First and Second Round Reading Recovery: What Difference Does it Make for Discontinuation and Program Length?

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FIRST GRADERS WHO PARTICIPATED IN THE READING RECOVERY (RR) program during the 1994-95 school year either entered the program at the beginning of the school year (first round), or later, after another child was released (second round). First round children discontinued more frequently, but second round children discontinued faster. Children who received some additional literacy help while on the waiting list for Reading Recovery were more likely to discontinue than children who did not. Benefits of participating in a literacy group taught by a trained Reading Recovery teacher were not significantly greater than other forms of extra help. The findings should be important to educators who work with at-risk children and to elementary school administrators responsible for decisions about literacy intervention programs such as Reading Recovery.

The Reading Recovery (RR) program (Clay, 1985, 1993b; Pinnell, 1989) is an intensive, one-on-one, short-term intervention for first graders who are at risk for literacy failure. Children selected for the program meet with a Reading Recovery teacher for 30 minutes each day. The goal of the program is to accelerate a child's literacy learning until he or she reaches the average level of the classroom, so that he or she can better benefit from classroom instruction. Once a child reaches this level, he or she is *discontinued*, and another child in need of service can begin the program in the first child's place.

The program is individualized for each child's literacy-learning needs. Rather than having a set period of time in which to teach the child as much as possible, Reading Recovery has a set amount of literacy skills (based on the difference between the child and the other children in the class) to teach the child within a flexible amount of time. The program always selects the neediest children for the program first, and in some schools, including all the schools in the present study, other children in need of service are placed on a waiting list. The children who start the program first are *first round* Reading Recovery children. When a first round child leaves the program, a child from the waiting list begins the program in his or her place. These are *second round* Reading Recovery children. If the second round child discontinues before the end of the school year, a *third round* child may be started into the program. For purposes of the present study, however, second round children are defined as children who start the program in the second round or later.

Despite the fact that Reading Recovery has been implemented in the United States since the 1987-88 school year (National Diffusion Network, 1992), a search of the ERIC database, current through February, 1996, revealed no studies addressing second round Reading Recovery children. Questions about second round Reading Recovery children are important since Reading Recovery teachers generally serve up to eight children per year, four first round and four second round (Dunkeld, 1992).

Reading Recovery is an individualized intervention program, so more resources are spent on children who spend more weeks in the program. The program is promoted as more cost-effective (Dyer, 1992) and outcomes-producing (Karweit & Wasik, 1994) than retention and/or remediation. Consequently, two important pieces of information for decision makers who have implemented or are considering implementing the Reading Recovery program are how many children successfully discontinue and how long children take to discontinue. Differences on these measures between first round and second round Reading Recovery children should be important to school district decision makers and to Reading Recovery teachers and professionals.

It is important to note that this study includes data from every child who began the Reading Recovery program, regardless of how long he or she was in the program. There has been some criticism (e.g., Shanahan & Barr, 1995) of the practice of including only *full program children* (those with at least 60 lessons and those who discontinued with fewer) in discontinuation rate statistics. Discontinuation rates presented here should not be compared with discontinuation rates for *program children* or *full program children* published elsewhere.

Since second round children start Reading Recovery later in the year, some may not have enough time to discontinue. Among the schools included in the present study, many second round children do not begin the program until March or April (Rhodes-Kline, 1995). This typically gives first round children more time in the program than second round children. It was therefore predicted that discontinuation rates would be slightly higher among first round children than among second round children.

Hypothesis #1: *First round children will be more likely to discontinue than second round children.*

Since Reading Recovery selects the lowest-scoring children for the program first, first round children may be expected to be somewhat needier in terms of literacy intervention and help. It was therefore predicted that, among children who discontinued, first round children would have been in the program longer than second round children.

Hypothesis #2: *First round children will take longer to discontinue from the Reading Recovery program than second round children.*

In some schools, extra help is available for children on the waiting list. Since all Reading Recovery children are at risk, any kind of additional help for children on the waiting list was predicted to increase children's chances of discontinuing, compared to children who received no help while waiting for a slot to open up in the Reading Recovery program.

Hypothesis #3: *Second round children who receive extra help while they are on the waiting list will be more likely to discontinue than second round children who receive no such waiting list assistance.*

Sometimes, waiting list help was in the form of a literacy group led by a trained Reading Recovery teacher. In these groups, children practice literacy skills such as reading and writing as a supplement to their regular classroom activities. Since Reading Recovery teacher training involves the in-depth study of the process of literacy acquisition, it was predicted that this training would carry over somewhat to a small group setting. Second round children who participated in a literacy group led by a trained Reading Recovery teacher were predicted to be more likely to discontinue than second round children who received another form of help while they were on the waiting list.

Hypothesis #4: *Second round children who participate in a literacy group with a trained Reading Recovery teacher will be more likely to discontinue than second round children who receive other forms of help.*

In addition to increasing children's probability of discontinuation, waiting list interventions were expected to speed time to discontinuation among children who

were successful in the program. Again, any form of extra help was predicted to be of value, but participation in a literacy group led by a trained Reading Recovery teacher was predicted to be of more value for rapid discontinuation from the Reading Recovery program than other forms of assistance.

Hypothesis #5: *Second round children who receive extra help while on the waiting list will discontinue faster than second round children who do not receive assistance.*

Hypothesis #6: *Second round children who participate in a literacy group with a trained Reading Recovery teacher will discontinue faster than second round children who receive other forms of assistance.*

Methods

Data were gathered in one northern New England state from first graders in the Reading Recovery program during the 1994-95 school year. Second round children were operationally defined as children who started the program in November or later. This definition was informally validated by Reading Recovery teacher leaders, responsible for training of and continuing contact with Reading Recovery teachers. Of the 1403 children served through Reading Recovery for the year, 532 fit this definition. The remaining 871 who began Reading Recovery by September or October were defined as first round Reading Recovery children.

Ninety-nine percent of first round children started the Reading Recovery program in August or September. The most frequent months of entry into the program for second round children were February and March, when 21 percent and 30 percent started respectively.

Reading Recovery teachers collected and recorded data from all children in the state who received Reading Recovery regarding whether each child discontinued from the program and, if so, how much time he or she took to do so. Length-of-time data included total weeks in the program and number of Reading Recovery lessons. It should be noted that the first two weeks of Reading Recovery, when the teacher and child reinforce what the child knows and can do, in order for the child to become independent and in control of his or her "personal corpus of responses" (Clay, 1993b, p. 13), were not counted as lessons since no new skills or strategies were taught. These first two weeks were, however, counted as part of total weeks in the program.

Services were available in some schools for children on the waiting list. These services were categorized as (a) literacy group with a trained Reading Recovery teacher, (b) other extra help, and (c) no extra help. Reading Recovery teachers collected information regarding what services, if any, second round children received while on the waiting list. Some second round children were not on the waiting list prior to being taken into the program. These children formed a fourth category.

Unfortunately, data regarding waiting list interventions were missing from almost half of all second round Reading Recovery children. The most reasonable explanation for this is that the item on the data form which requested the information was newly added for the 1994-95 school year, and many Reading Recovery teachers did not remember to mark it for all second round children. There was no reason to expect that these omissions were systematic and there were still enough data to continue with the analyses.

All analyses were focused and the magnitude of effect (r) was computed in addition to the level of significance for each statistic. This was especially important due to the large differences in sample size (and, consequently, power) for the various questions (Rosenthal & Rosnow, 1991). An alpha level of .05 was used for all statistical tests.

Results

Hypothesis #1: Discontinuation Rates

Five hundred ten out of 871 first round children successfully discontinued, compared with 244 out of 532 second round children. First round children were more likely to discontinue from the program than second round children ($x^2_{(1, N = 1403)} = 21.39, p < .001, r = .12$), supporting the first hypothesis.

Hypothesis #2: Time in the Program

Table 1 shows time in the program for discontinued first round and second round Reading Recovery children. Despite the wide variation in program length for children in both groups, second round children discontinued after fewer lessons ($t_{635} = 29.51, p < .001, r = .72$) and in fewer weeks ($t_{620} = 30.04, p < .001, r = .77$) than first round children . On average, second round children discontinued in less than half the time of first round children.

Table 1
Time in the Program for Reading Recovery Students

	Program Starting	
	First Round	**Second Round**
Number of Lessons		
Mean	78.5	33.4
Standard Deviation	(23.8)	(17.3)
Mode	80	40
N	N=510	N=244
Total Number of Weeks		
Mean	23.0	10.5
Standard Deviation	(6.4)	(4.7)
Mode	21	11
N	N=509	N=243

Hypotheses #3 and #4: Discontinuation Rates and Waiting List Services

Table 2 shows discontinuation rates by type of waiting list service received for second round children. The difference between participation in a literacy group with a trained Reading Recovery teacher and other forms of assistance was not significant ($x^2_{(1, N = 174)} = 2.23, p = .13, r = .11$). However, children who received some kind of assistance while on the waiting list were more likely to discontinue from Reading Recovery than children who did not ($x^2_{(1, N = 297)} = 5.14, p = .02, r = .13$).

Table 2
Discontinuation Rates and Waiting List Services

	Discontinuation		Total
	Not Discontinued	Discontinued	
	Count	Count	
Waiting List Services			
Trained Reading Recovery Teacher	38	64	102
Other Extra Help	35	37	72
No Extra Help	25	26	51
Not On Waiting List	43	29	72
Total	**141**	**156**	**297**

Hypotheses #5 and #6: Time to Discontinuation and Waiting List Services

Table 3 shows the time it took second round children to discontinue according to the type of waiting list intervention they received, if any. Children who participated in a literacy group with a trained Reading Recovery teacher did not discontinue significantly faster than children who received other kinds of waiting list assistance (number of lessons $F_{1,99} < 1$, $p = .43$, $r = .01$; total weeks $F_{1,99} < 1$, $p = .73$, $r = .03$). Neither did waiting list help in general decrease children's time to discontinuation (weeks in the program $F_{1,154} = 3.25$, $p = .07$, $r = .14$, number of lessons $F_{1,154} = 1.72$, $p = .19$, $r = .11$).

Table 3
Time to Discontinuation and Waiting List Services

	Pre-Second Round Services			
	Literacy Gp with Trained RR Teacher	Other Extra Help	No Extra Help	Not On Waiting List
Number of Weeks				
Mean	10.0	10.3	12.4	10.4
Standard Deviation	(4.1)	(3.9)	(4.9)	(4.1)
Mode	9	12	11	12
N	64	37	26	29
Number of Lessons				
Mean	32.1	34.8	42.0	32.3
Standard Deviation	(17.3)	(15.8)	(20.4)	(15.6)
Mode	18	41	28	40
N	64	37	26	29

Discussion

First round children are more likely to discontinue from Reading Recovery than second round children. Since Reading Recovery claims to select the neediest children into the first round, this may seem surprising. To test whether first round children actually do start the year with fewer literacy skills, the fall scores of first and second round Reading Recovery children on six measures of literacy skills were compared. Table 4 presents these data.

Table 4
Entering Skill Levels of First and Second Round Reading Recovery Students

	Program Starting	
Fall Test	First Round	Second Round
Letter Identification		
Mean	32.4	41.6
Standard Deviation	(13.3)	(9.2)
Concepts about Print		
Mean	9.4	11.5
Standard Deviation	(3.5)	(3.0)
Dictation		
Mean	5.2	9.9
Standard Deviation	(5.3)	(7.1)
Ohio Word Test		
Mean	0.3	0.6
Standard Deviation	(1.0)	(1.4)
Writing Vocabulary		
Mean	3.8	6.5
Standard Deviation	(3.3)	(4.8)
Text Reading		
Mean	0.7	0.9
Standard Deviation	(1.0)	(0.9)

The six tests, letter identification, concepts about print, dictation, Ohio word test, writing vocabulary, and text reading, comprise the Observation Survey (Clay, 1993a), a standard assessment for the Reading Recovery program. Children in the program are tested at the beginning and end of their first grade year. If a child enters or exits the program in the middle of the year, he or she is also tested at that time. The scores in Table 4 were taken in the beginning of the fall semester for all children, so scores reflect the levels of skill children brought to first grade. Differences between first and second round children cannot be attributable to first grade classroom instruction, since all children were tested at the same time.

The letter identification task asks children to identify all 26 letters, in both lower and upper case, plus the printed letters *a* and *g*. Each letter counts as one point. The

concepts about print test assesses how much children know about the way print works, for example, that print goes left to right, what words look like, and how to hold a book. Scores range from zero to twenty-four. For the dictation test, a sentence is read to the child, and he or she is asked to write the words. The test measures the child's ability to analyze words for sounds. Every sound represented correctly is scored as a point. The Ohio word test asks children to read a list of 20 high-frequency words. The child's score indicates the number of words read correctly. On the writing vocabulary test, children write down all the words they know how to write in ten minutes. Each correct word, including the child's own name, is counted as a point. Text reading level represents the highest book in a series, ranked for difficulty, that the child could read with 90 pecent accuracy. Levels can range from 0 (inability to read "No, no, no," at the lowest level) to 30 (about a sixth-grade reading level).

The means and standard deviations in Table 4 indicate that children selected for the first round do indeed enter first grade with lower literacy skills than those who are selected later. Differences for all six measures are statistically significant (two-tailed) at the $p<.001$ level (letter identification $t_{1037}=14.10$, $p<.001$, $r=.40$; concepts about print $t_{856}=10.66$, $p<.001$, $r=.34$; dictation $t_{590}=11.75$, $p<.001$, $r=.44$; Ohio word test $t_{591}=4.32$, $p<.001$, $r=.17$; writing vocabulary $t_{566}=9.93$, $p<.001$, $r=.39$; text reading $t_{1255}=4.44$, $p<.001$, $r=.12$).

Additional differences between first round and second round children are revealed by examining end-of-year status. A child is only *withdrawn* from the program if he or she is not making sufficient progress in Reading Recovery and will be better served by an alternate program. On the other hand, children who are still in the program at the end of the year are making progress. Among first round children, 59 percent discontinued, 21 percent were still in the program at the end of the year, and 20 percent had been withdrawn. Forty-six percent of second round children were discontinued, while 52 percent were still in the program at the end of the year, and only 2 percent had been withdrawn. Although the reasons first round children do not discontinue may be somewhat varied, the main reason second round children do not discontinue appears to be lack of time in the program.

Perhaps the most significant finding of the study is that second round children who discontinue do so in approximately half the time of first round children. There are two, non-conflicting, plausible reasons for this. First round children start out the school year even farther behind the average literacy level of the class than second round Reading Recovery children. First round children are the children who, without Reading Recovery, would likely stand the highest risk for retention and/or special education. Getting first round children up to the average level of literacy of the classroom is therefore a more time-consuming task than getting second round children to the same place, since first round children start out farther behind. Interestingly, this occurs despite the fact that average classroom literacy levels (the standard to which Reading Recovery children are held for discontinuation) are higher for second round children, because the class progresses throughout the year. The other plausible reason second round children discontinue faster is that second round children are able to make some progress before starting Reading Recovery (through classroom instruction and, in some cases, with the help of small group assistance), so the groundwork is laid for faster progress once they enter Reading Recovery.

The most useful information to be gleaned from the results of hypotheses #3-#6 is that having some kind of assistance available for children on the waiting list for Reading

Recovery is beneficial. Any form of waiting list intervention appears to increase second round children's chances of discontinuing from Reading Recovery.

Some of the differences between first round and second round Reading Recovery children have been discussed. It should be remembered that both groups are judged to be at risk for literacy failure and they consequently have much in common that should put their differences in perspective. Nonetheless, Reading Recovery teachers and other professionals should be aware of the differences between the groups for several reasons.

First round children may be harder to teach than second round children, even through a very individualized program such as Reading Recovery. It would be a mistake to suggest that, because they are harder to teach, they should be referred to another program. Reading Recovery was designed for the hardest to teach children and it was designed to be a replacement for later remediation and/or retention (Clay, 1985, 1993b). Twenty-three weeks (the average length of time to discontinuation for first round children) is not a lot of time compared to the alternatives (years of special education, Title I services, and/or retention) for these children (Dyer, 1992).

Attitudes of returning Reading Recovery teachers may be affected by the different rates of progress of first and second round Reading Recovery children. Compared to the second round students a Reading Recovery teacher had in May and June, first round students the following September may seem woefully slow. This may lead to the idea that Reading Recovery students are getting farther and farther behind each year, an attitude which has been expressed informally by Reading Recovery professionals, but not substantiated by data. It may also lead to an increased tendency to withdraw children who could eventually discontinue from the program. Reading Recovery teacher leaders who are aware of the differences between first and second round Reading Recovery children may be able to assist Reading Recovery teachers in correctly evaluating first and second round Reading Recovery children, without these undesirable, potential biases.

It is important to know that second round children discontinue faster than first round children for implementation and planning purposes. If both groups took equally long to discontinue, it would be unrealistic to expect a second round child who started at the end of March to discontinue by the beginning of June. However, given that the average second round child discontinues in ten and a half weeks (compared to twenty-three weeks for the average first round child), it is certainly realistic to expect a child who starts in March to have a fair chance of discontinuation. It is also not overly optimistic to expect that some Reading Recovery teachers may be able to serve third round children, given a first round child who discontinues by December and a second round child who discontinues by March.

Examination of the data in Table 1 reveals that Reading Recovery lessons are not being conducted at the rate of five lessons per week, but rather at 3.74 (first round) and 3.93 (second round) lessons per week. (As noted previously, the first two weeks of Reading Recovery count toward total weeks in the program, although they do not count toward the number of lessons. In order to calculate the average number of lessons per week, the appropriate number in the denominator is therefore total weeks minus two, or 21.0 and 8.5 for first and second round children, respectively.) Discussions with Reading Recovery teacher leaders regarding this issue indicate that neither student nor teacher absences are primarily responsible. Rather, school and district calendars include enough field trips, assemblies, and vacation days to make four days of traditional classroom instruction the norm.

Reading Recovery is an individualized program, so generalizations about groups of Reading Recovery children, such as first and second round children, should be interpreted accordingly. By design, there is wide variation in the length of time it takes children to discontinue. In no way should the averages presented here be interpreted as goals or expectations for all children. Children start their first year of formal education with widely different levels of exposure to printed materials, different experiences with reading and writing, and different ability levels. Reading Recovery is a program that aims to correct some of the literacy inequalities among first graders, to give every child a chance at becoming literate. While district policy decisions will be made based on the costs involved with particular programs, it would be a terrible mistake to suggest that the neediest children should not be started first into the Reading Recovery program. Reading Recovery was designed for the neediest children in a classroom. Although all at-risk children can benefit from Reading Recovery, it is the neediest among them who can benefit the most.

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