percent support for the program and teachers were thrilled with their students' progress. The teachers noticed two bonuses from the direct instruction K-1 reading program:

1. Students mature more quickly and begin learning when they experience the structured kindergarten program. They know what is expected in the teaching/ learning process and appreciate this clarity.
2. As kindergarten students learn on-task behavior, they experience positive feelings of success. The attitudes and work habits they develop in kindergarten carry over into first grade.

Duffy and Roehler (1980) stated that direct instruction teaches strategies, not skills, and that it provides students with strategies to meet reading needs. Direct instruction involves describing to learners situations in which a strategy might be needed, modeling how to select which strategy to use, and modeling how one thinks when using the strategy (Duffy & Roehler, 1987).

An experimental study demonstrated that when teachers taught reading and mathematics in

elementary and secondary classrooms using the direct instruction method, their students scores on standardized tests increased (Fitzpatrick, 1982; Good & Grouws, 1979; Reid, 1978-1982). Another study by Hare and Borchardt (1984) found that subjects who received direct instruction were able to improve their summarization skills. Others such as Nist, (1987) and Weinstein and Mayer, (1986) suggested the importance of direct instruction if we expect students to transfer the strategies learned in a college reading class to regular courses.

In 1968, one of the largest educational experiments in history, Project Follow Through, involved the use of direct instruction. The U.S. Office of Education implemented Project Follow Through by applying innovative programs from 20 universities and research centers to the real world of inner-city and rural schools to determine their effectiveness for educationally at-risk students. Twelve of these interventions were evaluated, including the direct instruction program developed

by Engelmann and Becker (Becker et al. 1981) and the cognitive curriculum developed by Weikart and his colleagues.

Among the inner-city schools chosen for the experiment were those in Michigan, New York City, Illinois, and Washington, D.C. The rural schools included were in Texas, and Williamsburg County, South Carolina. At that time Williamsburg County was the poorest county in the forty-eight mainland states, with one of the highest illiteracy rates in South Carolina.

The results indicated that direct instruction was the most effective in teaching academic skills in mathematics, reading comprehension, and language (Stebbins, St. Pierre, Proper, Anderson, & Cerva, 1977). Low-income students in the four-year kindergarten-to-third-grade direct instruction programs performed at or near the national norm on standardized achievement tests in reading (median of 41st percentile), mathematics (median of 48th percentile), and language (median of 50th percentile), often significantly above their

peers in traditional programs in local schools. Direct instruction students also produced the highest scores in self-concept, self-confidence, and sense of personal responsibility for success or failure. Two features that distinguished direct instruction from the other Follow Through Models were the curriculum skills in a detailed, step-by-step process, and teachers were provided with specific remedies to their problems (Gersten, R., & Keating, T., 1987).

Three general direct instruction practices have been consistently linked to pupil achievement:

1. Research suggested that teachers who maintained a brisk pace and a high rate of progress through the curriculum produced greater academic gains than teachers who did not (Berliner & Rosenshine, 1977; Brophy, 1979; Carmine, 1981; Rosenshine, 1978b).
2. Teachers with expertise in providing successful practice at levels of eighty percent accuracy or higher positively

influenced the performance of low-achieving students (Brophy & Evertson, 1977; Rosenshine, 1983; Stevens & Rosenshine, 1981).

3. Teachers with skill in providing immediate teacher feedback (reinforcement, prompts, etc.) following correct responses and errors produced greater learning than teachers who did not provide immediate feedback or who told correct answers following errors (Anderson & Evertson, 1980).

In addition, research evidence and teacher observations accumulated over the last decade indicated that children with learning problems often have attention problems as well. In fact, it has been suggested that attention problems are the "cardinal" symptoms of learning disabilities (Hallahan, 1978). Inattentiveness or "short attention spans" are also considered major determinants of impaired functioning of mentally handicapped children (Zeaman & House, 1963) and

emotionally handicapped learners (Sykes, Douglas, & Morgenstein, 1973).

Most researchers and special educators are in agreement that attention problems are caused by an interaction of factors including the learning setting, the nature of the task, and the characteristics of the child, as well as the verbal strategies of the teacher (George 1978; Hallahan & Reeve, 1980; Kounin & Gump, 1974; Krupski, 1980; McKinney, 1975; Scott, 1977). Of these factors, the one that contributed to the attention or inattention of handicapped students was the manner in which teachers communicated with them, both verbally and nonverbally (Bacon, 1982).

One program that has been shown to promote the attention of learning disabled students is the DISTAR (Direct Instructional System for Teaching Arithmetic and Reading) (Engelmann & Bruner, 1988) Reading Program. DISTAR Reading is fast-paced, providing immediate feedback and correction procedures for various student errors. Repetition is built into the program and the DISTAR library

reinforces skills developed in the program. Much of the early DISTAR research and practice revealed that communicating material in an "intense" way promoted attention to a task (Carnine, 1976). A teacher's fast-paced delivery of material in a tutorial drill lesson also increased the attention of learning disabled students (George, 1978) and decreased their nondisruptive inattentive behavior.

The Corrective Reading program (Engelmann, Becker, Hanner, & Johnson, 1988, 1989) is an advanced remedial reading program based on DISTAR concepts. Therefore, the Corrective Reading Program is also fast-paced, repetitious, and provides immediate feedback.

Another characteristic of teacher communication that affects attention in handicapped children is the number of solicitations a teacher makes of them. Solicitations is the term commonly used in research literature for teacher questions or signals requiring a student response. Research has shown that a student's attention to the lesson is significantly and directly related to the number of

teacher solicitations made (George, 1978). In other words, teachers who press their students for responses persistently, repeatedly, and consistently hold their students' attention.

The number of student responses given may also be a critical factor in enhancing a child's attentiveness. When a child responds often to a teacher's question or signal, the child attends often. Therefore, as they are asking fast-paced questions, teachers should signal responses from children individually or in groups. Teachers should also use repetition with their handicapped students. They should repeatedly ask the same questions and request correct answers (George, 1978).

While verbal reinforcements or rewards have been highly praised in research literature, no evidence exists that general praise or words of encouragement promote handicapped children's attention. However, evidence does exist that the number of specific and descriptive verbal reinforcements presented by a teacher is related to attention (Douglas, 1974). For example, the teacher

should reward the specific answering behavior he or she is seeking by saying, "I like the way you waited for my point."

Finally, when teachers cue students to the correct responses, they promote attention, especially if the child knows exactly what the cues mean (Allington, 1975; Trabasso & Bower, 1968). Pointing to important features of the material, giving leading sounds, or hinting at and modeling correct responses are cues that promote attention.

The DISTAR (Engelmann & Bruner, 1988) and Corrective Reading Program (Engelmann, Becker, Hanner, & Johnson, 1988, 1989) consist of many of the factors that were found to affect a student's attentiveness. These factors are pace of delivery, number of teacher solicitations, number of student responses demanded, number and specificity of verbal reinforcements, and presence of verbal cues.

In conclusion, most of the literature supported direct instruction and acknowledged it as one of the many procedures used by special education teachers serving children with mild disabilities. Also, the

literature stated that a direct instruction program called (DISTAR), revealed that communicating material in an intense way promoted attention to a task.

The purpose of this study was to investigate the effects of direct instruction on the decoding skills of a student identified as learning disabled and with an attention deficit hyperactivity disorder. In direct instruction, emphasis is placed on learning specific skills, and the method of teaching is characterized by (a) teacher modeling or demonstration of important skills (b) frequent student response (c) appropriate, direct feedback to students (including correction), (d) adequate provisions for practice.

Statement of the Hypothesis

The literature suggested that direct instruction worked effectively with students identified as learning disabled, educationally handicapped, and perceptually handicapped. Research also indicated that the DISTAR (Direct Instructional System of Teaching Arithmetic and Reading) Reading

Program has been effective in teaching reading to young children with learning problems and attention problems. In addition, the Corrective Reading Program is based on DISTAR concepts, and is designed for older students. Therefore, it is hypothesized that direct instruction (Corrective Reading Program) might be effective with children labeled learning disabled and with an attention deficit hyperactivity disorder.

Method

Experimental Design

The design that was used in this study was the A-B design. Treatment was introduced and an appropriate number of measurements were made during treatment. The subject was pre-tested first with the Decoding Placement Test and Form A of the Analytical Reading Inventory, exposed to the treatment (Corrective Reading Decoding program), and post-tested with Form B of the Analytical Reading Inventory.

Subject

The study was a single subject design. The subject was selected from a population of twenty-five seventh grade learning disabled students enrolled in a rural middle school in Rocky Mount, Virginia. The subject was a thirteen year old black male from a middle class family. He was identified as learning disabled (LD) and with an attention deficit hyperactivity disorder (ADHD). He remains on medication (ritalin) but still has difficulties academically. Written consent was

obtained from the child's parent (see Appendix A) and school administration (see Appendix B) prior to the beginning of the study. No information in this study identified the child, and all information remained confidential. In addition, participation was voluntary and the parent was fully informed of all findings in this study.

Instrument

The Decoding Placement Test was one of the measuring instruments. The Decoding Placement Test consisted of four parts. In Part I the student read a story out loud while being timed. The teacher recorded each decoding mistake the student made in oral reading.

Part II was a series of sentences that were read aloud by the student. This part of the test was not timed. The teacher recorded each decoding error the student made while reading.

Parts III and IV both included a passage that was to be read aloud by the student and timed. Each decoding mistake the student made was recorded.

The Analytical Reading Inventory (ARI) (Woods, 1981), second edition, was used as another measuring instrument. This instrument was designed to assist teachers, reading specialists, and prospective teachers in analyzing the reading performance of students in grades two through nine. The Analytical Reading Inventory (ARI) was designed to be used individually in order to enable the teacher to do the following:

1. Identify a general level of word recognition.
2. Identify strengths and weaknesses in word recognition skills.
3. Examine performance in oral and/or silent reading.
4. Examine comprehension strategies.
5. Find the independent reading level.
6. Find the instructional reading level.
7. Find the frustration reading level.
8. Find the reading capacity or listening level.

The parts of the ARI used in assessing reading skills consisted of a series of graded word lists and a series of graded passages. With both the word lists and the passages, there were student booklet copies and teacher record copies. The student read from the student booklet, and the teacher made notations concerning the reading on the teacher record forms or on a reproduced copy.

The ARI consisted of three forms (A, B, and C). All three forms were equivalent, and one could be used independently of the other two. There were seven word lists for each form, with each list containing twenty words which were graded from primer to sixth grade. For each of the three forms, there were also ten passages graded from primer to ninth grade.

The development of the ARI took place over a two year period. One of the objectives was to prepare original writings which were motivational for both boys and girls and also nonsexist in nature. Therefore, a considerable amount of effort

was expended learning about the reading interests of students at various grade levels.

Although the passages were not written with a controlled vocabulary, the careful selection of words had to be a factor in the creation of the passages. Therefore, word selection was guided in some cases by the graded word lists contained in Basic Elementary Reading Vocabularies (Harris & Jacobson, 1972).

Grade level validation of the reading level of each passage was established through the use of readability formulas and computer analyses of the text. The readability formulas provided grade level readability estimates for each of the passages, whereas the computer analyses provided specific information such as vocabulary diversity and syntactic complexity on the language used in each passage. Such procedures were used to assure that subsequent passages within a form increased in difficulty and to assure that passages at a specific grade level were comparable among the three forms. The revised Spache formula (Spache, 1974) was used

to calculate the readability estimates for passages at the primer through grade three levels, and the Harris-Jacobson formula 2 (Harris & Sipay, 1975) was used for levels four through nine.

Finally, the ARI was field tested by individuals unassociated with its development. This testing was accomplished by having approximately 80 advanced undergraduate students (in their second course of reading instruction) use it to assess the reading skills of approximately 200 students in grades two through eight. The users of the inventory were asked to pay particular attention to (1) the appropriateness of the directions for its use, (2) the motivational appeal of the respective passages (3) any ambiguities in the passages or the questions, and (4) the extent to which the comprehension questions were passage dependent.

Procedure

The intervention that was used in this study was a direct instruction procedure called the Corrective Reading Decoding Program. Written consent was obtained from the subject's parent prior

to beginning the study. The purpose, procedures to be followed, and the expected duration of the study were explained to the parent. All information remained confidential, and no information identified the child. Participation was voluntary and the parent was fully informed of all findings in the study.

Prior to instruction, the teacher involved in the study attended a two day intensive workshop on direct instruction. During the workshop, emphasis was placed on how to present a direct instruction lesson to a student(s), and how to correct a student when he/she gives an incorrect answer during instruction. The teacher also learned different signals and rules associated with direct instruction. Several practice lessons using direct instruction were also presented at the workshop.

Before instruction, the subject took a Decoding Placement Test to determine in which series he should receive instruction. The placement test consisted of four parts and each part contained a story that had to be read aloud. First, the subject

was administered Part I of the placement test. The teacher recorded each decoding mistake and timed the subject. The subject exceeded the number of errors and time allowed for Part I and had to be administered Part II. The number of errors made in Part II indicated that the subject be placed in the Corrective Reading Decoding A Series.

The subject also took Form A of the Analytical Reading Inventory as a pre-test. The subject read isolated word lists and graded paragraphs while the teacher recorded any mistakes that were made. A student record summary sheet and a qualitative analysis summary sheet were completed based on the results of the pre-test (see Appendix C and D).

Before instruction began, the subject also received several practice sessions to become familiar with the signals and correction procedures used in direct instruction. Once the subject had learned the rules associated with direct instruction, the procedure was ready to begin.

The subject met with the teacher daily between 10:30 - 11:30 and on Tuesdays, Wednesdays, and

Thursdays after school for approximately an hour to receive instruction in one to four lessons. Each lesson consisted of approximately ten - fifteen exercises which could be completed within a thirty to forty-five minute time period. There were a total of sixty-five lessons, which took approximately six weeks to complete. Each lesson emphasized basic reading skills such as sounds, rhyming, pronunciation, sounding out, word reading, sentence reading, story reading, rate building, workbook applications and a point system. The subject was able to earn points daily for each lesson and those points could be exchanged later for rewards. Due to his ADHD, the subject was instructed in a room free of distractions.

Each lesson consisted of a script for the teacher which was written in dark print. The scripts specified what to do and say as well as appropriate student responses. The subject followed the lead of the teacher who often used hand signals to prompt participation. The following is an

example of part of a lesson. (What the teacher does and says is in italics.)

Exercise 1 Pronunciation: Sounds

Task A

1. *Listen to the first sound in* (pause) *at. The first sound is a a a. Say it. Signal.* ă ă ă. *Yes,* ă ă ă.
2. *Repeat step 1 until firm.*
3. *Listen to the last sound in* (pause) *at. The last sound is t. Say it. Signal.* t. *Yes, t.*
4. *Repeat step 3 until firm.*

Each lesson was presented in this type of format and if the subject made a mistake, the teacher had to repeat only the exercise that he made a mistake in, not the whole lesson. The subject responded well to the direct instruction method, but occasionally had to be reminded to wait for a signal before giving or writing a response. Sometimes when changing from one exercise to another or when writing in his workbook, the subject wanted to talk about something not related to the exercise and was

reminded to stay on task. In addition, the subject was very concerned about earning all of his points for each lesson. He had completed twenty-five lessons successfully before he lost any points. He was upset with himself because he wanted a perfect score and asked the teacher if he could still get his points.

As the lessons became more difficult, the subject made more mistakes, but did not like having to repeat any exercises. Therefore, he was very cautious of his reading and answers. Overall, throughout the study the subject was motivated and very cooperative.

After the sixty-five lessons were completed the subject took Form B of the Analytical Reading Inventory (ARI) as a post-test. A student record summary sheet and a qualitative analysis summary sheet were completed based on the post-test.

Data Analysis

The percentage of words the subject got correct on the word lists (pre-test and post-test) were compared. Also, the word recognition section of the graded passages (pre-test and post-test) were compared to determine if the reading levels had improved.

A student record summary sheet was used to tally oral reading miscues and to summarize results of the pre-test and post-test. This sheet allowed for a careful look at the quantitative results of the reading and also provided space for summarizing qualitative results. A qualitative analysis summary sheet was used to further examine the student's oral reading and note any possible miscue patterns.

Results

The Analytical Reading Inventory (Form A) was given as a pre-test. From the pre-test, scores were analyzed using descriptive statistics. A student record summary sheet and qualitative analysis summary sheet were obtained. A student record summary sheet provided information on the percentage of words the subject got correct on the word lists. There were twenty words in each grade level. The results were as follows:

		Number Correct	Percentage
Primer	-	16/20	80%
First Grade	-	11/20	55%
Second Grade	-	9/20	45%
Third Grade	-	2/20	10%

The word recognition reading levels for the graded passages were also obtained. The subject's independent level was not established. His instructional level was Primer and he began to show frustration at grade level one.

The subject had consistent oral reading difficulties such as substitutions, corrections,

repetitions, word-by-word reading, and requesting word help. His consistent word recognition difficulties consisted of consonant clusters, short vowels in the medial position, basic sight words and grade level sight vocabulary. His use of context clues need strengthening. The subject experienced numerous reading difficulties with the word lists and graded passages, but he did display certain reading strengths. He was able to identify initial consonants and demonstrated some use of context clues to help him pronounce words.

The Analytical Reading Inventory (Form B) was given as a post-test. From the post-test, scores were also analyzed using descriptive statistics. The post-test also had a student record summary sheet and a qualitative analysis summary sheet. Percentages were obtained from the word lists. There were twenty words in each grade level. The results were as follows:

	Number Correct	Percentage
Primer -	17/20	85%
First Grade -	14/20	70%
Second Grade -	11/20	55%
Third Grade -	13/20	65%

The word recognition reading levels for the graded passages were obtained for Form B also. The subject's independent level was Primer. His instructional levels were at grades one and two. The subject reached his frustration level at grade three.

The subject's consistent oral reading difficulties were mainly word-by-word reading, substitutions, and requesting word help. His consistent word recognition difficulties were long vowels in the medial position, basic sight words, grade level sight vocabulary, and lack of context clues skills.

During the post-test the subject mostly did word-by-word reading, but his reading was more fluent. He displayed some use of context clues skills, but still needed some strengthening in this

area. He was able to pronounce more words with short vowels, but encountered difficulty with some of the long vowels.

The percentages from the word lists (pre-test and post-test) were compared, and the subject improved his percentages at each grade level (see Table 1).

The results of the word recognition section of the graded passages (post-test) were compared to the (pre-test) word recognition graded passages. On the post-test the subject was able to reach an independent reading level, but was not on the pre-test. The subject's instructional level improved from Primer to first and second grade.

Discussion

The results of this study indicated that a subject with a learning disability and an attention deficit disorder was able to make some improvements in reading by using a direct instruction procedure called the Corrective Reading Decoding Program. The subject improved his percentage at every grade level on the word lists and improved his reading levels on the word recognition section of the graded passages.

The results of this study are consistent with the opinions and findings of Engelmann, Hanner, and Johnson (1989), and Englert (1984) concerning the effectiveness of the Corrective Reading Program with children identified with mild disabilities.

However, since this study was conducted with one subject, the results cannot be generalized to all children with learning disabilities and attention deficit disorders. This study needs to be conducted with a group of children with learning disabilities and attention deficit disorders to determine if there would be improvements in reading.

In addition, the Corrective Reading Program consists of four levels, but only one level (Decoding A) was used with this subject. Another study could be done to see how much improvement a subject would make after being exposed to two or more levels of the Corrective Reading Program.

Also, it is recommended that future studies use a time-series single subject design, in which a series of pre-test and post-test observations are made. By using this type of design, the study will have a greater chance of showing significance.

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Appendices

Appendix A

Consent Form

Appendix A

I, _____, consent to participate (or to allow my child to participate) in the research project entitled: The Effects of Direct Instruction on the Decoding Skills of a Learning Disabled Student with an Attention Deficit Hyperactivity Disorder.

I acknowledge that the purpose of this study, the procedures to be followed, and the expected duration of my participation have been explained to me. Possible benefits of this project have been described to me, as have alternative procedures, if such procedures are applicable and available.

I acknowledge that I have had the opportunity to obtain additional information regarding this research project, and that any questions I have raised have been answered to my full satisfaction. I understand that my (or my child's) participation in this research is voluntary, and I am free to withdraw my consent at any time and to discontinue participation in this project without prejudice.

Further, I understand that no information will be presented which will identify me (or my child) as the subject of this study unless, I give my permission in writing. I will also be informed of all findings in this study.

Finally, I acknowledge that I have read and fully understand this consent form. I sign it freely and voluntarily. A copy has been given to me.

Date: _____ Signed: _____

(participant)

Date: _____ Signed: _____

(Parent)

Appendix B

Permission Letter

Appendix B

To Whom It May Concern:

I give Stephanie Sample permission to work with a student at Benjamin Franklin Middle School (East Hall) on her thesis for a Master's Degree at Longwood College.

Date: _____ Signed: _____

(administrator)

Appendix C

Student Record Sheet

Appendix C

STUDENT RECORD SUMMARY SHEET

FORM A

Student _____ Grade _____ Sex _____ Age _____ yrs. mos.

School _____ Administered by _____ Date _____

Grade	Word Lists	Graded Passages			Estimated Levels
	% of words correct	WR	Comp.	Listen.	
Primer					
1					
2					
3					
4					
5					
6					
7					
8					
9					

Grade

Independent _____
Instructional _____
Frustration _____
Listening _____

Check consistent oral reading difficulties:

___ word-by-word reading
___ omissions
___ substitutions
___ corrections
___ repetitions
___ reversals
___ inattention to punctuation
___ word inserts
___ requests word help

Check consistent word recognition difficulties:

___ single consonants
___ consonant clusters
___ long vowels
___ short vowels
___ vowel digraphs
___ diphthongs
___ syllabication
___ use of context
___ basic sight
___ grade level sight

Check consistent comprehension difficulties:

___ main idea
___ factual
___ terminology
___ cause and effect
___ inferential
___ drawing conclusions
___ independent recall

Identifying special reading strengths:

_____

_____

_____

Appendix D

Qualitative Analysis Sheet

Appendix D

QUALITATIVE ANALYSIS SUMMARY SHEET

FORM A

Student _____ Grade _____ Sex _____ Age _____ yrs. mos.

Level	Word in Text	What Child Read	Analysis of the Miscue	
			Meaning Change	Nature of Miscue*

Comments and Recommendations _____

*A miscue may be lack of knowledge of any of the following: basic sight words; grade level sight vocabulary; consonant sounds; vowel sounds, blends, digraphs; dipthongs; structural analysis of roots, affixes, possessives, plurals, word families, compound words, accent, and syllabication rules. For complete definitions and suggestions [illegible]

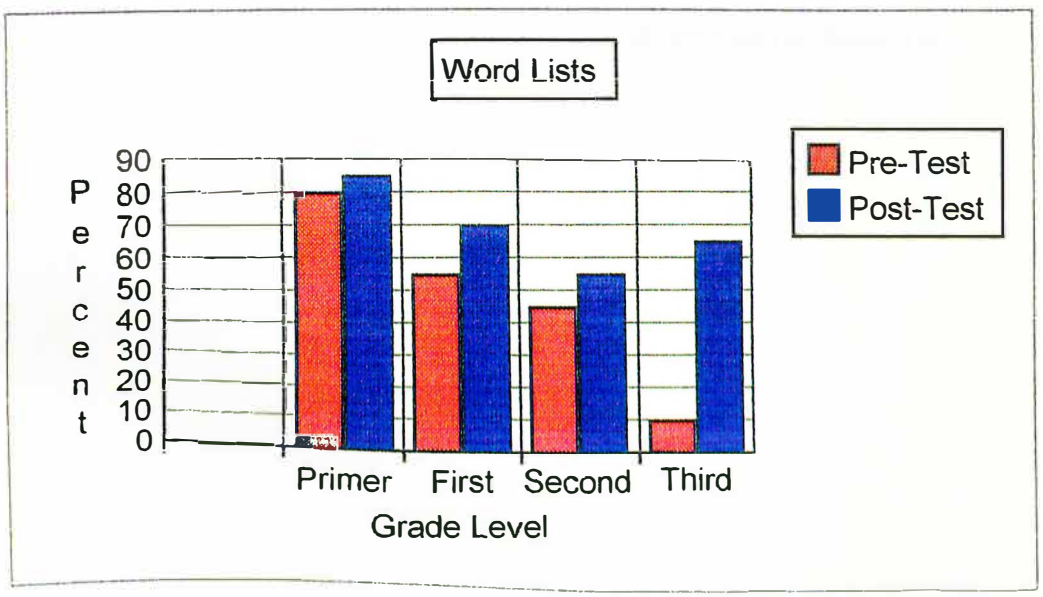
Tables

Table 1

Pre-test and Post-test Percentages

Table 1

Pre-Test and Post-Test Percentages



Honor Code:

Upon my honor, I have neither given nor received help on this paper nor am I aware of any infraction of the Honor code.

Stephanie Sample

Stephanie Sample