

The Impact of an Early Literacy Intervention: Where Are the Children Now?

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ABSTRACT

The purpose of this study was to contribute to and strengthen previous work that examined the long-lasting effects of Reading Recovery in statewide efforts aimed at bolstering early literacy achievement and reducing early learning difficulties. Specifically, the study explored the literacy achievement of Reading Recovery participants whose series of lessons had been successfully discontinued during their first-grade year at points 1, 2, and 3 years beyond receiving the intervention in Indiana—providing a picture in time for where the children are now.

The participants included randomly selected children who had either successfully completed Reading Recovery or who had not participated in the intervention (i.e., cohort sample) from the three grade levels in 253 schools in Indiana. The two assessment instruments used to gauge literacy performance included the running record of oral text reading (Clay, 1993) and the comprehension and vocabulary subtests of the Gates-MacGinitie Reading Tests and the score for *total test*. The fourth-grade former Reading Recovery children's results on the state achievement test taken in third grade were collected from their school records to establish their achievement distribution 2 years beyond the intervention.

Results indicate a considerable majority of the former successful Reading Recovery children were reading text at or above their grade level and that 1, 2, and 3 years beyond the intervention, Reading Recovery children were performing roughly as well as or better than their cohort sample peers on the task of oral text reading.

Analysis of the Gates-MacGinitie Reading Test data indicated the vast majority of the previously successful Reading Recovery children performed within the calculated average bands of the cohort sample groups at each grade

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level, indicating the formerly struggling learners were continuing to progress with their peers in literacy. In addition, the former Reading Recovery fourth graders achieved a normal curve distribution with a mean of the 45th percentile on the Indiana State Test of Education Progress (ISTEP), a considerably different pattern from their first-grade 15–20% achievement range.

INTRODUCTION

Of universal significance to early literacy educators, parents, and policymakers is that children learn to read and write at the start of their schooling; when children experience difficulty early in the learning process, the goal becomes daunting. There is evidence suggesting children who encounter such difficulty fall further behind their peers as time passes (Stanovich, 1986) or at the very least remain at the low end of the achievement distribution (e.g., Juel, 1988). McGill-Franzen and Allington (1991) suggested children's achievement at the end of the first grade predicts with alarming accuracy their success or failure not just in school tasks but in life experiences.

Moreover, without intervention on the part of the educational system, the prospect of very real and negative consequences for future success in school and life are what lie in store for these children. According to Slavin, Karweit, and Wasik (1994), "success in the early grades does not guarantee success throughout the school years and beyond, but failure in the early grades does virtually guarantee failure in later schooling" (p. 3–4). They further argue that as educators we cannot accept this as the status quo.

To that end, recent research overwhelmingly suggests that for the vast majority of children reading problems are preventable if they receive additional support in the form of an effective early literacy intervention (Pikulski, 1994; Wasik & Slavin, 1993). The U.S. Department of Education's research institute claimed there is ample scientific evidence that "one-on-one tutoring by qualified tutors for at-risk readers in grades 1–3 is effective (Institute of Educational Sciences, 2003, p. iii). Moreover, a study conducted by the International Reading Association titled *Learning Disabilities: A Barrier to Literacy Instruction* (1995) and one by Lyons and Beaver (1995) both suggested early interventions can reduce the incidence of learning disability placements and long-term remedial instruction. In a large-scale study, O'Connor and Simic (2002) found children with complete Reading Recovery programs were referred for testing and placed in special education at significantly lower rates than a comparison group.

It has been shown that well-orchestrated large-scale efforts can have a positive impact on student outcomes as evidenced in the Indiana University Education Policy Center's study of the Early Intervention Grant Program in Indiana, wherein schools received funding to support early literacy intervention

initiatives throughout the state (Manset et al., 2000) using funds appropriated by the Indiana General Assembly. They found referrals for special education assessment and grade retention were generally lower in schools using the early literacy grants than in comparison schools. In addition, the Indiana Department of Education financially supported the current study's effort which sought to examine the sustained effects of Reading Recovery, one of the early intervention programs included in this statewide effort.

READING RECOVERY OVERVIEW AND RESEARCH ON EARLY LITERACY LEARNING

Reading Recovery, developed in New Zealand by developmental psychologist Marie M. Clay, is a narrowly targeted intervention aimed at children who have had a year of opportunities to engage and participate in classroom instruction yet continue to be disengaged from literacy learning. These children typically are 6 years old and come from divergent socio-economic backgrounds. Tutoring sessions with a highly trained teacher last 30 minutes and occur outside of the regular classroom instruction. The duration of time a child spends in Reading Recovery varies but ranges from 12 to 20 weeks, in which time the goal of a child performing up to the level of average achievement in the classroom is reached or the child is referred for special testing and possible long-term intervention.

Participation in the intervention includes the expectation that learners develop self-extending systems that allow them to continue to learn as they read (Clay, 1993). That is, learners assemble a working system (Singer, 1994) for problem solving, monitoring, and self-correcting, which would likely contribute to continued literacy progress as children move through the grades and benefit from classroom instruction.

Research on Effectiveness

There has been considerable research that examines and supports both the effectiveness of Reading Recovery as an intervention and the aspects of the intervention that contribute to successful literacy development. For example, in a well-designed study supported by the MacArthur Foundation (Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1994), Reading Recovery was compared to three other instructional methods and a control group, including: (a) another one-to-one intervention, (b) a one-to-one intervention with teachers who had limited training in Reading Recovery, (c) group instruction based on Reading Recovery principles with trained Reading Recovery teachers, and (d) a control group that received no instruction. The 324 lowest-achieving children in the 40 schools were randomly assigned within schools to one of the four treatments or a control group. The systematically designed research project resulted in

definitive outcomes for Reading Recovery as the most successful intervention, with subjects in the standard Reading Recovery group performing significantly better on all measures than those in other treatments and the control.

In a more recent experimental study with random assignment, Schwartz (2005) demonstrated that at-risk students who received Reading Recovery during the first half of the school year performed significantly better at midyear than similar students randomly assigned to receive the intervention during the second half of the year. In other words, the children who had to wait until the second half of the year for the intervention made very slow progress in the classroom, while the other group achieved accelerated progress and caught up to their average achieving peers.

Research on Diverse Learning Issues

Other studies document diverse types of learning while participating in Reading Recovery. For example, studies suggest growth in phonological awareness during the intervention (Stahl, Stahl, & McKenna, 1999), gains in strategic processing such as self-monitoring and problem solving (Schmitt, 2001), and the development of positive self-concepts (Cohen, McDonnell, & Osborn, 1989). Also, Cox, Fang, and Schmitt (1998) found that participation in Reading Recovery led to a concomitant increase in metacognitive knowledge and regulation, suggesting that children develop a much clearer sense of themselves as readers and writers, become more cognizant of the literacy tasks, and use language to regulate their own behavior. Schmitt (2003) explored children's metacognitive knowledge of strategies appropriate for use before, during, and after reading with the same population from the current study using the Metacomprehension Strategy Index (Schmitt, 1988, 1990, 2005), a commonly used questionnaire (e.g. Frederickson & Cameron, 1999; Harp, 2005; Spinelli, 2004; Wood & Algozzine, 1995). She found that both the former successful Reading Recovery third and fourth graders and the cohort sample students recognized valuable strategies for comprehension and that the former intervention participants were on equal footing with their classmates in that regard 2 and 3 years after the intervention. Askew and Frasier (1999) found that through daily message writing during the lessons, children develop a deep understanding of how print works in a very short period of time and also move toward self-regulation behaviors in writing.

As an early literacy intervention, Reading Recovery is designed to serve the children at the lowest end of the achievement distribution, is expected to increase the numbers of children operating in average ranges, and most critically, is expected to decrease the numbers of children who require additional assistance (Schmitt, Askew, Fountas, Lyons, & Pinnell, 2005). The instructional goal is for children to develop independent learning strategies that allow for continued success in literacy achievement beyond the intervention

period. According to Clay (2001), reading is a complex process in which the child must develop “control systems to manage the different types of information and to manage the assembly of working systems needed to get the problem-solving done” (p. 128), thereby becoming self-sustaining as a literacy learner.

Vellutino and Scanlon (2002) studied first-grade children who were struggling to learn how to read and found that early, individualized, and intensive intervention was effective in reducing reading difficulties. In their book on effective early literacy interventions, Hiebert and Taylor (1994) assert that “early literacy interventions with a focus on accelerated learning and on authentic reading and writing tasks can prevent many first-grade children from failing to learn to read” (p. 3).

Research on Continued Successful Performance

Pertinent to the current study, cross-sectional follow-up or longitudinal studies have examined how formerly successful Reading Recovery students perform on literacy measures and compare to peers in the years after the instructional intervention. For example, Brown, Denton, Kelly, and Neal (1999) found that about 75% of California students who had completed Reading Recovery in the first grade were continuing to progress with their peers according to standardized tests given through fifth grade; Askew et al. (2002) followed a group of students in a longitudinal study through the fourth grade and found they were still working within average ranges of their classmates on standardized tests; and Rowe (1995) demonstrated that Australian students benefited notably from participating in Reading Recovery with reading scores that were distributed across the same score range as the general population and fewer children operating in the tail end of the distribution by the fifth and sixth grades.

Ruhe and Moore (2005) investigated the performance of 1,260 fourth-grade former Reading Recovery children on the Maine Educational Assessment test and compared the achievement against the more than 14,000 students who also took the test. They found that the fourth graders whose lessons had been successfully discontinued performed at average levels in reading and writing and that most of the students were indistinguishable from the general fourth-grade population. Finally, Escamilla, Leora, Ruiz, and Rodriguez (1998) found the same type of sustained positive performance with children who had participated in *Descubriendo La Lectura*, the reformulation of Reading Recovery in Spanish. These studies addressed the broad question of whether the goal of reducing the numbers of children in the low end of the distribution was maintained beyond the end of the intervention and whether the participants continued to progress with their peers.

PURPOSE OF THE STUDY

The purpose of the current study was to contribute to and strengthen previous work to examine the long-lasting effects of Reading Recovery in a statewide effort to bolster early literacy achievement and to reduce early learning difficulties. Specifically, the study explored the literacy achievement of children whose series of lessons had been successfully discontinued in Reading Recovery in Indiana during their first-grade year at points 1, 2, and 3 years beyond the intervention. The results provide a picture in time for where the children are now at three different levels, vividly demonstrating probable change over time. By the very nature of the characteristics of replication research (Frymier, Barber, Gansneder, & Robertson, 1989), such varied studies of continued progress conducted in different geographical regions and across different time periods are valuable in the sense that they contribute to the strength of the outcomes of all such studies (i.e., longitudinal and cross-sectional follow-up). This study also has the added characteristic of the exploration of children's awareness of metacognitive strategies for the third- and fourth-grade participants. (*See Schmitt, 2003 for an additional comparison study of former Reading Recovery children and their classmates.*) Taken together, the results of the two lines of questioning provide a unique perspective not considered in other follow-up studies and a broader level of support for continued progress by Reading Recovery students.

Essentially, the study reported here sought to determine: (a) if the goal of reducing the numbers of children in the low end of the achievement distribution was maintained, such that the children's achievement distribution approximated a more normal distribution or at least was more broadly spread across the range with fewer in the low end; and (b) if these children were performing well in comparison to their peers. The results of the study are considered with respect to causal links by discussing how some of the principles of Reading Recovery, such as developing a self-extending system for continued learning, tempt educators to interpret results from this type of study from such a perspective.

METHODS AND DATA SOURCES

Participants

The 548 children included in this study were randomly selected from the total population of second-, third-, and fourth-grade children in the 253 schools in Indiana that had experienced implementation contexts. That is, to assure the teachers were experienced in teaching the instructional strategies involved in the intervention, each of these schools had been involved with Reading Recovery for at least 2 years and no teachers who were currently participating in training

were included. In an effort to select sample populations of the former Reading Recovery children (RR) and the cohort sample group of children (CS), class lists were obtained for all children who would be in grades two, three, and four in the fall. An interval sampling technique was employed to select 100 children in each group with the intent to draw from all schools. The final sample (see Table 1) included children who could be located and for whom parental permission was granted. The groups were designated as follows: second-, third-, and fourth-grade children who had successfully completed Reading Recovery in first grade (2RR, $n = 95$; 3RR, $n = 89$; and 4RR, $n = 93$); and second-, third-, and fourth-grade children who had not received the intervention (2CS, $n = 95$; 3CS, $n = 84$; and 4CS, $n = 92$).

Table 1. Description of Sample Populations by Groups and Grade Levels

Populations	Grade Levels and Groups					
	2CS	2RR	3CS	3RR	4CS	4RR
Total	95	95	84	89	92	93
(BY PERCENT)						
Males	47.0	57.9	50.0	59.6	38.0	64.5
Females	53.0	42.1	50.0	40.4	62.0	35.5
African American	8.2	12.6	8.3	9.0	12.0	17.2
Hispanic	1.0	5.3	2.4	4.5	4.3	4.3
White	83.7	78.9	86.9	86.5	81.5	77.4
Other	4.0	3.1	2.4	0	2.2	1.1

Note: CS = Cohort Sample children; RR = Former Reading Recovery children whose lessons were successfully discontinued

Procedures and Data Sources

Oral text reading

Developed by New Zealand educator Marie Clay (1992), the running record of oral text reading allows a teacher to capture text reading behavior at the precise moment it is occurring. Essentially, the teacher records a child's reading behavior using a simple set of conventions while the child reads aloud. From this record of observed behaviors, the teacher is able to analyze the child's strategic activity, to examine the types of cues used and neglected (e.g., meaning, syntax, phonological, and visual), and to determine the rates of accuracy

and self-correction. It is a means of rapidly assessing a child's literacy competence on an authentic reading task and provides teachers with an understandable readout of the child's behavior on that task. Thus, this systematic observation and record of the child's reading provides indicators of the child's processing.

All children from the three grade levels in the two groups (Reading Recovery and the cohort sample) were given a test of oral text reading. The test was administered individually by a Reading Recovery teacher or teacher leader. A graded set of texts from Scott Foresman was utilized to determine a text reading level for each child in the study. The texts were leveled and tested at The Ohio State University in the early days of Reading Recovery implementation in the United States. The levels ranged from readiness through Grade 8 and reflected a ceiling on achievement level (see Table 2). The highest level at which a child read with at least 90% accuracy was considered the child's text reading level. The levels used in this study reflected the standard at the time of data collection and were consistent with those used by other studies of continued progress (e.g., Askew et al., 2002).

Table 2. Text Reading Level Correspondence to Traditional Grade-Level Designations

Text Reading Level	Grade-Level Designation*
1-4	Readiness
5-8	Preprimer
9-12	Primer
14-16	End of First Grade
18-20	Second Grade
22-24	Third Grade
26	Fourth Grade
28	Fifth Grade
30	Sixth Grade
32	Seventh Grade
34	Eighth Grade

*Materials representative of commercially graded reading series

Standardized reading tests

All students (RR and CS) who participated in the study were given a version of the Gates-MacGinitie Reading Test (GMRT) appropriate for their grade level and the time of year in which testing occurred. Each version of the GMRT assesses vocabulary and comprehension from which separate sub-test scores and a composite reading score were derived. Either Reading Recovery professionals or classroom teachers in small-group settings administered the tests. Administration of the testing followed the standardized procedures outlined in the administration manual.

In addition, national percentile rank information on the fourth-grade former Reading Recovery children's performance on the Indiana State Test of Educational Progress (ISTEP),

which was administered when they were third graders, was collected from their school records as a means of identifying their achievement distribution 2 years after participating in Reading Recovery. The Indiana test at the time was the Comprehensive Test of Basic Skills-5/Terra Nova Form B.

RESULTS

Descriptive statistical analysis was performed on each of the measures of literacy achievement (i.e., oral text reading and GMRT) administered during the study and will be described in accordance to each measure. Table 3 includes means and standard deviations for all data. It is important to note that significant correlations were found at each grade level between the running record of oral text reading and the composite reading score of the GMRT ($r = .8444$, $r = .718$; and $r = .618$ at second, third, and fourth grades respectively. This finding suggests that both measures are legitimate for the purposes of this study and are dealing with similar cognitive processing.

Table 3. Means and Standard Deviations for Literacy Measures by Groups and Grade Levels

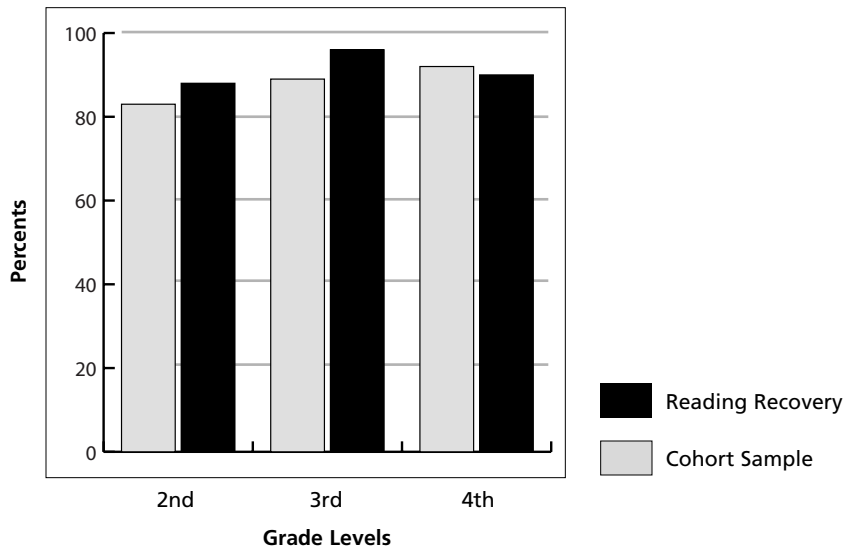
Assessment Measures	Grade Levels and Groups					
	2CS	2RR	3CS	3RR	4CS	4RR
Text Reading						
Mean	24.41	23.40	28.83	28.73	31.43	30.88
(SD)	(8.40)	(5.57)	(7.01)	(4.67)	(4.70)	(3.71)
Total Stanine GMRT						
Mean	5.62	4.78	4.93	3.98	5.16	3.66
(SD)	(1.79)	(1.21)	(1.90)	(1.31)	(1.96)	(1.40)
Comprehension GMRT						
Mean	5.74	4.80	5.00	4.38	5.45	3.87
(SD)	(2.03)	(1.33)	(1.79)	(1.53)	(1.95)	(1.60)
Vocabulary GMRT						
Mean	5.54	4.76	4.77	3.80	5.13	3.71
(SD)	(1.88)	(1.20)	(1.88)	(1.31)	(1.83)	(1.41)

Note: CS = Cohort Sample children; RR = Former Reading Recovery children whose lessons were successfully discontinued

Oral Text Reading Levels

The results of the children's achievement on text reading were analyzed in two ways. First, their achievement was considered relative to grade-level performance to answer the question, "What percent of the children in each group was reading at or above grade level?" Secondly, their achievement was compared by grade-level reading to answer the question, "At what levels are these children reading and how are they distributed?" For the first analysis, it was found that 88% of the second-grade Reading Recovery children were reading at or above grade level compared to 83% of the cohort sample; 96% of the third-grade Reading Recovery children were reading at or above grade level compared to 89% of the cohort sample; 90% of the fourth-grade Reading Recovery children were reading at or above grade level compared to 92% of the cohort sample children. This information is presented graphically in Figure 1.

Figure 1. Percent of Children Reading At or Above Grade Level on Text Reading Measure



It is clear from these data that a large majority of the former successful Reading Recovery children were reading text at or above their grade level and that 1, 2, and 3 years beyond the intervention, Reading Recovery children were performing roughly as well as or better than their cohort sample peers on the task of oral text reading.

For the second analysis, frequency distributions of all children across text levels in the three grades were calculated using the grade-level benchmark in use at the time of this study from the Reading Recovery Scott Foresman texts to illustrate where groups fell with regard to the expected level. To be reading on or above grade level, children must perform as follows: in the second grade a child must read at level 18 or higher (Figure 2); in the third grade a child must read at level 22 or higher (Figure 3); and in the fourth grade a child must read at level 26 or higher (Figure 4). The distribution data provide graphic illustrations of where the former RR children were achieving in comparison to their peers and in comparison to the grade-level benchmark.

These frequency distributions indicate the former Reading Recovery children's achievement approximated the spread of the average cohort's. They also clearly illustrate that the former lowest-achieving children were now performing above the lowest-achieving cohort sample children at all grade levels and suggest these children no longer dominate the low end of the achievement distributions in their classes.

Figure 2. Comparison of Second-Grade Children's Performance on Text Reading Where Dotted Line Represents Grade-Level Performance

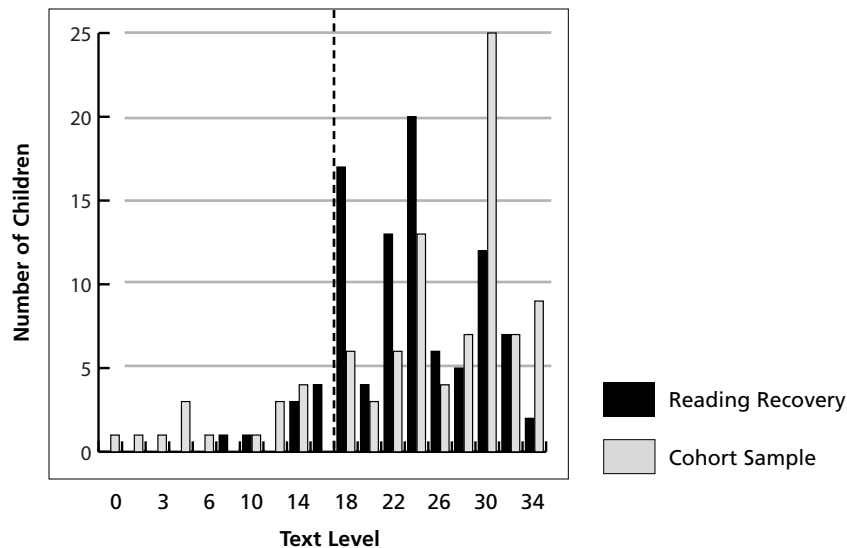
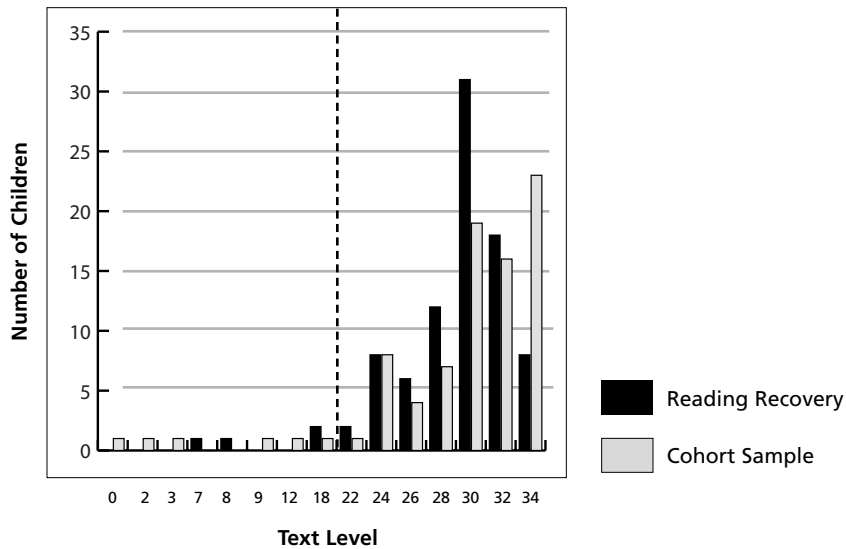


Figure 3. Comparison of Third-Grade Children's Performance on Text Reading Where Dotted Line Represents Grade-Level Performance



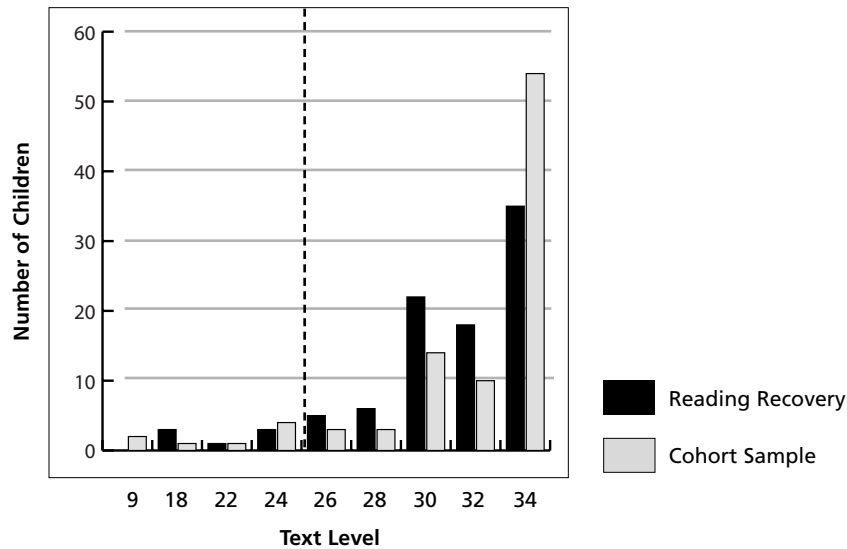
Standardized Reading Tests

The decision to explore and compare the outcomes of former Reading Recovery children's continued progress using average band ranges in this study was based on the design used by Askew and her colleagues (2002) in a Texas longitudinal study, where they explained

In order to test whether former Reading Recovery students continued to demonstrate average levels of achievement after first grade, the design called for a validation of average progress. Using a randomly selected group of non-Reading Recovery children, means for literacy measures were used to create an average band of one standard deviation above and below the mean. The band was used to define average performance and to describe the progress of former discontinued Reading Recovery children relative to that definition of average in Grades 2, 3, and 4. (p. 51)

The authors of the current study felt that using the same design as Askew et al. (2002) would strengthen the replication characteristics and conform to the notion that former intervention students should maintain average band status.

Figure 4. Comparison of Fourth-Grade Children's Performance on Text Reading Where Dotted Line Represents Grade-Level Performance



Analysis of the Gates-MacGinitie Reading Test data began by the determination of the average band of performance for the cohort sample children at each grade level for the total score and for each subtest scores using stanines reported by the normative data for the GMRT. The average band was calculated as one standard deviation above and below the mean. An assessment of the previously discontinued Reading Recovery children's performance demonstrates that a vast majority of the children performed within these average bands as described below, listed in Table 4 and graphically depicted in Figure 5 on the following two pages.

GMRT Total test score

In second grade, 86% of the previously successful Reading Recovery children scored within the average range of scores. In the third-grade group, 84% of the former Reading Recovery children scored within the average range, and 80% of the children now in fourth grade fell within the average range of scores.

GMRT Vocabulary subtest

In second grade, 86% of the previously successful Reading Recovery children scored within the average range of scores. In the third-grade group, 85% scored

Table 4. Average Band of Performance for the Gates-MacGinitie Reading Tests by Grade Level

Subtests	Stanine Ranges by Grade Level		
	Second Grade	Third Grade	Fourth Grade
Total Test			
Lower Limit	4	3	3
Mean	6	5	5
Upper Limit	7	7	7
Stanine Range	4-7	3-7	3-7
Vocabulary			
Lower Limit	4	3	3
Mean	6	5	5
Upper Limit	7	7	7
Stanine Range	4-7	3-7	3-7
Comprehension			
Lower Limit	4	3	4
Mean	6	5	6
Upper Limit	8	7	7
Stanine Range	4-8	3-7	4-7

within the average range, and 78% of the children now in fourth grade fell within the average range of scores.

GMRT Comprehension subtest

Average band performance of former Reading Recovery children on the comprehension subtest was evidenced by their achievement ranges of 87%, 83%, and 78% for second, third, and fourth grades, respectively.

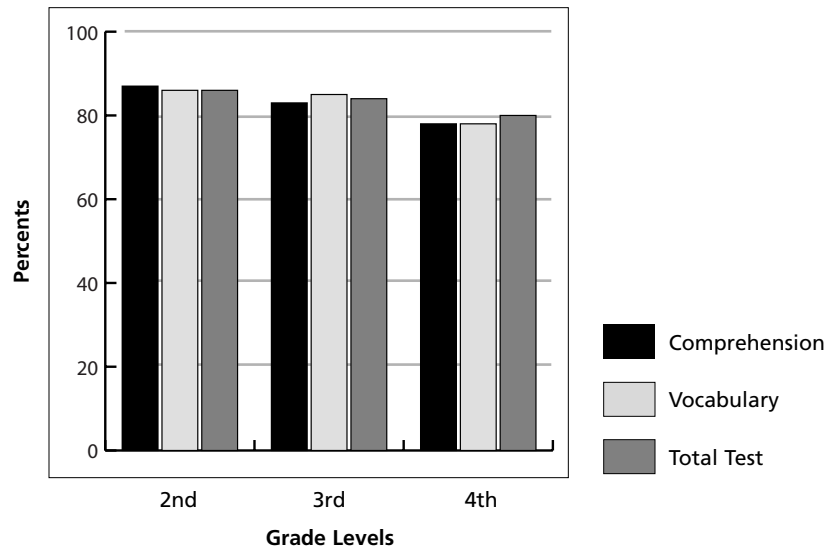
Indiana State Test of Educational Progress (ISTEP)

The standardized scores of national percentile ranks on the Comprehensive Test of Basic Skills-5/Terra Nova Form B for the former successful Reading Recovery children approximated a normal distribution with a mean at the 45th percentile and a standard deviation of 21.7.

DISCUSSION

The results of the oral text reading measure and the standardized reading tests provide substantial and incontrovertible evidence that the majority of the

Figure 5. Comparison of Children’s Performance on Gates-MacGinitie Test Scores on Comprehension, Vocabulary, and Total Test



second-, third-, and fourth-grade former Reading Recovery children in Indiana, supported by the Purdue University Training Center, are performing within average bands of their peers and few are remaining in the low end of the achievement distribution. The normal curve distribution of randomly selected former successful Reading Recovery children in the fall 2 years beyond the intervention is a remarkable pattern of progress on a standardized test for a group of children who began their school careers in the lowest 15–20% of the achievement levels of their classmates. In other words, in the first grade their scores were huddled in the very lowest end of the distribution, and 2 years later the scores were distributed across the percentile ranks.

The findings of this study: (a) align with others that substantiate continued progress of former Reading Recovery children (e.g., Brown et al., 1999); (b) are supported by studies that document effectiveness of the intervention, such as Pinnell et al., (1994); and (c) support the case for the prevention of failure (Askew et al., 2002; Schmitt et al., 2005).

It is true that many intervening variables across time, such as the quality of subsequent teaching, home variables, etc., render it is impossible to attribute the children’s later achievement status to their participation in Reading Recovery in the first grade (Askew et al., 1998). Just as in the extensive longitudinal research conducted by Askew and her colleagues, “this study was

designed to describe patterns of change, not causal relationships” (Askew et al., 2002, p. 50). Despite the lack of causality as a characteristic in this or any other study of subsequent performance of Reading Recovery children, it is still considerably useful to explore children’s achievement in a variety of ways and for different purposes.

This study represents one way to take a rather multi-faceted *picture in time* to view where these children are in later schooling. As researchers, one of us involved in Reading Recovery and one not, we feel there is considerable support for readers to be easily tempted to interpret the results of this cross-sectional follow-up study and others as persuasive indications that having an early intervention program such as Reading Recovery in place may serve successfully as a preventative against failure (Schmitt et al., 2005). To reflect on the support of this notion, consider the following:

1. The singular, clear goal of Reading Recovery is “to dramatically reduce the number of learners who have extreme difficulty with literacy learning and the cost of these learners to educational systems” (Clay, 1998, p. 210). There is considerable documentation of the effectiveness of Reading Recovery with the data collection immediately after service on every child served (National Data Evaluation Center), totaling nearly one and a half million children as well as studies such as this one that document continued learning.
2. The intervention itself is based on the underlying theoretical principles associated with learners’ development of independent strategic processing and the development of self-extending systems that allow readers to continue to learn as they read, all of which contribute to the ideal of learners’ continued literacy progress. This principle is explained in Clay’s work (see Clay, 1991; 1994; 2001) and is substantiated in Schmitt’s (2001) documentation of the development of strategic processes for problem solving, detecting and correcting errors, and confirming responses during Reading Recovery.
3. The evidence of Reading Recovery children’s development of metacognitive knowledge and regulation during participation in Reading Recovery (Cox et al., 1998) and Schmitt’s (2003) demonstration of continued awareness in that area (with the same population reported here) suggest children may regulate their strategic activity in ways that support the construction of inner control.

CONCLUSION AND SIGNIFICANCE OF THE STUDY

For some time, Reading Recovery critics have propagated an inaccurate assertion in the popular press and in academic articles (e.g., Shanahan & Barr, 1995) that children served in Reading Recovery do not maintain the gains they

made during the intervention in later grades. This study and others reported here should prove those concerns to be unfounded. Few interventions investigate subsequent performance as a characteristic of a solid program or are held accountable to such a standard; yet, as these results and others indicate, Reading Recovery meets the higher standard of continued progress years after the intervention.

In sum, it is not surprising that the majority of children who successfully completed Reading Recovery lessons in the first grade in Indiana, with the concomitant development of self-extending systems of literacy learning and strategic knowledge and regulation, continue to achieve at levels comparable to their peers. The foundation for continued successful learning experiences is put into place with Reading Recovery as the first-grade intervention. Follow-up studies such as this not only confirm the maintenance of literacy gains but also the continued literacy learning progress, demonstrating that Reading Recovery can serve as an insurance policy arranged by schools against the risk of having children with literacy difficulties in subsequent years.

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