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ABSTRACT

Standard operating procedures of the Reading Recovery program allow for students to be dropped from the program if they have not met the criterion for success after 20 weeks of participation. This paper follows the actions of over 600 first-grade Reading Recovery students in a medium-sized school district over the course of a complete year of intervention to determine the degree of success for the program. The paper investigates the relationships among student characteristics, program success, and demonstration of success within the context of a larger, district-wide evaluation of first-grade reading. It states that comprehensive data were collected for 610 students who received Reading Recovery for at least some portion of the school year, and that of the 443 students who received the complete Reading Recovery program, 264 (59.6%) were able to successfully transition back to the classroom as readers. It also finds that almost two out of every five students (179 or 40.4%) did not successfully complete the program and were returned to the classroom with insufficient reading skills. According to the paper, it appears that in this district Reading Recovery is successful for only three out of every five students who receive this intensive, 20-week program to develop reading skills. Since Reading Recovery is an expensive, labor-intensive program, the paper suggests that perhaps a less expensive alternative may be more appropriate for some students. (Contains 14 tables of data.) (NKA)

Reading Recovery: Success for How Many?

by Joseph F. Haenn

Reading Recovery: Success for How Many?

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Although the Reading Recovery program has received extensive exposure both nationally and internationally, there is scant empirical research data supporting its effectiveness for all children. Indeed, the standard operating procedures of the Reading Recovery program allow for students to be dropped from the program if they have not met the criterion for success after 20 weeks of participation in the program, or even less in some instances. The purpose of this paper is to follow the actions of over 600 first grade Reading Recovery students in a medium-sized school district over the course of a complete year of intervention to determine the degree of success for this program.

Background

Reading Recovery involves an intensive effort with one specially-trained teacher providing individual reading instruction for a student using strategies for overcoming identified problems in beginning readers. This one-on-one approach is very expensive. For some students, this expense seems to be worthwhile for these students achieve at a level that allows for discontinuation of the program and a return to just the reading instructional activities of the regular classroom. For other students, success is never achieved, and these students are returned to the regular program as nonreaders.

There are five potential outcomes for Reading Recovery students:

- Discontinued: These students successful exit the Reading Recovery program before or upon 20 weeks of participation in the program. These students are considered to be program successes, changing nonreaders (or not-yet readers) into readers.
- Recommended Action: These students receive 20 or more weeks of program services without achieving the criterion for success program completion. These students are returned to the classroom as nonreaders. Some of these students may have learning disorders or other handicapping conditions.
- Incomplete Program: By the end of the school year, these are students who have not yet received 20 weeks of Reading Recovery instruction and have not met the criterion for successful program completion. These students, in almost all instances, began the program later in the school year and time ran out on them before they received a complete 20-week instruction program.
- Moved: These are students who relocate or for some reason withdraw from the program before receiving the complete 20-week instruction program.
- Other: This miscellaneous category catches all other students who do not fit one of the above categories (e.g., custody of the courts; extended illness).

[1] Paper presented at the Annual Meetings of the American Educational Research Association, New Orleans, LA, April 2000.

This paper investigates the relationships between student characteristics, program success, and demonstration of success within the context of a larger, district-wide evaluation of first grade reading.

Marie Clay's *Observation Survey*

The ***Observation Survey*** consists of six different tasks: Letter Identification, Oral Word Test, Concepts About Print, Writing Vocabulary, Dictation, and Text Reading Level. Although all tasks were administered to first grade students in the Reading Recovery Program and all tasks were administered to some students districtwide as part of the ***DPS K-2 Student Assessment Portfolio***, only four of these tasks were administered to all students and are of interest in this evaluation: Oral Word Test, Writing Vocabulary, Dictation, and Text Reading Level. A brief discussion of each of the six tasks follows.

Letter Identification. The Letter Identification task assesses which letters a child knows, and which letters a child can identify. Letters are presented as upper case, lower case, and the typescript "a" and "g". Scores can range from 0 to 54.

Oral Word Test. The Oral Word Test task assesses the extent to which a child is accumulating a reading vocabulary of words frequently used during the first years of schooling. There are 20 words (with alternative lists for re-testing) that a child is asked to identify verbally. Scores can range from 0 to 20.

Concepts About Print. The purpose of the Concepts About Print task is to assess what a child has learned about the way we print languages. Concepts include: that there are letters; that clusters of letters make words; that spacing between words and paragraphs has meaning; that a book goes from front to back; etc. Altogether there are 24 concepts, so the range of scores for students in grades 1 and 2 is from 0 to 24. In kindergarten, only 15 of these concepts are tested, so kindergarten scores can range from 0 to 15.

Writing Vocabulary. The fourth task--Writing Vocabulary--assesses what a child understands about print and messages in print as well as the features of print to which students are attending (e.g., left-to-right sequencing, letter formation). A child is allowed to write as many words as he can in 10 minutes. For the Portfolio assessment, a student can stop writing words after more than 60 words have been written. This is because only a few students at these grade levels can write that many words in 10 minutes, but for those that can, they often have a quite extensive written vocabulary. Thus, the range of allowable scores on this task is from 0 to 61.

Hearing and Recording Sounds in Words (Dictation). This task is more commonly referred to as Dictation. It assesses a child's ability to analyze spoken words (either heard or said) and to find a way to record the letters of sounds in these words. A child is given 1 point for each sound (phoneme) identified correctly; scores can range from 0 to 37.

Text Reading Level. This task is also known as the *Running Record of Text Reading*. It consists of an observation method for identifying and categorizing behaviors and strategies in reading books of increasing difficulty. Each book has an identified difficulty level. There are two pre-

reading categories ("A" and "B") and 34 passage levels. Thus, acceptable scores are A, B, and 1 to 34.

Data Collection

Comprehensive data were collected and entered for more than 600 first grade Reading Recovery students. Student demographic variables include gender, ethnicity, native language, and birth date. Student program variables include school program (e.g., regular academic, year-round), days absent, total number of Reading Recovery sessions, and number of weeks of Reading Recovery services. Student baseline data includes pretest information on six tasks of Marie Clay's ***Observation Survey*** (Letter Identification, Concepts About Print, Writing Vocabulary, Oral Word Test, Dictation, and Text Reading Level), testing date, and pretest group placement (low, lower middle, upper middle, high). Student outcome data includes end of program status (discontinued, termination of service, incomplete at year-end, moved, or other), posttest data on the same six tasks on the ***Observation Survey***, posttest or exit date, and year-end or exit group placement (low, lower middle, upper middle, high).

In addition, the district has implemented a K-2 Student Assessment Program. A Portfolio is developed and maintained for each student that contains important information about student academic progress through these grades. Part of that progress is measured through district-wide administration of portions of the ***Observation Survey***. In grade 1, all students are tested at the beginning and end of the school year on the Dictation and Text Reading Level tasks. In addition, all first grade students are tested at the beginning of the year on the Oral Word Test task and at the end of the year on the Writing Vocabulary task. The status and progress of successful and not-so-successful Reading Recovery students can be compared to that of all first grade students in the district.

Findings of Reading Recovery Students

During the 1998-99 school year, data were collected on the 610 first grade students who received Reading Recovery services for at least some portion of the school year. This number represents a little more than 23 percent of the total first grade student population.

Of these 610 Reading Recovery students, all but one had their end-of-program status indicated. A summary of the End of Program Status for Reading Recovery students is presented in Table I.

Of the 443 students who received the complete Reading Recovery program, 264 (59.6 percent) were able to successfully transition back to the classroom as readers. However, almost 2 out of every 5 Reading Recovery students (179 students, or 40.4 percent) did not successfully complete the program and were returned to the classroom with insufficient reading skills. Therefore, it appears that, at least in this district, the Reading Recovery program is successful for only 3 out of every 5 students who receive this intensive 20-week program to develop reading skills.

TABLE I
End of Program Status for Reading Recovery Students

End of Program Status	Number	Percent
Successfully Discontinued	264	43.3%
Recommended Action	179	29.4%
Incomplete Program at Year-End	140	23.0%
Moved While Being Served	20	3.3%
Other	6	1.0%

In order to better understand the differences between successful (i.e., Discontinued) and unsuccessful (i.e., Recommended Action) Reading Recovery students, several additional analyses were undertaken. These results follow below.

Outcome Data for Reading Recovery Students

The data were examined by End of Program Status for several pretest (program entry) and posttest (program exit) variables. These results are presented in Table II.

TABLE II
Pretest Variables by End of Program Status

End of Program Status		Letter Identification	Oral Word Test	Concepts About Print	Writing Vocabulary	Dictation	Test Reading Level	Fall Rdg Group Placement
Discontinued	Mean	48.92	4.20	12.99	15.88	16.07	2.03	3.92
	N	263	264	264	264	264	263	260
	S.D.	6.02	5.34	3.78	14.80	11.40	2.45	.27
Recommended Action	Mean	40.36	.35	9.42	4.50	5.34	.48	3.99
	N	179	179	179	179	179	179	176
	S.D.	10.82	.80	3.45	3.41	4.41	.74	.11
Incomplete Program	Mean	48.06	3.86	13.65	16.93	16.66	1.80	3.92
	N	138	139	137	140	140	140	139
	S.D.	7.84	4.25	3.75	12.89	9.91	1.83	.27
Moved while being served	Mean	47.60	3.05	11.85	13.60	14.40	1.15	3.85
	N	20	20	20	20	20	20	20
	S.D.	11.18	4.11	4.37	13.57	9.84	1.39	.49
None of the above	Mean	41.17	.33	9.00	4.33	5.67	.83	4.00
	N	6	6	6	6	6	6	6
	S.D.	10.57	.52	2.83	1.63	2.80	.98	.00

This table would seem to illustrate that there are minor differences between the Discontinued students and the Incomplete Program students, implying that a significant proportion of the

Incomplete Program students will eventually complete the Reading Recovery program and be discontinued. However, there are major differences between these two groups and the Recommended Action students. Recommended Action students score much lower on all measures, although there is little difference in their Fall Reading Group Placement (these placements range from 1 to 4, where "1" = High and "4" = Low). Most notably, eventual Recommended Action students seem to begin with much lower scores in all areas except Letter Identification and Concepts About Print—those tasks involving the two lowest level reading skills.

It is not very meaningful to look at program exit data for the Incomplete Program students, and these data are not available for most of the Moved students and half of the Other students. Therefore, the rest of the analyses in this paper focus on the differences in scores for Discontinued students versus Recommended Action students.

Table III presents the program entry and exit scores for Discontinued and Recommended Action students on the Letter Identification task. This table clearly shows that, on average, the Recommended Action students made much larger gains than the Discontinued students (11.64 points versus 4.07 points). However, the Discontinued students ability to gain was restricted by the maximum score of 54 on this task.

TABLE III
Letter Identification Scores

End of Program Status		Program Entry Letter Identification	Program Exit Letter Identification
Discontinued	Mean	48.98	53.05
	N	259	259
	Std. Deviation	5.95	2.33
Recommended Action	Mean	40.15	51.79
	N	164	164
	Std. Deviation	10.93	2.75

Table IV presents the program entry and exit scores for Discontinued and Recommended Action students on the Oral Word Test. On this task, the Discontinued students outgained the Recommended Action students (14.05 points versus 10.09), although the Recommended Action students began at an extremely low level and the Discontinued students scores were somewhat constrained by a maximum score of 20 on this task.

Results for Discontinued and Recommended Action students on Concepts About Print are presented in Table V. Both groups made about the same gains on this task (6.20 points for Discontinued students versus 7.17 points for Recommended Action students). The scores for the Discontinued students were only slightly restricted by the ceiling score (i.e., 24). Thus, although they begin somewhat lower, Recommended Action students are able to demonstrate considerable gains on this task comparable to their Discontinued peers.

TABLE IV
Oral Word Test Scores

End of Program Status		Program Entry Oral Word Test	Program Exit Oral Word Test
Discontinued	Mean	4.22	18.27
	N	260	260
	Std. Deviation	5.36	1.83
Recommended Action	Mean	.31	10.40
	N	164	164
	Std. Deviation	.69	4.73

TABLE V
Concepts About Print Scores

End of Program Status		Program Entry Concepts About Print	Program Exit Concepts About Print
Discontinued	Mean	12.98	19.18
	N	258	258
	Std. Deviation	3.79	2.19
Recommended Action	Mean	9.30	16.47
	N	164	164
	Std. Deviation	3.42	2.91

Table VI presents the program entry and exit scores for Discontinued and Recommended Action students on the Writing Vocabulary task. Although the Recommended Action students showed remarkable progress in their writing vocabulary (with a gain of 30.56 points), they were outdistanced by the Discontinued students (with a gain of 39.09 points). This is especially remarkable because the Discontinued students were approaching the ceiling score of 61 points.

Table VII presents the program entry and exit scores for Discontinued and Recommended Action students on the Dictation task. This task measures a child's ability to record the letters of sounds in spoken words. Once again, the Recommended Action students showed a larger gain on this task than did the Discontinued students (23.19 points versus 19.86 points), although the Discontinued students were restricted by the maximum score of 37.

The final Observation Survey results are presented in Table VIII for the program entry and exit scores for Discontinued and Recommended Action students on the Text Reading Level task. On this *Running Record of Text Reading*, the Discontinued students significantly outperformed the Recommended Action students (a gain of 14.08 points versus 4.64 points). This area demonstrates a particular area of weakness for students who are labeled for Recommended Action.

TABLE VI
Writing Vocabulary Scores

End of Program Status		Program Entry Writing Vocabulary	Program Exit Writing Vocabulary
Discontinued	Mean	15.88	54.97
	N	262	262
	Std. Deviation	14.83	7.00
Recommended Action	Mean	4.39	34.95
	N	167	167
	Std. Deviation	3.17	11.57

TABLE VII
Dictation Scores

End of Program Status		Program Entry Dictation	Program Exit Dictation
Discontinued	Mean	16.05	35.91
	N	262	262
	Std. Deviation	11.41	1.16
Recommended Action	Mean	5.10	28.29
	N	167	167
	Std. Deviation	4.10	7.33

TABLE VIII
Text Reading Level Scores

End of Program Status		Program Entry Text Reading Level	Program Exit Text Reading Level
Discontinued	Mean	2.04	16.12
	N	261	261
	Std. Deviation	2.45	3.28
Recommended Action	Mean	.49	5.13
	N	167	167
	Std. Deviation	.73	2.84

One other comparison between the two groups is on their Reading Placements at the beginning and end of the Reading Recovery program. While Discontinued students moved from a Low

placement at the beginning of the program to an Upper Middle placement at discontinuation, the Recommended Action students demonstrated very little movement (Table IX).

TABLE IX
Reading Level Placements

End of Program Status		Fall Rdg Group Placement	Exit Rdg Group Placement
Discontinued	Mean	3.92	2.25
	N	254	254
	Std. Deviation	.28	.80
Recommended Action	Mean	3.99	3.67
	N	163	163
	Std. Deviation	.11	.54

Relationship of Student Program Variables with Outcome Variables

At least three outcome variables seem to best differentiate between students who were successfully discontinued and those who were unable to successfully complete the Reading Recovery program: Oral Word Test, Writing Vocabulary, and Text Reading Level. In order to understand the relationships between whether students are discontinued or not, pretest scores for these variables as well as other students demographic and background variables were included in a regression analysis. These results are presented in Table X.

TABLE X
Regression on End of Program Status
(Discontinued vs. Recommended Action only)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.274	.196		6.486	.000
	Sex	3.331E-03	.042	.003	.079	.937
	Ethnicity	-5.95E-02	.017	-.150	-3.490	.001
	Native Language	-8.06E-02	.064	-.060	-1.268	.205
	English Proficiency	-9.28E-02	.129	-.034	-.718	.473
	Days Absent	7.038E-03	.003	.100	2.265	.024
	Total RR Sessions	-1.50E-03	.003	-.056	-.539	.590
	Total Weeks	3.669E-02	.011	.346	3.254	.001
	Oral Word pretest	-3.16E-03	.011	-.030	-.275	.784
	Writing Vocabulary pre	-8.70E-03	.004	-.232	-2.464	.014
	Text Reading Level pre	8.148E-03	.018	.035	.443	.658

The F-test for this regression is highly significant (F=16.73; df=10, 413; p<.001). The R^2 for this model is .288, which is .271 adjusted with a standard error of 0.42. As can be seen, a student's ethnicity and total weeks in the program are extremely strong factors in whether a student is able to successfully be discontinued from the Reading Recovery program. Other important factors are how well the student scores on the Writing Vocabulary task upon program entry and the number of days absent during the treatment period.

Relationship of Demographic/Programmatic Variables with Gain Scores

In order to see what, if any, relationship there is between student background variables (such as sex, ethnicity, language proficiency) and programmatic services (e.g., weeks of service, number of sessions) with gains on Observation Survey tasks, several regression analyses were conducted. The only gain scores examined were those on the Oral Word Test, Writing Vocabulary, and Text Reading Level because theses three tasks allowed students the best opportunities to demonstrate growth while differentiating between the two groups.

Table XI below shows the results of regressing these independent variables on the Oral Word Test task. As can be seen, none of these independent variables was a significant predictor of these gain scores, although the overall model was significant (F=3.642; df=7,408; p<.001). The R^2 was only .059 and the adjusted R^2 was only .043, with a standard error of 5.11.

TABLE XI
Regression on Oral Word Test Gain Scores

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.149	2.236		2.751	.006
	Sex	.346	.510	.033	.679	.497
	Ethnicity	.225	.207	.053	1.087	.278
	Native Language	.825	.779	.059	1.059	.290
	English Proficiency	-.574	1.743	-.018	-.329	.742
	Days Absent	-2.52E-02	.038	-.034	-.661	.509
	Total RR Sessions	5.091E-02	.035	.178	1.462	.145
	Total Weeks	7.314E-02	.142	.063	.516	.606

Table XII provides results from regressing these independent variables on the Writing Vocabulary gain scores. Only one of these independent variables (total number of Reading Recovery sessions) was a significant predictor of these gain scores. The overall model was significant (F=4.692; df=7,414; p<.001). The R^2 was only .073 and the adjusted R^2 was only .058, with a standard error of 13.28.

TABLE XII
Regression on Writing Vocabulary Gain Scores

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	13.626	5.782		2.357	.019
	Sex	.521	1.315	.019	.396	.692
	Ethnicity	.794	.536	.072	1.481	.139
	Native Language	.523	2.023	.014	.259	.796
	English Proficiency	3.955	4.529	.048	.873	.383
	Days Absent	-4.86E-02	.098	-.025	-.497	.620
	Total RR Sessions	.173	.088	.230	1.967	.050
	Total Weeks	.119	.359	.039	.332	.740

Finally, Table XIII shows the results of regressing these independent variables on the Text Reading Level task. Several of these independent variables are significant predictors of the Text Reading Level gain scores, including total weeks in the program, days absent, and ethnicity. The overall model was highly significant ($F=8..97$; $df=7,414$; $p<.001$). The R^2 was .132 and the adjusted R^2 was only .117, with a standard error of 5.24.

TABLE XIII
Regression on Text Reading Level Gain Scores

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	15.317	2.281		6.715	.000
	Sex	8.467E-02	.519	.008	.163	.870
	Ethnicity	.475	.212	.105	2.246	.025
	Native Language	.661	.798	.044	.828	.408
	English Proficiency	-.568	1.787	-.017	-.318	.751
	Days Absent	-9.46E-02	.039	-.118	-2.451	.015
	Total RR Sessions	6.105E-02	.035	.199	1.758	.079
	Total Weeks	-.585	.142	-.471	-4.134	.000

Comparison of Reading Recovery and Non-Reading Recovery Students

In the first grade, all students were tested at the beginning and end of the school year on the Dictation and Text Reading Level tasks. In addition, all first grade students were tested at the beginning of the year on the Oral Word Test task and at the end of the year on the Writing Vocabulary task. Table XIV presents the results for successful (i.e., Discontinued) and unsuccessful (i.e., Recommended Action) students who participated in the Reading Recovery program versus first grade students who did not receive Reading Recovery services. Where

pretest and posttest results are presented, the results are for matched pairs of testing results (i.e., for only students who took both the pretest and the posttest).

TABLE IV
Comparison of Progress by Reading Recovery and Non-Reading Recovery Students

Rdg Recovery Status		Dictation Pretest	Dictation Posttest	Text Rdg Level Pretest	Text Rdg Level Posttest	Oral Word Pretest	Writing Vocabulary Posttest
Not in Rdg Recovery	Mean	23.34	34.47	8.60	22.35	7.80	47.64
	N	1676	1676	1715	1715	1887	1868
	S.D.	10.53	5.26	7.18	7.76	6.65	14.34
Discontinued	Mean	12.15	35.49	2.83	20.12	1.70	52.26
	N	241	241	242	242	254	246
	S.D.	8.41	2.34	2.07	4.51	2.23	10.77
Recommend-ed Action	Mean	4.98	30.13	1.71	10.76	.46	37.78
	N	164	164	168	168	173	170
	S.D.	4.66	6.94	1.72	5.15	1.07	13.19

These results illustrate that:

1. Although Reading Recovery students start considerably below their first grade peers on the Dictation task, those students who successfully discontinued the program outperform their grade level peers at the end of the year, while Recommended Action students considerably close the gap on this task.

2. Although Reading Recovery students start considerably below their first grade peers on the Text Reading Level task, those students who successfully discontinued the program considerably closed the gap on this task in comparison with their first grade peers. Recommended Action students do not demonstrate nearly as much progress.

3. All Reading Recovery students begin the school year considerably behind their first grade peers on the Oral Word Test, which is one reason why they are selected for participation in the program.

4. Reading Recovery students who successfully discontinue the program outperform their grade level peers at the end of the year on the Writing Vocabulary task. Reading Recovery students who are unsuccessful (i.e., Recommended Action students), do not come close to the performance of their first grade peers.

Conclusions

The school district has expended a great deal of money funding the Reading Recovery program. While the district is demonstrating gains in reading at higher grade levels within the state's accountability program, such gains have not shown up in the third grade (the first year of statewide testing). Furthermore, there has not been any formal evaluation of the Reading Recovery program within the district. These factors led to this data collection effort.

The Reading Recovery program has a loyal following of ardent supporters both nationally and internationally. Unfortunately, data to support the program is both spotty and with mixed results. Based on the results of this study, the Reading Recovery program appears to be having a positive influence on teaching a large number of students to read during the first grade. However, over 40 percent of the students admitted into the Reading Recovery program are not becoming successful readers. This paper has indicated some keys that may indicate a high potential for determining which students may not be successful in the Reading Recovery program. These include low levels of pretest (beginning of first grade) scores on the Oral Word Test, Writing Vocabulary, Dictation, and Text Reading Level tasks of Marie Clay's *Observation Survey*.

Reading Recovery is a very expensive, labor intensive effort. The results of this study suggest that other, perhaps even less expensive, alternatives to the Reading Recovery program may be more appropriate for some students—at least as a first step in the teaching of reading process. These findings should be generalizable to most any school district.

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