

Making a Case for Prevention in Education

Billie J. Askew, Texas Woman's University

Elizabeth Kaye, Texas Woman's University

Dianne F. Frasier, Fort Bend ISD, Sugar Land, TX

Mohsen Mobasher, Texas Woman's University

Nancy Anderson, Texas Woman's University

Yvonne G. Rodríguez, Texas Woman's University

ABSTRACT

Typically, students who are experiencing difficulty learning to read in the classroom are referred for long-term assistance to remedial or special education services. We examined what happens when another layer of assistance is added to this typical delivery model, this one provided before referral to long-term special education services is even considered. This model of preventing reading difficulties is informed by the construct of prevention used in the medical field and recasts assistance as a three-tiered process: primary prevention in the form of classroom instruction offered to all students; a secondary prevention offered to those students for whom classroom instruction is not enough; and finally, tertiary prevention provided to students who have not made adequate progress even after primary and secondary prevention measures have been employed. We hypothesized that the inclusion of this secondary prevention measure would dramatically reduce the numbers of children in long-term remediation services.

Reading Recovery was used as a case example of a secondary prevention measure to test this hypothesis. Data were gathered on 116 Reading Recovery students and 129 random sample children in first grade and fourth grade in 45 schools. Findings are promising and support the investment of resources in a short-term secondary prevention option for young children having literacy difficulties at the outset of schooling.

In a poetic parable, Malins (1936) spoke of a community with a dangerous cliff over which many had fallen. Some called for a fence around the edge of the cliff to prevent the falls, while others argued for an ambulance in the valley to rescue the injured. In the poem, the cry for the ambulance carried the day even though a sensible few could hardly bear the nonsense.

Then an old sage remarked: "It's a marvel to me
That people give far more attention
To repairing results than to stopping the cause,
When they'd much better aim at prevention.
Let us stop at its source all this mischief," cried he,
"Come, neighbors and friends, let us rally;
If the cliff we will fence we might almost dispense
With the ambulance down in the valley." (p. 273)

The poem is analogous to the way that schools generally provide assistance to children with learning difficulties: usually providing help after the occurrence of a problem rather than at the first sign of trouble. As a result, by the time help arrives, the problem is often so serious that long-term support is needed, and there is little hope that the problem can ever truly be remedied.

In the early 1960s, for example, children who were not making progress with classroom instruction were either retained in grade level or referred to special services staff for evaluation and possible placement in special education. Now, 40 years later, there are few notable changes in these views toward problem learners. Remedial services through Title I and special education have become today's response to problem learners. Many primary children receive Title I remedial services throughout their elementary years. For others, Title I serves as a waiting area, providing interim services until the students' performance lags far enough behind their peers and they become eligible for special education services (Gaffney, 1998). Implicit in these decisions is the notion of waiting for failure to occur and then providing remediation. The possibility of prevention is overlooked. Ambulances are still being placed in the valley.

In fact, with a few notable exceptions such as Head Start, prevention has rarely been acknowledged as part of educational theory and practice. Perhaps the exploration of preventive moves in education has been slowed by some old ways of thinking, such as the belief that given enough time, children will mature into readers. Prevention has, however, long been a hallmark of the health and sciences field (Zins, Conye, & Ponti, 1988). In the section that follows, we will describe how a health sciences view of prevention can inform a framework for prevention in the field of education.

A CONCEPTUAL FRAMEWORK FOR DEFINING PREVENTION

Caplan (1961, 1964), credited with providing a conceptual model for later prevention work, identified three levels of prevention: primary, secondary, and tertiary. Pianta (1990) used Caplan's model as a framework for placing special education into a continuum of prevention.

Primary Prevention

An example of primary prevention in the health field is measles inoculation. Primary prevention is available to everyone even though they have not been identified as having a problem. The prevention is offered because there is widespread agreement that doing so will prevent problems from occurring (Pianta, 1990). In schools, the equivalent to an inoculation is classroom instruction. Classroom instruction provided to everyone serves as the first line of prevention against subsequent problems and reduces their rate of occurrence.

Holdaway (1978) identified the following preventive measures against reading difficulties that are present in classrooms:

- sensitive observation of reading behaviors (using Clay's Observation Tasks as a guide)
- timely intervention as problems arise (day to day, moment by moment, individual when needed)
- growing independence in the learner
- early use of multi-disciplinary teamwork when learners are having difficulty

Few would disagree that effective classroom programs are needed as primary prevention (Snow, Burns, & Griffin, 1998). Good first teaching, however, must be paired with safety nets for children who need something extra (Fountas & Pinnell, 1999) because even with excellent staff development and well-trained teachers, some children will still need a secondary intervention to prevent future problems (Leslie & Allen, 1999).

Secondary Prevention

Secondary prevention is directed to a select group of the population who have been identified as having a greater chance of developing problems in a specific area. In the health field, for example, it is well accepted that the elderly are more likely to suffer consequences of the flu, so they are targeted to receive flu shots. Secondary prevention is selective and involves early diagnosis and treatment of problems before they develop into potentially handicapping conditions (Keogh, Wilcoxon, & Bernheimer, 1986). While effective primary prevention should reduce the incidence of the disorder and prevalence rates, effective

secondary prevention should decrease the duration and severity of individual cases (Lorion, 1983).

Primary prevention, or classroom instruction, alone can not work for each individual child because it does not address the unique differences found among young learners. A secondary prevention allows early identification of potential problems, enabling the school system to intervene appropriately. Clay (1991) articulates this reasoning well:

If we can detect the process of learning to read 'going wrong' within a year of school entry then it would be folly to wait several years before providing children with extra help. An earlier offer of effective help to the child might reduce the magnitude of reading problems in later schooling. (p. 13)

Tertiary Prevention

Tertiary prevention becomes necessary after the occurrence of serious and enduring problems. The most common forms of tertiary prevention in public schools are special education, retention in grade level, and long-term remedial services such as Title I. At the tertiary level the focus shifts from preventing problems to remediating them in order to lessen the effect of the problem as much as possible.

Federal funds are often targeted at the tertiary level in the form of special education and remedial programs, but usually there are no mandates or funding from the government for primary and secondary prevention (Pianta, 1990). This means, in effect, that a disproportional amount of resources are directed at the tertiary level of prevention in the education system. By contrast, in the medical field it would be unusual to focus so much attention on tertiary prevention while ignoring the opportunities for primary and secondary prevention. Indeed, if the overriding goal of a prevention perspective is to reduce the need for extensive tertiary services by providing effective primary and secondary services (Keogh et al., 1986), it would seem that money spent on earlier prevention would be a more responsible expenditure of education funds.

The Authors' Hypothesis

While there can be no guaranteed inoculation against future failure, we hypothesize that effective secondary prevention efforts in education can reduce the need for more expensive, long-term tertiary measures that are needed after the occurrence of failure. We view secondary prevention as

the first action in a chain of interactions (or transactions) between the child (or family) and environment in which each causes the other to evolve along a new path. Children who experience early intervention

may follow more preferred paths in all the social systems in which they live—family, school, and economy. (Barnett & Escobar, 1987, p. 396)

We are referring to secondary prevention efforts that include early identification of the learning process going wrong, followed by timely, effective, short-term intervening actions. These efforts reside within school contexts and are influenced by many factors within the school, including the quality of primary prevention practices in classrooms.

MAKING A CASE FOR SECONDARY PREVENTION IN EDUCATION

One of the earliest and most comprehensive explorations of the impact of secondary preventive educational programs was the Ypsilanti Perry Preschool Project (Schweinhart & Weikart, 1980; Weikart et al., 1978), designed to help economically disadvantaged children at high academic risk cope with school and adult life in mainstream society. A report on the Perry Preschool Project children through age 15 showed greater school achievement up the grades, fewer years in special education services, and greater satisfaction and aspirations by parents about the participating children's schooling than for children in the nonparticipating control group. The Perry Preschool Project also encouraged consideration of the cost benefits of prevention by citing issues such as retention, special education, Title I, drop-out, future delinquency, projected lifetime earnings, incarceration, welfare assistance, use of social services, and increased possibility of participation in the labor force.

In the area of literacy, Juel's (1988) longitudinal study of children from Grade 1 to Grade 4 offers compelling support for the need for secondary prevention in schools. She found that the probability that a poor reader at the end of Grade 1 would remain a poor reader at the end of Grade 4 was very high (.88). If a child was at least an average reader in Grade 1, the probability that that child would become a poor reader in Grade 4 was only .12. Therefore, evidence is strong that poor first-grade readers almost invariably remain poor readers by the end of fourth grade. Conversely, average readers in Grade 1 are likely to be average in Grade 4.

Wasik and Slavin (1993) suggested that because remediation after the primary grades is largely ineffective, it may be easier to prevent learning problems than to remediate them in later grades:

Considering how much progress the average reader makes in reading between the first and last days of first grade, it is easy to see how students who fail to learn to read during first grade are far behind their peers and will have difficulty catching up. (p. 179)

Waiting creates gaps or deficits, with serious consequences for a child's school achievement, personality, and confidence. When a child has practiced

primitive skills and daily habituated the wrong responses, there will be blocks to learning (Clay, 1993a). Juel (1988) argues that it is hard to make up for years of lost experiences, citing the lack of success in comprehension studies with older readers.

Several researchers have argued for secondary prevention from a cost-benefit perspective (Barnett, 1985a, 1985b; Barnett & Escobar, 1987; Gaffney, 1994; Graden et al., 1985; Keogh et al., 1986; Schweinhart & Weikart, 1980; Weikart et al., 1978). Barnett and Escobar argued that intervening early with disadvantaged children can yield an economic return in reductions needed for special education services, reductions in crime and delinquency, increased employment and earnings, and decreased dependence on welfare. They also cited outcomes for which dollar values could not be estimated, such as increased educational attainment and decreased births to teenage mothers.

There is growing evidence that intervening early with secondary preventions does indeed provide promising results (for example, Clay, 1979). In a longitudinal study of children receiving tutoring in first grade (Vellutino et al., 1996; Vellutino, Scanlon, & Tanzman, 1998), 67.1% of poor readers who received daily one-to-one tutoring scored within the average or above average range on standardized tests of reading achievement after one semester of tutoring. Results also confirmed that early, labor-intensive secondary prevention can be reasonably effective in distinguishing between children who are classified as learning disabled and those who need not be so classified when provided adequate intervention.

Several other examples of early secondary prevention have shown some measure of success within the past decade (Hiebert, Colt, Catto, & Gury, 1992; Juel, 1996; Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1994; Slavin, Madden, Karweit, Livermon, & Dolan, 1990; Taylor, Frye, Short, & Shearer, 1992). These quite different interventions—including Success for All, Reading Recovery, a restructured Chapter 1 program, a small-group in-classroom program, and a tutoring program—all demonstrated that children with reading difficulties can benefit from early attention and intensive tutoring (Leslie & Allen, 1999).

Pianta (1990) identified three requirements for implementing prevention programs in schools: (a) identifying and defining the outcomes to be prevented, (b) developing programs for screening and monitoring risk, and (c) discussing the scope of services to be offered by schools. When investing in prevention programs, systems are taking out insurance to protect against future failure. The amount of the investment depends on how much protection the system needs and wants.

In summary, there is evidence of the benefits of prevention from a wide variety of studies. There is also evidence that waiting yields gaps that are difficult to close. In this paper we propose to examine the case for secondary

prevention using the example of Reading Recovery, a short-term literacy tutoring program designed for the lowest-achieving students who have fallen behind their peers after one year of classroom instruction.

EXPLORING SECONDARY PREVENTION: READING RECOVERY AS A CASE EXAMPLE

Any program that claims to be preventive must be able to demonstrate that the treatment has an effect on the problem (Morris, 1999). Therefore, in our examination of Reading Recovery as an example of secondary prevention, we questioned whether or not Reading Recovery prevented or substantially reduced literacy difficulties among the children served over time. We also questioned how the literacy performance of these children aligned with the average class performance in their school settings. In order to investigate these questions, we used a longitudinal research design. Before we describe the methodology we would like to review some challenges of conducting this type of research.

Acknowledging the Challenges of Longitudinal Research

Longitudinal intervention research can be classified into three categories: efficacy, effectiveness, and efficiency (Feinstein, 1977). Efficacy studies are used to determine if the intervention works under optimal conditions. While they are informative, they do not address the application in naturalistic settings without external controls. Effectiveness studies, however, assess whether the intervention works in the field and can be integrated into existing systems. Efficiency studies refer to analysis of costs and benefits of the intervention. The study reported here assessed effectiveness, examining whether the intervention worked in schools and if the effectiveness extended beyond the end of the intervention or treatment (Black & Holden, 1995).

Two concerns about the validity of longitudinal studies involve sample selection and attrition (Barnett & Escobar, 1987). Target populations need to be defined so that the population actually represented by the sample is clear. In this study, two target populations were selected: Reading Recovery students and non-Reading Recovery students. The Reading Recovery target population included first-grade children across the state who were tested for Reading Recovery at the beginning of the school year and subsequently met the requirements for successfully discontinuing from Reading Recovery services. The target population for the non-Reading Recovery random sample group (to represent average literacy performance) included all first graders not served by Reading Recovery in the schools selected for the study. Procedures used to select samples from each of the target populations are described later in the methodology section.

To offset problems of attrition in longitudinal studies, caution was taken to produce a sample for analysis that did not differ from the initial sample. Both the magnitude of the attrition and the pattern of the attrition were considered, as suggested by Menard (1991). In this study, analyses included only the subjects remaining three years later, at the end of Grade 4. The remaining sample was compared to the initial sample, and the pattern of attrition was insignificant.

The study presented here met the general definition of longitudinal research (Menard, 1991). First, data were collected for each subject at five distinct time periods. Second, subjects were comparable from one period to the next. And finally, analyses included comparison of data across periods.

This study was designed to describe patterns of change, not to establish causal relationships. Change was explored across two major dimensions: student performance data on a variety of measures and classroom teachers' self-reported perceptions of the children's literacy behaviors in their classrooms.

Inherent problems of longitudinal studies—sampling procedures, attrition of subjects, cohort differences, and testing effects (Nesselrode & Baltes, 1974)—are acknowledged. Because of these and other potential limitations, a field-trial study with a different cohort of subjects was conducted, beginning one year prior to the study reported here. Some changes were made in sampling procedures and data collection procedures based on field-trial data, yet findings in both studies were similar. We acknowledge that, ultimately, only findings that emerge strongly and repeatedly across multiple studies employing different methods can be trusted (Walberg & Reynolds, 1997).

Reading Recovery as an Example of Secondary Prevention

Children identified and selected for Reading Recovery service have already had one year of classroom instruction in kindergarten and, after exposure to that primary prevention, have emerged from the whole population as children who are beginning to experience reading and writing difficulties. These children receive Reading Recovery lessons from a specially trained teacher for an intensive 30 minutes daily for approximately 12 to 20 weeks. Each child's series of lessons is uniquely designed and individually delivered to suit that child's needs and progressions. The ultimate goal is to enable these young readers and writers to use strategies effectively and independently so that they can function successfully within an average literacy setting in their classrooms without the need of a tertiary or remedial program. In other words, the aim is a return to primary prevention—good classroom programs for all children.

Reading Recovery uses systematic and simultaneous replication studies to document program outcomes for all children served, adhering to duplication of methods, instruments, and time lines across many sites. Replication is impor-

tant because it allows scientists to verify research results (Frymier, Barber, Gansneder, & Robertson, 1989).

There is also evidence of subsequent gains in follow-up studies in New Zealand (Clay, 1993b), in the United States (Askew & Frasier, 1994; DeFord, Pinnell, Lyons, & Place, 1990; Jaggar & Simic, 1996), and in Australia (Rowe, 1995). The study presented here adds to the exploration of secondary prevention by examining subsequent gains of former Reading Recovery children.

Rationales for Design Decisions

Given the cautions expressed by authorities in the previous sections, it is important to provide rationales for decisions related to design and methodology of longitudinal studies. Relevant decisions are explained below.

Conducting Multiple Studies

A series of cross-sectional studies of former Reading Recovery children (Askew, Wickstrom, & Frasier, 1996) preceded the longitudinal study presented here. While these cross-sectional studies provide compelling information, longitudinal studies were needed to observe change over time by following intact groups of children (Goldstein, 1979).

Neither a cross-sectional study nor a single longitudinal study can eliminate questions about group membership. Problems can be remedied somewhat through designs in which the recruitment of multiple samples is separated in time (Black & Holden, 1995). Therefore, a field study with different samples began a year prior to the study presented here in order to test methods and to serve as a basis of comparison relative to outcomes.

Use of Average Band as a Comparative Measure of Average Progress

There are several ways to assess the stability of program outcomes. In these studies, Reading Recovery students' subsequent literacy progress was compared with progress of children defined as performing within an average band of achievement in the same schools.

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. In addition to aggregated data, the number or percentage of

individual children attaining successful academic performance is provided whenever appropriate.

Study of Discontinued Children

Reading Recovery is designed to serve the lowest-achieving students in the first-grade cohort in a school and leads to one of two positive outcomes: successful performance within an average literacy setting in the classroom or recommendation for additional assessment and possibly additional services. Children whose programs are discontinued have successfully completed the program as evidenced by scores on the tasks in *An Observation Survey of Early Literacy Achievement* (Clay, 1993a), having a system of strategic reading and writing behaviors in place, and attaining literacy performance that is within the class average. Service is discontinued as soon as it is determined that the child can engage with and profit from classroom instruction.

Students who have been discontinued from Reading Recovery should demonstrate average-band performance with their peers immediately following the intervention in Grade 1. Also, if Reading Recovery fits the definition of a secondary prevention, the reading difficulty should not develop into a handicapping condition over time. We attempted to determine if the students' average range of performance persisted in subsequent years. Limited data were also available on not-discontinued children who had the opportunity for a full Reading Recovery program but did not achieve average-band performance.

Rationales for Selection of Measures

Three measures were considered important to the stakeholders in this study: (a) performance on standardized measures that included assessment of comprehension (Hiebert, 1994; Shanahan & Barr, 1995), (b) performance on a high-stakes state assessment of literacy skills, and (c) classroom teachers' reported perceptions of children's literacy performance. Therefore, measures to explore elimination or reduction of literacy difficulties included the Gates-MacGinitie Reading Test (GMRT; MacGinitie & MacGinitie, 1989), reading and writing scores from a state-mandated assessment instrument, and a classroom teacher questionnaire. In addition, a test of oral text reading was used to provide information about oral reading behaviors and text reading levels.

Sources of Data and Time Lines

The GMRT was selected as the standardized reading measure because of ease of administration, conservation of time in administration and scoring, general acceptance and wide use in schools, the inclusion of a comprehension measure,

and the ability to compare scores across grade levels at equal intervals. Level R, Form K was used in first grade in order to get pre- and post-test scores. For the remaining levels, Form K for the appropriate grade level was administered.

The Texas Assessment of Academic Skills (TAAS) yielded reading and writing scores. This measure was selected because of the importance placed on results by the state, districts, schools, teachers, and community members. The TAAS is not considered a minimum skills test but a more robust measure of literacy performance.

The test of oral text reading comprised a graded series of passages leveled and tested at The Ohio State University. Running records were used to determine the highest level read by a child at 90% accuracy or higher (Clay, 1993b). Passages for Levels 14–16 were taken from end-of-first-grade materials, Levels 18–20 from second-grade texts, Levels 22–24 from third-grade texts, and Level 26 from a fourth-grade reader.

Questionnaires were developed to elicit classroom teachers' reported perceptions of literacy performance of all children in the study (see Appendix A). Questionnaires were also developed to gather information about the participating schools (see Appendix B).

Entry data (Observation Survey and GMRT) were collected for both the Reading Recovery group and non-Reading Recovery random sample group at the beginning of first grade. The GMRT, tests of oral reading, and classroom teacher questionnaires were administered during the last month of each school year. Data for the TAAS were collected at the end of Grades 3 and 4. Data were collected by classroom teachers, Reading Recovery teachers, and Reading Recovery teacher leaders. Reading Recovery teacher leaders submitted scores on the TAAS.

Procedures

Selection of Schools and Subjects

Two groups of children were identified for the study: a group of Reading Recovery children and a group of children representing average classroom performance. Both groups received primary prevention services (classroom instruction), but the Reading Recovery group also received secondary prevention services.

Subjects were selected in the fall of 1995 in order to collect entry data. Selection was based on a series of sampling procedures. Using a table of random numbers, 50 schools were randomly selected from more than 800 schools with Reading Recovery in one state. Participation was high, with 45 schools taking part in the first year. At the outset of the study, educators from each of the schools completed a form describing the school on a variety of fac-

tors (see Appendix B). Table 1 provides descriptive data about the 45 participating schools.

At the beginning of Grade 1, it was impossible to identify all of the children who would be served by Reading Recovery or how they would progress.

**Table 1. Description of Participating Schools at Beginning of Study
 (Shown as Percentage of Schools)**

Level of Reading Recovery Coverage		Ethnic Representation	
High	53%	Majority Anglo	33%
Moderate	20%	Majority African-American	2%
Low	27%	Majority Hispanic	27%
		No Majority	31%
		No Data	7%
Reading Recovery Teachers		Funding Sources for Reading Recovery	
All Trained	44%	Title I	64%
All In Training	13%	Local	11%
Some Trained or In Training	42%	State	11%
		Multiple	13%
Years of Reading Recovery in the School		Eligibility for Title I Funding	
1	20%	Yes	78%
2	31%	No	22%
3	16%		
4	7%		
5	9%		
6 or more	17%		
Other Roles of Reading Recovery Teachers		Description of Locale	
Title I/Groups	67%	Urban	20%
Classroom Teacher	31%	Suburban	40%
Reading Specialist	9%	Rural	7%
Special Education	7%	Small Town	33%
Part-Time	4%		
Other	7%		
(multiple models in some schools)		Considered High-Need School	
		Yes	71%
		No	29%

Note

All data are described at level of the school and represent responses from all 45 participating schools.

Therefore, we used the following categories to select a large sample of Reading Recovery children from the 45 participating schools:

- all children served by Reading Recovery at the beginning of the academic year (ranging from 4 to 12 students per school depending on the number of Reading Recovery teachers),
- up to eight children demonstrating need for service by Reading Recovery but not served at the beginning of the year because all slots were taken (to bring the total number of potential Reading Recovery children to 12 per school), and
- six children randomly selected, using a table of random numbers, from the remaining first-grade population.

From this large group of students identified at the beginning of first grade, two groups of students were selected for this study: 218 discontinued Reading Recovery students and 244 random sample students not served by Reading Recovery. Limited data were gathered on a small group of children who had full programs but did not meet discontinuing criteria.

At the end of fourth grade, data were available for 116 of the original 218 Reading Recovery students and 129 of the 244 random sample children. Although attrition rates were higher than expected, the pattern of attrition posed no problems. Differences between the initial sample and the remaining sample were minimal and did not favor either group.

The samples for the Reading Recovery group and random sample group represented similar ethnic diversity (see Table 2). There were more males in the Reading Recovery group (60%) than in the random sample group (52%).

Table 2. Race/Ethnicity for Random Sample and Discontinued Reading Recovery Students

	Reading Recovery	Random Sample
White	51%	52%
Hispanic	30%	26%
African-American	18%	15%
Other*	1%	7%

*includes Asian and Native American.

Results

There were significant differences ($p < .01$) between the first-grade entry scores of Reading Recovery children and random sample children. These differences validated the selection of an identified group needing secondary prevention.

Figure 1 shows the Gates stanine distribution for each group upon entry to first grade. The mean GMRT stanine for the random sample group was 4 compared with 2 for the discontinued Reading Recovery group. This finding documents group differences between the Reading Recovery students and the random sample that existed prior to the intervention.

Entry data on Observation Survey measures, as shown in Figure 2, also documented significant performance differences between the two groups at the outset of the study.

Table 3 shows achievement outcomes at the end of Grade 4 as measured by running records (Clay, 1993b), TAAS, and GMRT.

On running records, the test of oral text reading, both groups read above-level materials at 90% accuracy or higher at the end of Grade 4, showing change over time in oral reading of continuous text. The mean text reading level for Reading Recovery children was 32 compared to 33 for the random sample group.

Figure 1. Stanine Distribution on Gates-MacGinitie Total at Beginning of Study (Entry Data)

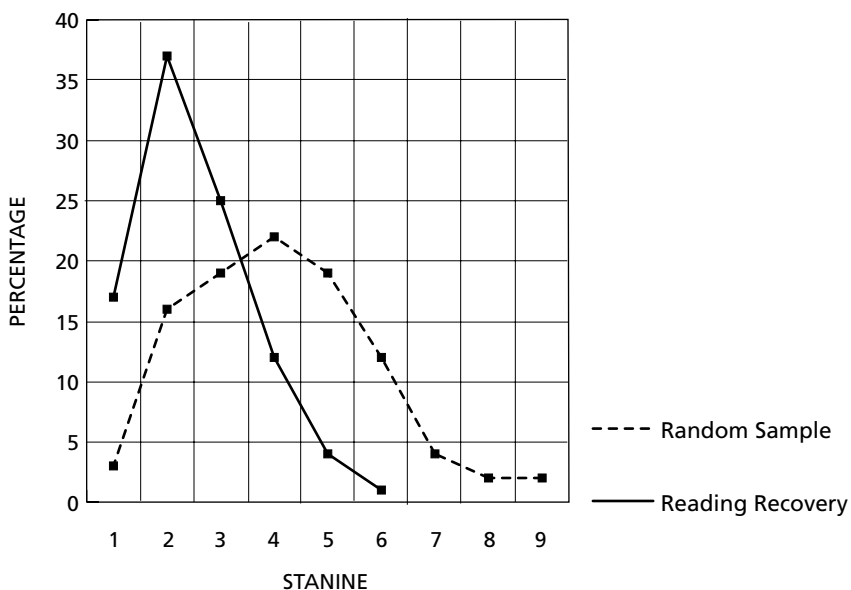


Figure 2. Entry Data From An Observation Survey of Early Literacy Achievement (Clay, 1993a)

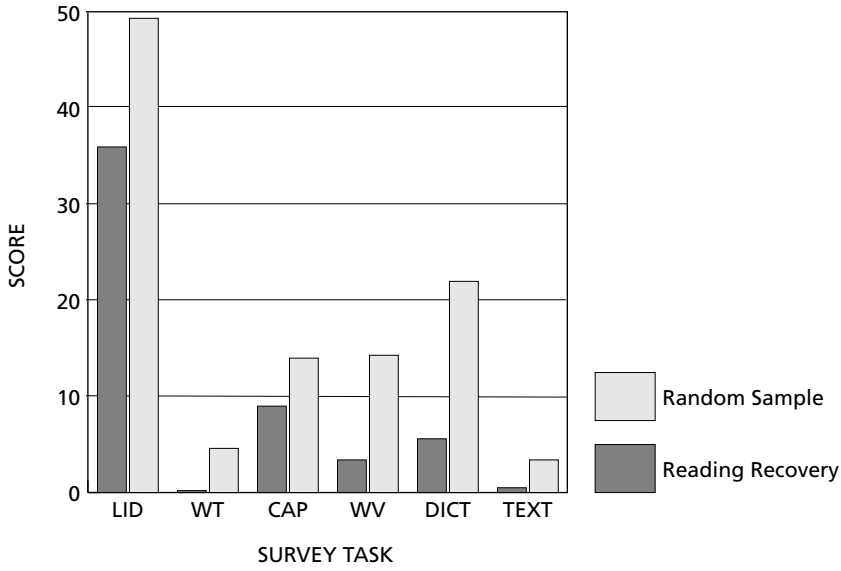


Table 3. Outcome Data at End of Grade 4

	Reading Recovery	Random Sample
Mean Oral Text Reading Level (Level 26 = Grade 4 materials)	32	33
Children Scoring 90% or Better on Text Level 26 or Above	95%	98%
Mean Vocabulary Stanine (Gates)	4	5
Mean Comprehension Stanine (Gates)	4	5
Mean Total Stanine (Gates)	4	5
Children Scoring Stanine 4 or Better on Gates Comprehension	63%	84%
Mean Reading Score on Texas Assessment of Academic Skills (TAAS)	80	86
Children Passing TAAS Reading Test	85%	90%
Mean Score on TAAS Writing Sample	2.3	2.7
Children Passing TAAS Writing Sample	90%	97%

Scores on the reading subtest of the TAAS also provided evidence of continuing gains of Reading Recovery children. At the end of fourth grade, the mean reading subtest score on the TAAS for Reading Recovery children was 80 compared with 86 for the random group. (A score of 70 is passing.) Eighty-five percent of the Reading Recovery children passed the reading test; 90% of the random group passed. On the writing sample, 90% of the Reading Recovery group and 97% of the random group had passing scores.

Further evidence of gains for Reading Recovery children was revealed by comparing entry stanine distributions to distributions in Grade 4. The distribution of scores moved to include more average and some high stanine scores as compared with low scores with little variation at the beginning of Grade 1.

One reason for selecting the GMRT was the ability to use extended scale scores (ESS) to examine gains across years of testing. ESS were developed to follow progress over a period of several years on a single, continuous scale. The ESS measures reading achievement in equal units. For example, a difference of 50 units represents the same difference all along the scale. Gains in ESS scores for the Reading Recovery and random sample groups across all four years of the study are shown in Table 4.

Gates vocabulary and comprehension scores were not available in first grade because the form used to compare fall and spring growth yielded only a total score (Level R, Form K). Therefore, total score gains, which included compre-

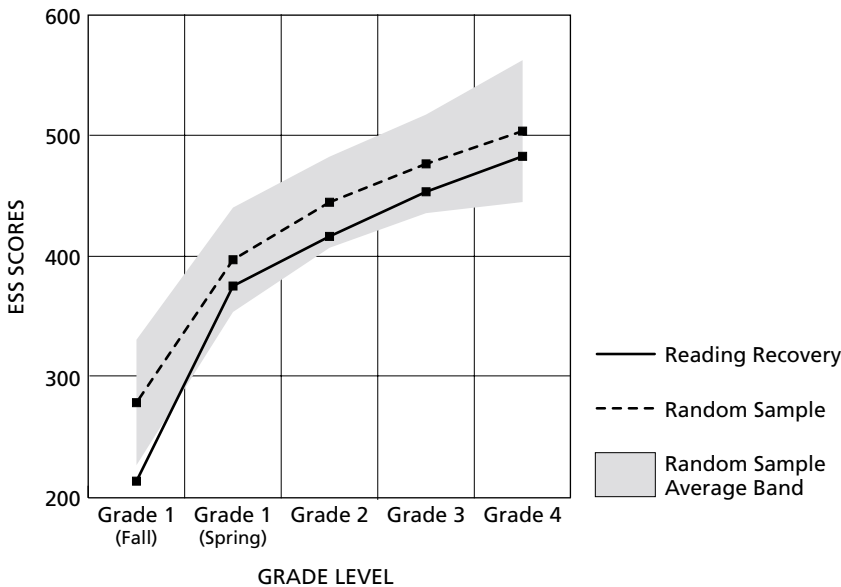
Table 4. Gains on Gates-MacGinitie Reading Test Across Four Time Intervals (Reported in Extended Scale Score Gains)

	Grade-Level Intervals				Total Gains
	Pre 1–Post 1	1–2	2–3	3–4	
Vocabulary					
Reading Recovery	na	na	33	23	na
Random Sample	na	na	29	24	na
Comprehension					
Reading Recovery	na	na	40	25	na
Random Sample	na	na	34	28	na
Total					
Reading Recovery	162	42	37	27	268
Random Sample	118	47	27	27	219

hension measures in Grades 2, 3, and 4, were used across the grades. Gains in Grade 1 for Reading Recovery children provided powerful evidence of accelerated progress. As shown in Table 4, Reading Recovery gains surpassed those of their classroom peers between Grades 2 and 3 and closely matched gains between Grades 3 and 4. This finding provided compelling evidence of continuing annual literacy gains for former Reading Recovery children—gains that closely matched those of their classmates.

ESS scores were used to create a path of progress for the random sample group to represent average performance and progress. An average band of one standard deviation above and below the mean accounted for variability in average classroom performance. In Figure 3, ESS total scores across the five testing administrations were plotted for both groups, and an average band of performance is shown. Reading Recovery children remained within the average band of classroom performance at each testing point after the intervention.

Figure 3. Gain in Extended Scale Scores (ESS) on Gates-MacGinitie Total Test



Classroom teachers completed questionnaires about each child in both groups each year. Their reported perceptions of the children, shown in Table 5, validate assessment data indicating that most of the Reading Recovery children were performing within expected ranges of their classrooms at the end of fourth grade. Few of these initially low-performing children were receiving literacy services outside the classroom.

Reading Recovery children who had a full program but did not discontinue were also studied on a limited basis. At the end of Grade 4, 36 of these children remained in the study. On the test of oral text reading, 17% successfully read materials at or above level at the end of Grade 2, 38% at the end of Grade 3, and 50% at the end of Grade 4—evidence of continued growth. Fourth-grade classroom teachers reported that 27% of these children had a strong average-to-high reading ability (3 to 5 on a 5-point Likert scale). Of the children remaining in this group, only one-third were receiving learning disabilities or Title I services for reading. Although data on these children were limited, findings are promising. More investigation of not-discontinued children is called for.

SUMMARY AND DISCUSSION

It was argued earlier that effective secondary prevention is the first action in a chain of interactions or transactions that lead children to follow more preferred literacy paths in their school settings. Using the case example of Reading Recovery, we argue that secondary prevention has a distinctive and promising role (a) in closing the literacy achievement gap at the outset of schooling, (b) in reducing the need for tertiary prevention and freeing up those services for those

Table 5. Reported Data From Classroom Teachers at End of Grade 4

	Reading Recovery	Random Sample
Placed in Materials At or Above Grade Level	84%	91%
Not Receiving Title I or LD Literacy Services	84%	98%
Classroom Teacher Ratings of Reading Ability as Strong Average to High (3–5 on a 5-point Likert scale)	74%	86%
Classroom Teacher Ratings of Positive Attitudes Toward Reading (3–5 on a 5-point scale)	76%	90%

who really need them, and (c) in creating a systemic plan for prevention in which all interactions are considered in preventing literacy failure. These arguments call for schools to consider policies and practices for preventing failure that include the full range of prevention—primary, secondary, and tertiary.

Preferred Paths

Evidence that secondary prevention leads to preferred paths of literacy achievement is shown in subsequent classroom performance. Findings in this study indicate that a secondary prevention program, in this case Reading Recovery, closes or narrows initial achievement gaps in classrooms. Children who are successful in secondary prevention programs are fully assimilated into primary prevention (classroom) programs once more. There is also evidence that a return to primary prevention programs, along with other interactions within the life and schooling of the children, fosters subsequent achievement. At the end of fourth grade, the majority of the discontinued Reading Recovery children had scores considered to be average or meeting passing criteria on standardized and criterion measures—a very satisfactory outcome in their school setting. They were generally perceived by their teachers as performing within average ranges of their classrooms, providing further evidence that the children followed preferred paths as an outcome of this secondary prevention opportunity.

Findings in the Reading Recovery case example match Juel's (1988) finding that children who are average readers in Grade 1 remain average readers in Grade 4. It is imperative, then, that all children have opportunities for secondary prevention in Grade 1 to realize average performance in later years. Findings also support Shanahan and Barr's (1995) proposition that when secondary prevention options bring children to average and they continue to progress at average rates, there are major implications for the timing of special support and the allocation of resources. Secondary prevention can reduce the incidence and the prevalence of a particular problem—in this case, literacy failure.

Many factors may affect a child's continuing performance on literacy tasks following an intervention, including subsequent instructional experiences (Frater & Staniland, 1994). Shanahan and Barr (1995) suggest that while an intervention may accelerate children's progress, instruction that is responsive to higher achievement is needed for the promise of the intervention to be realized. It is important, then, to institutionalize early secondary prevention as part of the overall system of delivering education, serving as a first step in a process of promoting literacy learning at all levels of schooling.

Relatively few of the Reading Recovery children were placed in tertiary or remedial settings. Approximately 85% of the children were not receiving learning disabilities or Title I reading support in fourth grade. These findings support the argument of Vellutino et al. (1996) that

to render a diagnosis of specific reading disability in the absence of early and labor-intensive remedial reading that has been tailored to the child's individual needs is, at best, a hazardous and dubious enterprise, given all the stereotypes attached to this diagnosis. (p. 632)

Findings also support Pianta's (1990) notion that prevention does not replace all remedial programs, but it lowers the stress on such programs and reserves them for children with more severe problems.

Change Over Time

Shanahan and Barr (1995) suggested that children's progress is usually accelerated during the period of support, but they questioned whether the rate of learning continues at an accelerated or average rate or whether it returns to slow progress as shown prior to the intervention. Studies have generally shown diminished levels of learning once support has been removed (Bronfenbrenner, 1974; Page & Grandon, 1981). Yet in the secondary prevention study reported here, a large number of former Reading Recovery children who reached an average range of classroom literacy performance in Grade 1 continued to demonstrate an average range of grade-level expectations in subsequent years.

In fact, findings in this case example indicate a general trend toward higher performance for Reading Recovery children across the grades. For example, state assessment data showed an increase across time in individual performance. The percentage of Reading Recovery children passing the reading subtest in Grade 3 was 72%, while 85% passed the test in Grade 4. Others (Rowe, 1995; Shanahan & Barr, 1995) have documented this trend, offering support for a successful return to good primary prevention: classrooms that continue to prevent problems that could lead to long-term remediation.

Studies point to a tentative hold on reading and writing progress in the year or two after the Reading Recovery experience, but an increasingly firm hold on progress similar to that of their class average by Grade 4. Based on her research, Clay (1993b) recommends that schools adopt a watch-dog role for former Reading Recovery children and monitor their progress sensitively, providing further help if needed. She suggests that "although Reading Recovery children may perform well in their classes they remain at-risk children for two or more years after completion of their program" (p. 96). This suggestion is consistent with the notion of a series of interactions and transactions that lead to sustaining preferred paths in literacy settings in schools.

A large Australian study by Rowe (1995) found that Reading Recovery, as an early action followed by a series of interactions within school programs, distributed Reading Recovery children across the same range as the remainder of the school population but with fewer low scores by Grades 5 and 6. The longi-

tudinal study presented here supports Rowe's findings of changed distributions over time.

All secondary prevention efforts should include examination of implications across time, not only of the intervening actions, but also of the subsequent interactions and opportunities. Therefore, only a system perspective of prevention as part of a chain of interactions enables educators to evaluate the parts of a prevention plan and the relationship of all parts to the conceptual whole.

Challenges

If secondary prevention is an early action in a chain of interactions between children and their school environment, issues of program implementation within the school are crucial. Outcomes of secondary prevention programs must be interpreted in light of factors such as age of the implementation within the school, capacity for serving all children needing the service, teacher training and expertise, administrative support, understandings and support from school faculty, classroom and other school programs that support continued progress, and a system for monitoring children's progress and solving problems related to implementation.

While the Reading Recovery case example reported here did not address all implementation challenges, some data were available for examination. For example, 51% of the schools were in their first or second year of Reading Recovery implementation, a tenuous time for examining outcomes. More than half the schools were reporting data on teachers in training, limiting analysis of the full potential of the program. Only about half the schools had adequate teacher resources to serve most of the children needing the support, again limiting examination of the full potential of the prevention effort. Therefore, data should be interpreted in light of such factors. Assessing the efficacy of secondary prevention options calls for the examination of implementation factors as well as post-program environments and their effect on long-term outcomes of programs (Wahlberg & Reynolds, 1997).

"What is possible when we change the design and delivery of traditional education for the children that teachers find hard to teach?" (Clay, 1993b, p. 97). This question guided the explorations that validated the impact of Reading Recovery on the literacy possibilities for young children who find learning to read and write difficult. This question can also guide explorations of subsequent achievement trends of children involved in secondary preventions in their schools and the factors that may influence those trends. While this study offers a promising contribution to that exploration, a challenge goes out for multiple studies employing a variety of methods to explore these trends.

The complexities of examining the long-term effectiveness of prevention efforts in schools are clear. Yet studies such as the case example presented here are adding to a growing body of literature that supports the principle of secondary prevention in schooling—prevention that reduces the duration of serious and enduring problems. These children were initially the lowest literacy performers in their classrooms. Yet because of the compelling findings from the study reported here, we can argue for resources to build strong fences in order to dramatically reduce the number of ambulances down in the valley.

Better guide well the young than reclaim them when old,
For the voice of true wisdom is calling.
“To rescue the fallen is good, but ‘tis best
To prevent other people from falling.”
Better close up the source of temptation and crime
Than deliver from dungeon or galley;
Better put a strong fence ‘round the top of the cliff
Than an ambulance down in the valley. (Malins, 1936, p. 274)

AUTHOR BIOGRAPHIES

Billie J. Askew is Professor Emerita in the Department of Reading at Texas Woman's University. She has worked in the field of literacy as a classroom teacher, reading specialist, administrator, and teacher educator. Professional interests include early literacy and the prevention of literacy difficulties. Her commitment to comprehensive literacy efforts in schools has been influenced by her work in Reading Recovery and in classroom literacy projects.

Elizabeth Kaye is an instructor in the Department of Reading and a trainer of Reading Recovery teacher leaders at Texas Woman's University. Prior to working at the university, her teaching experiences included working with students in the classroom, special education, and Reading Recovery. Her research interests focus on the early literacy learning of proficient readers and students experiencing difficulty.

Dianne F. Frasier is a Reading Recovery teacher leader in Fort Bend Independent School District, Sugar Land, Texas. She has worked as a trainer for Texas Woman's University in Denton, Texas and has served on several committees of the Reading Recovery Council of North America.

Mohsen Mobasher has a Ph.D. in cultural anthropology with specialization in migration and race-ethnic relations. Dr. Mobasher has been a research associate at Texas Woman's University since January 2000. He works closely with Reading Recovery trainers and the National Data Evaluation Center, using the annual data to answer questions that are important to understanding and strengthening Reading Recovery's operation.

Nancy Anderson is an assistant professor in the Department of Reading at Texas Woman's University. Experiences as a classroom teacher, language arts specialist, teacher educator, and Reading Recovery university trainer fuel her commitment to providing meaningful professional development opportunities for teachers. Her research and publications center on the coaching aspect of professional development and helping leaders learn to effectively support teacher learning.

Yvonne G. Rodríguez is an assistant professor at Texas Woman's University in the Department of Reading. Her teaching experiences encompass special education, bilingual education, and reading. With her bilingual background, Dr. Rodríguez has been instrumental in reconstructing Reading Recovery for the Spanish-speaking child, which is known as *Descubriendo la Lectura*. Dr. Rodríguez's research interests involve assessment of bilingual students, Spanish literacy acquisition, oral language, and working with the adult learner.

REFERENCES

- Askew, B. J., & Frasier, D. F. (1994). Sustained effects of Reading Recovery intervention on the cognitive behaviors of second grade children. *Literacy, Teaching and Learning: An International Journal of Early Literacy*, 1, 87–107.
- Askew, B. J., Wickstrom, C., & Frasier, D. F. (1996, April). *An exploration of literacy behaviors of children following an early intervention program*. Paper presented at the American Educational Research Association Conference, New York, NY.
- Barnett, W. S. (1985a). Benefit-cost analysis of the Perry Preschool Program and its long-term effects. *Educational Evaluation and Policy Analysis*, 7, 333–342.
- Barnett, W. S. (1985b). *The Perry Preschool Program and its long-term effects: A benefit cost analysis*. (High/Scope Early Childhood Policy Papers No. 2). Ypsilanti, MI: High/Scope Educational Research Foundation.
- Barnett, W. S., & Escobar, C. M. (1987). The economics of early educational intervention: A review. *Review of Educational Research*, 57(4), 387–414.
- Black, M. M., & Holden, E. W. (1995). Longitudinal intervention research in children's health and development. *Journal of Clinical Child Psychology*, 24, 163–172.
- Bronfenbrenner, U. (1974). Is early intervention effective? In M. Guttentag & S. Struening (Eds.), *Handbook of evaluation research Vol. 2*, (pp. 519–603). Beverly Hills, CA: Sage.
- Caplan, G. (Ed.). (1961). *Prevention of mental disorders in children*. New York: Basic Books.
- Caplan, G. (1964). *Principles of preventive psychiatry*. New York: Basic Books.
- Clay, M. M. (1979). *Reading: The patterning of complex behavior*. Auckland, New Zealand: Heinemann.
- Clay, M. M. (1982). *Observing young readers*. Portsmouth, NH: Heinemann.
- Clay, M. M. (1991). *Becoming literate: The construction of inner control*. Portsmouth, NH: Heinemann.
- Clay, M. M. (1993a). *An observation survey of early literacy achievement*. Portsmouth, NH: Heinemann.
- Clay, M. M. (1993b). *Reading Recovery: A guidebook for teachers in training*. Portsmouth, NH: Heinemann.
- DeFord, D. E., Pinnell, G. S., Lyons, C. A., & Place, A. W. (1990). *The Reading Recovery follow-up study, Vol. II 1987–89*. Columbus, OH: The Ohio State University.
- Feinstein, A. R. (1977). *Clinical biostatistics*. St. Louis, MO: Mosby.
- Fountas, I. C., & Pinnell, G. S. (1999). What does good first teaching mean? In J. S. Gaffney & B. J. Askew (Eds.), *Stirring the waters: The influence of Marie Clay* (pp. 165–185). Portsmouth, NH: Heinemann.

- Frater, G., & Staniland, A. (1994). Reading Recovery in New Zealand: A report from the Office of Her Majesty's Chief Inspector of Schools. *Literacy, Teaching and Learning: An International Journal of Early Literacy*, 1(1), 143–162.
- Frymier, J., Barber, L., Gansneder, B., & Robertson, N. (1989). Simultaneous replication: A technique for large-scale research. *Phi Delta Kappa*, 71, 228–231.
- Gaffney, J. S. (1994). Reading Recovery: Widening the scope of prevention for children at risk of reading failure. In K. D. Wood & B. Algozzine (Eds.), *Teaching reading to high-risk learners* (pp. 231–246). Boston, MA: Allyn and Bacon.
- Gaffney, J. S. (1998). The prevention of reading failure: Teaching reading and writing. In J. Osborn & F. Lehr (Eds.), *Literacy for all* (pp. 100–110). New York: Guilford Press.
- Goldstein, H. (1979). *The design and analysis of longitudinal studies*. New York: Academic Press.
- Graden, J. L., Casey, A., & Christenson, S. L. (1985). Implementing a preferral intervention system: Part I. The model. *Exceptional Children*, 51(5), 377–384.
- Hiebert, E. H. (1994). Reading Recovery in the United States: What difference does it make to an age cohort? *Educational Researcher*, 23, 15–25.
- Hiebert, E. H., Colt, J. M., Catto, S. L., and Gury, E. C. (1992). Reading and writing of first-grade students in a restructured Chapter 1 program. *American Educational Research Journal*, 29, 545–572.
- Holdaway, D. (1978). *The foundations of literacy*. Sydney, Australia: Ashton-Scholastic.
- Jaggar, A. M., & Simic, O. (1996). *A four-year follow-up study of Reading Recovery children in New York State: Preliminary report*. New York: New York University, School of Education.
- Juel, C. (1996). What makes literacy tutoring effective? *Reading Research Quarterly*, 31, 268–288.
- Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology*, 80(4), 437–447.
- Keogh, B. K., Wilcoxon, A. G., & Bernheimer, L. (1986). Prevention services for at-risk children: Evidence for policy and practice. In D. C. Farran & J. D. McKinney (Eds.), *Risk in intellectual and psychosocial development* (pp. 287–316). Orlando, FL: Academic Press.
- Leslie, L., & Allen, L. (1999). Factors that predict success in an early literacy intervention project. *Reading Research Quarterly*, 34(4), 404–424.
- Lorion, R. P. (1983). Evaluating preventive interventions: Guidelines for the

- serious social change agent. In R. D. Felner, L. A. Jason, J. N. Moritsugu, & S. Farber (Eds.), *Preventive psychology: Theory, research and practice* (pp. 251–268). New York: Pergamon Press.
- MacGinitie, W. H., & MacGinitie, R. K. (1989). *Gates-MacGinitie Reading Tests*. Chicago, IL: Riverside Publishing.
- Malins, J. (1936). A fence or an ambulance. In H. Felleman (Ed.), *The best loved poems of the American people* (pp. 273–274). Garden City, NY: Garden City Books.
- Menard, S. (1991). *Longitudinal research*. Newbury Park, CA: Sage.
- Morris, D. (1999). Preventing reading failure in the primary grades. In T. Shanahan & F. V. Rodriguez-Brown, (Eds.), *48th Yearbook of the National Reading Conference* (pp.17–38). Chicago, IL: National Reading Conference.
- Nesselroade, J. R., & Baltes, P. B. (1974). Sequential strategies and the role of cohort effects in behavioral development: Adolescent personality (1970–1972) as a sample case. In S. A. Mednick, M. Harway, & K. M. Finello (Eds.), *Handbook of longitudinal research* (pp. 55–87). New York: Praeger.
- Page, E. B., & Grandon, G. M. (1981). Massive intervention and child intelligence: The Milwaukee Project in critical perspective. *Journal of Special Education, 15*, 239–256.
- Pianta, R. C. (1990). Widening the debate on educational reform: Prevention as a viable alternative. *Exceptional Children, 56*(4), 306–313.
- Pinnell, G. S., Lyons, C. A., DeFord, D. E., Bryk, A. S., & Seltzer, M. (1994). Comparing instructional models for the literacy education of high-risk first graders. *Reading Research Quarterly, 29*, 8–39.
- Rowe, K. J. (1995). Factors affecting students' progress in reading: Key findings from a longitudinal study. *Literacy, Teaching and Learning: An International Journal of Early Literacy, 1*, 57–110.
- Schweinhart, L. J., & Weikart, D. P. (1980). *Young children grow up: The effects of the Perry Preschool Program on youths through age 15*. Ypsilanti, MI: High/Scope Educational Research Foundation.
- Shanahan, T., & Barr, R. (1995). Reading Recovery: An independent evaluation of the effects of an early instructional intervention for at-risk learners. *Reading Research Quarterly, 30*, 958–996.
- Slavin, R. E., Karweit, N. L., & Wasik, B. A. (1992). Preventing early school failure: What works? *Educational Leadership, 50*, 10–19.
- Slavin, R. E., Madden, N. A., Karweit, N. L., Livermon, B., & Dolan, L. (1990). Success for all: First-year outcomes of a comprehensive plan for reforming urban education. *American Educational Research Journal, 27*, 255–278.
- Snow, C. E., Burns, M. S., & Griffin, P. (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.

- Taylor, B. M., Frye, B., Short, R., & Shearer, B. (1992). Classroom teachers prevent reading failure among low-achieving first grade students. *The Reading Teacher, 45*, 592–598.
- Vellutino, F. R., Scanlon, D. M., Sipay, E. R., Small, S. G., Chen, R., Pratt, A., et al. (1996). Cognitive profiles of difficult-to-remediate and readily remediated poor readers: Early intervention as a vehicle for distinguishing between cognitive and experiential deficits as basic causes of specific reading disability. *Journal of Educational Psychology, 88*(4), 601–638.
- Vellutino, F. R., Scanlon, D. M., & Tanzman, M. S. (1998). The case for early intervention in diagnosing specific reading disability. *Journal of School Psychology, 30*(4), 367–397.
- Walberg, H. J., & Reynolds, A. J. (1997). Longitudinal evaluation of program effectiveness. In B. Spodek & O. N. Saracho (Eds.), *Issues in early childhood educational assessment and evaluation* (pp. 28–47). New York: Teachers College Press.
- Wasik, B. A., & Slavin, R. E. (1993). Preventing early reading failure with one-to-one tutoring: A review of five programs. *Reading Research Quarterly, 28*, 179–200.
- Weikart, D. P., Bond, J. T., & McNeil, J. T. (1978). *The Ypsilanti Perry Preschool Project: Preschool years and longitudinal results through fourth grade*. Ypsilanti, MI: High/Scope Educational Research Foundation.
- Zins, J. E., Conye, R. K., & Ponto, C. R. (1988). Primary prevention: Expanding the impact of psychological services in the schools. *School Psychology Review, 17*, 542–549.

APPENDIX A

Classroom Teacher Questionnaire

To the Classroom Teacher: We are interested in the reading and writing performance of children in your grade level. Would you please help by completing this questionnaire about the child named below and returning it to _____? All information will remain confidential and will be reported as aggregated data only. No names of children, teachers, schools, or districts will be used.

Child's Name or Number _____

Classroom Teacher _____

Grade Level _____ School District _____

1. Check the appropriate ethnic description:
 Anglo Hispanic Native American
 African-American Asian Other
2. Is this child male? female?
3. Is this child currently receiving any of the following services? Check all that apply.
 Title I Reading
 ESL
 If yes, for how much time each day? _____
 Speech
 If yes, for what services? _____
 LD Resource for Reading
 If yes, for how much time each day? _____
 LD Resource for Math
 If yes, for how much time each day? _____
 Content Mastery for Reading
 Other (Please describe and be specific) _____
4. Has this child been retained in previous years? _____
 If so, at what grade level? _____
 Will this child be retained this year? _____

5. How would you categorize this child's overall reading performance? Circle one.

Excellent Good Average Fair Poor

6. Please give specific reasons why this child's performance is categorized in this way.

7. What grade did this child receive in reading on the last report card? _____

8. Does this child work in on-level reading materials in your classroom? _____

9. Rate the attributes that best describe the child by circling the appropriate numbers.

	Weak	—————			Strong
Reading Ability	1	2	3	4	5
Writing Ability	1	2	3	4	5
Attitude Toward Reading	1	2	3	4	5
Attitude Toward Writing	1	2	3	4	5
Chooses to Read When Time Allows	1	2	3	4	5
Selects Books on His/Her Own	1	2	3	4	5
Independent in Class Work	1	2	3	4	5
Tries Hard	1	2	3	4	5
Completes Work	1	2	3	4	5
Attends Well in Class Work	1	2	3	4	5
Responds in Group Discussions	1	2	3	4	5

10. Other Comments:

The return of this completed questionnaire constitutes your informed consent to participate in this study of young readers and writers. We appreciate your help!

APPENDIX B

School Information Questionnaire

Note: All school data will be reported as aggregated data. Names of schools and districts will not appear in any reports generated from this study. Page 1 is to be completed during the first year of the study (Grade 1) and page 2 during the final year of the study (Grade 4).

Name of School _____

Name of District _____

Name of Person Completing Form _____

Please answer the following questions to the best of your ability. Make good estimates if data are not available.

How many first graders (in regular English classrooms) were in the school during the 1995–1996 school year? _____

How many Reading Recovery teachers were in the school during the 1995–1996 school year? _____

Were the teachers trained or in training during the 1995–1996 school year? _____

How many years had the school been involved in Reading Recovery in the 1995–1996 school year? _____

How was Reading Recovery funded in the school during the 1995–1996 school year? _____

What implementation model(s) were used in the school during the 1995–1996 school year? (shared first grade, shared kindergarten, Title I teacher, etc.)

What was the ethnic representation in the school during the 1995–1996 school year? (give approximate percentages for each of the following)

Anglo ____ Asian ____ Hispanic ____

African-American ____ Other ____

Did the school qualify for Title I funding during the 1995–1996 school year?

The following questions refer to the context of the school following the 1998–1999 school year.

Describe in general terms the general classroom reading/writing program(s) in the school in Grades 2, 3, and 4. Be as comprehensive as possible.

Have there been any general or specific classroom literacy initiatives within the school since the 1995–1996 school year?

Is the overall performance of children in classrooms in Grade 4 in the school, as measured by standardized measures and state assessment measures, considered high, high average, average, low average, or low?

Is the school considered a high-need school within the district? _____

Does the school have Reading Recovery teams? _____

Is the school considered urban, suburban, rural, or small town? _____