

*The Effects of Using Direct Instruction Reading and a Re-Reading Contingency, Coupled with a Reward and Praise Contingency, with a High School Sophomore

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The purpose of this study was to evaluate the effectiveness of using re-reading as a consequence for failing to read passages rapidly using the Direct Instruction approach with *Corrective Reading, Skill Applications: Decoding C* (Engelmann, Meyer, Johnson, & Carnine, 1988). The participant was a 16-year-old male, born in California, but had lived in Germany for 12 years. He returned to the United States with an extensively fluent vocabulary in the German language but had little exposure to the English Language; he was placed in a special reading program to improve his English reading skills. He read slowly, made many errors, but had close-to-perfect comprehension. The number of words read correctly, the number of errors made during an oral reading, and the number of times the student had to re-read the passage in order to correctly read the material in 1 min. and 20 sec. was measured. A single-case design was implemented to examine effectiveness of Direct Instruction, a re-reading contingency, a reward contingency, and praise on the reading fluency of this student. The results indicated that Direct Instruction, the re-reading contingency, and the use of praise were effective in improving correct rate. The effect of implementing the reward contingency was also discussed. The utility of re-reading, reward system and the praise contingency combined with Direct Instruction were discussed.

Building reading skills at an early age establishes the necessary foundation for further enrichment in multiple areas of the curriculum. Reading is an important skill which allows people to broaden their experience while exploring the world in which they live. The ability to read is crucial, not only for success in education, but also for achievement later in life. It has been suggested that failing to acquire reading skills will adversely affect one's everyday life and may make it highly unlikely that one will enjoy an economically and socially successful adult life (Danziger & Gottschalk, 1995; Hart & Risley, 1995).

Direct Instruction and the application series *Corrective Reading* (Engelmann, Meyer, Johnson, Carnine, 1988) is a skill-based reading instruction program for students of all ages and levels. The emphasis of this program is on the student-teacher interaction, which is carefully guided by lessons that are sequenced in a logical manner. The two major rules of Direct Instruction are to "teach

more in less time," and to "control the details of what happens" (Engelmann et al., 1988).

According to Darling-Hammond and Snyder (1992), teacher behaviors emphasized in models of Direct Instruction include frequent single-answer questions, drill and practice, large-group choral responding, and controlled practice. These strategies are integral in the prepackaged curriculum, *Corrective Reading* (Engelmann et al., 1988). Specifically, Direct Instruction materials, such as *Corrective Reading* use highly sequenced lessons to pace students through the materials in a very specific order. By arranging learning tasks into a series of small and sequentially organized steps, the desired behavior can be taught directly and shaped accordingly.

Direct Instruction has been demonstrated to be an effective method for improving the literacy of children and adults (Carnine, Silbert, & Kameenui, 1990). It has been suggested that the success of Direct Instruction

is due to the components of explicit, scripted teaching materials, and precise feedback procedures to deal with student errors. Moreover, Direct Instruction provides a precise analysis of environmental-behavioral relationships that shape learning, analyses of curricular areas into logically organized skills, and analyses of how these skills can be taught most effectively to the student through a precise, logical presentation formula.

Evaluations of Direct-Instruction approaches with children who are at-risk for failure in reading have been extremely positive (Gersten, 1985). The national evaluation of Project Follow Through, which was developed to assist primary-age low income children in their schooling, found that the Direct Instruction model had a beneficial effect on the achievement of the students who participated for a full four years (Carnine, et al., 1990; Engelmann et al., 1988; Gersten & Keating, 1987; Gersten, Keating, & Becker, 1988). The results revealed that significantly more Follow Through students (93.1%) graduated from high school than did comparison students (81.7%).

Although extensive research has been conducted on the efficacy of Direct Instruction with elementary school children at risk for school failure and older students with disabilities (Gersten 1985), few studies with older children (Blackwell, Stookey, & McLaughlin, 1996), and children who use English as a second language, have been conducted. One of a few studies, Blackwell, et al. (1995) found that employing Direct Instruction procedures could improve the reading fluency of a high school student. In addition, the number of times that the participant had to re-read the material to reach his goal for fluency was lower when Direct Instruction was employed. The purpose of this study was to evaluate the effectiveness of using rewards and praise with the Direct Instruction Reading Program, *Corrective Reading Skill Applications: Decoding D* (Engelmann et al., 1988), on the acquisition of reading fluency and accuracy with a high school student. The present case study also attempted to extend the use of Direct Instruction with students who use English as a sec-

ond language. The final purpose was to replicate the work of Blackwell, et al. (1996).

Method

Participant and Setting

The participant, Gary, was a 16-year-old high school male, born in California, but moved to Germany at age 2 years. While he was in Germany, German was the primary language spoken. The family returned to the United States when he was 14 years old. In spite of his primary language being English, he informed the authors that he "thought" in German.

Gary was enrolled in general education classes but attended a remedial reading class to improve his basic reading skills. He had no deficits in his academic skills other than reading. Gary's reading difficulty appeared to be related to his use of German as his primary language. Gary reported that he mentally translated everything he read from English to German. It is noteworthy that his oral English skills were sufficient enough for him to function well socially; however, his reading speed and accuracy were in need of improvement.

The setting was a special education classroom, located in a building adjacent to the main high school building. The classroom was staffed by a certified special education teacher and a part-time teaching assistant. The special education teacher volunteered her free period to assist and teach high school students who encountered problems with their academic performance. Students were also referred to the program due to their below grade level performance in the basic skills.

Materials

The materials used during this study were *Corrective Reading*, developed by Engelmann, Meyer, Johnson, and Carnine (1988). The grade level of materials used in the classroom ranged from the third to twelfth grade level. At the beginning of the school year, Gary began the Direct Instruction program

at the beginning of the series, at the third-grade reading level, and he progressed through Lesson 24. At the time of the investigation, Gary was reading Lesson 25, estimated to be at the sixth grade level. On average, one lesson was completed per day. The standard for progressing from one lesson to another was that Gary was required to read from the lesson at a rate of 200+ words correct per minute.

Dependent Variables and Measurement Procedures

There were three dependent variables evaluated: the number of words read correctly, the number of re-reads required to read a passage in 1 minute, 20 seconds, and the number of errors. A word was scored as read correctly if Gary pronounced the word exactly as it was written in the text. A re-read was defined as reading an entire passage from beginning to end. An error was defined as a word that was mispronounced, omitted, inserted, or a word that was not read in 5 seconds. An error was also recorded if the subject requested a delay in timing while reading a passage.

Experimental Design and Conditions

A single-case alternating treatments design was used to assess the effectiveness of the independent variables. They were: Direct Instruction, praise, and a reward contingency. Both a Direct Instruction intervention and a reward system intervention were implemented separately and in combination to identify which intervention produced the best performance. If the Direct Instruction intervention was most successful, it was hypothesized that the student's poor performance was the result of a language skills deficit. If the combined use of Direct Instruction and the reward system was the most effective, it was hypothesized that the student's insufficient performance was because of the lack of motivation and skill.

Direct Instruction (Baseline). Baseline consisted of giving the participant a practice sheet of words that were to appear in a passage that the student was to subsequently read. The sheet included nine sounds that were introduced at the beginning of each lesson. After

practicing the sounds and words, the participant read the passage. If the student could not read the entire passage in 2 minutes, he was required to re-read the same passage several times out loud until he could read the entire passage in 1 minute, 20 seconds or less. Baseline data were taken for four sessions, and each session lasted approximately 45 minutes.

Direct Instruction and praise contingency.

The first of three interventions implemented was the praise contingency. In this condition, the instructional procedures used were the same as in baseline. However, during this condition, the experimenter also provided praise, contingent upon the subject's efforts to read. Praise included any positive remarks made to the student, such as "good job reading the passage" or "you improved by 10 seconds, nice work." During this condition, the experimenter continued to correct the errors but also gave positive feedback.

Direct Instruction, praise, and reward contingency.

The second intervention was a reward contingency. Rewards were selected by the subject and were ranked from one to six using the Rank Ordering for Tasks, (See Figure 1 for a sample). The six rewards were ranked as follows: 1) comic book or magazine of choice, 2) Power Bar, 3) ball-point pen (black ink), 4) postcards, 5) gum, and 6) glow-in-the-dark stickers. Prior to reading the passage, the student and experimenter set a goal for how many re-reads it would take to meet the 1 minute, 20 seconds criterion. The student received a reward chosen by the experimenter if he completed the particular lesson with fewer than the decided number of re-reads. If the student exceeded the targeted number of re-reads, the reward was withheld and reserved for the next lesson.

Direct Instruction (Baseline). The third intervention was the same as Baseline and was alternated with the praise and praise/reward contingencies.

Interobserver Agreement

Interobserver agreement was taken once during Baseline and three times throughout the intervention by the student and the ex-

Table 1

Rank Ordering for Tasks

Ratings for : Gary
 Date: February 1996
 Academic Area: Reading

TRIAD	A	B	C	D	E	F
ABC	2	1	0			
BCD		1	0	2		
CDE			0	1	2	
EFA	2				1	0
DEF				2	0	1
FAB	2	1				0
TOTAL	6	3	0	5	3	1

Key for Ranking

- 0 = least preferred
- 1 = neutral
- 2 = most preferred

Rankings

- #1 A = *Comic/magazine/cars
- #3 B = Pens
- #6 C = **Glow-in-the-dark stickers
- #2 D = Powerbar
- #4 E = Postcards
- #5 F = Gum
- * Most Highly Preferred Item
- ** Least Preferred Item

perimeter. This accounted for 8% of all sessions during the study. Agreement data were collected by having the subject count the number of correctly read words, while the experimenter independently counted the number of correctly read words. Agreement was 100% on all occasions. Additionally, the number of errors and the re-reads were independently recorded by both the experimenter and Gary. The mean overall agreement for number of re-reads was 100%.

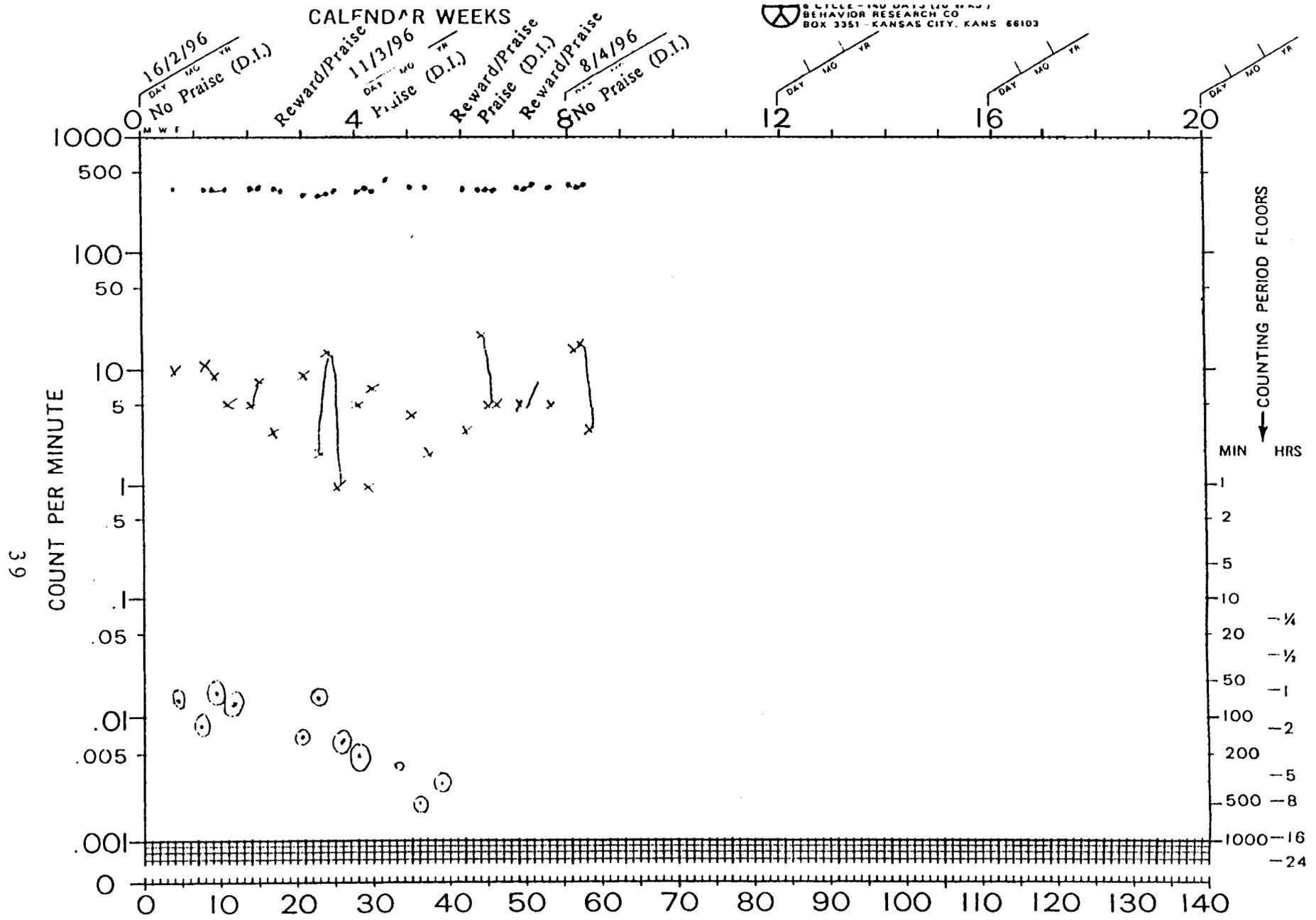
Results and Discussion

The results are displayed in Chart 1. The means and ranges by phase are also summarized in Table 2. The data showed that Direct Instruction procedures alone, using the *Corrective Reading* materials were not very effective in improving the student's reading skills. Although the participant's average

reading rate was fastest during Direct Instruction only, Direct Instruction alone in the absence of any contingencies actually resulted in more errors and re-reads than when combined with the earning of a reward.

Given that the Direct Instruction intervention combined with a reward system produced the best performance, the hypothesis that the student's inadequate reading performance was due to a lack of motivation was supported. According to Carnine, Silbert, and Kameenui (1990), some students come to school eager and willing to learn, while other students experience difficulty in acquiring an interest in learning. Motivation can be obtained by first demonstrating to the student that they can succeed in reading. This is done through carefully planned materials and instruction. Second, extrinsic rewards can be provided to the student contingent on accurate reading. In this study, Gary was provided a reward contingent upon reaching the criterion

CAI FINDER WEEKS



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Tim/Suc	Tim/Suc	Suc	SUCCESSIVE CALENDAR DAYS		Correct WPM/Errors	16	reg. ed.	Corrects/Errors
SUPERVISOR	ADVISER	MANAGER			BEHAVER	AGE	LABEL	COUNTED
	Gonzaga	University	Kelly	Kelly	Kelly			
DEPOSITOR	AGENCY		TIMER	COUNTER	CHARTER			

Table 2

Number of corrects and errors for each session across the various experimental conditions

Phases	Corrects	Errors	Re-reads
Direct Instruction (Baseline)	$\bar{X} = 387.3$ (Range: 381-398)	$\bar{X} = 13.3$ (Range: 9-21)	$\bar{X} = 15$ (Range: 13-16)
Direct Instruction and Praise	$\bar{X} = 386.3$ (Range: 360-402)	$\bar{X} = 11.3$ (Range: 6-18)	$\bar{X} = 11$ (Range: 9-16)
Direct Instruction with Praise and Reward	$\bar{X} = 368$ (Range: 328-397)	$\bar{X} = 9.1$ (Range: 1-14)	$\bar{X} = 7.1$ (Range: 3-13)
Direct Instruction (Baseline)	$\bar{X} = 390$ (Range: 374-402)	$\bar{X} = 30.5$ (Range: 16-38)	$\bar{X} = 15.2$ (Range: 13-16)

within a limited number of re-reads. When rewards were removed from the intervention package, the rate of errors increased rapidly, and the number of re-reads increased.

It is important to note, however, that the use of rewards or praise in the absence of Direct Instruction was not tested; therefore, it is unknown whether rewards alone would have been sufficient to improve Gary's reading. It is possible that although Direct Instruction alone did not improve Gary's reading, it was an integral component for success when paired with the reward system. Specifically, Direct Instruction procedures may have allowed Gary to reach the criterion for earning the reward. These issues should be evaluated in future research.

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