

**REPORT OF THE
DEPARTMENT OF EDUCATION**

**Reading Recovery Program
as a Statewide
Prevention Effort**

**TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA**



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COMMONWEALTH of VIRGINIA

DEPARTMENT OF EDUCATION

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November 30, 1993

The Honorable L. Douglas Wilder
Governor of Virginia, and
Members, General Assembly of Virginia
Third Floor, State Capitol
Richmond, Virginia 23219

Dear Governor Wilder and Members of the General Assembly:

The report transmitted herewith is pursuant to House Joint Resolution 470 of the 1993 General Assembly of Virginia. This resolution requested the Department of Education to study the feasibility and appropriateness of implementing a Reading Recovery Program as a statewide prevention effort to reduce illiteracy in the Commonwealth.

Respectfully submitted,

A handwritten signature in cursive script that reads "Joseph A. Spagnolo, Jr.".

Joseph A. Spagnolo, Jr.
Superintendent of Public Instruction

PREFACE

House Joint Resolution (HJR) 470, approved by the 1993 General Assembly, directed the State Department of Education to determine the feasibility and appropriateness of implementing the Reading Recovery Program as a statewide prevention effort to reduce illiteracy in the Commonwealth.

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TABLE OF CONTENTS

Preface	i
Executive Summary	1
Introduction	5
Chapter 1. Reading Recovery: A Synopsis	7
Definition	7
Description	7
Implementation Requirements	8
Continuing Professional Development	8
Role of the University/College	9
Reading Recovery and the National Diffusion Network	9
Status in North America	9
Chapter 2. Reading Recovery in Virginia	10
Current Status	10
1993 Site Report	10
University/College Involvement	11
Reading Recovery and Chapter 1	11
Chapter 3. Literature Review	12
Context and Scope of Reading Recovery Research	12
Research on General Effectiveness of Reading Recovery	13
Cost Effectiveness Studies	14
Comparison with Other Intervention Programs	14
Reading Recovery and Learning Disabilities	15
Reading Recovery and Home Literacy Efforts	15
Reading Recovery and School Restructuring	16
Reviews of Research	16
Problems/Issues	17
Summary	17
In Conclusion	18
Chapter 4. Implementation Costs	19
Reading Recovery Teachers.	19
Reading Recovery Teacher Leaders	19
Facilities	20
Estimated Cost to Implement the Reading Recovery Program for the Average Size School Division	20
Estimated Cost to Implement the Reading Recovery Program Statewide	20
Chapter 5. Discussion and Recommendations	23

Appendices

- Appendix A. House Joint Resolution 470**
- Appendix B. Flow Diagram**
- Appendix C. Reading Recovery Sites and Map**
- Appendix D. Bibliography**
- Appendix E. Reading Recovery Teacher Costs**
- Appendix F. Reading Recovery Teacher Leader Cost**

EXECUTIVE SUMMARY

The purpose of House Joint Resolution 470 (Appendix A), directed by the 1993 General Assembly, was to determine the feasibility and appropriateness of implementing the Reading Recovery Program as a statewide prevention effort to reduce illiteracy in the Commonwealth. To address this issue, HJR 470 authorized a study to be conducted by the State Department of Education. The Reading Recovery program provides first-grade students daily, intensive, individualized instruction. Teachers trained in the Reading Recovery methods promote the development of students as independent learners.

The Department of Education formed an interdisciplinary team of department staff and outside stakeholders to conduct the study required by the resolution. Information was obtained from the North American Council on Reading Recovery, Virginia educators at the elementary and higher education level, and policy and budget analysts and other staff in the department. Data collection methods included conducting an extensive review of recent studies assessing the effectiveness of the Reading Recovery Program and an analysis of the effectiveness of the program based on the conclusions of the review.

Implementation of the Reading Recovery program involves training for educators at three levels. Candidates for each level of training must meet the minimum education and service requirements. Teacher instruction prepares teachers to work with children in their schools. Teacher leader instruction prepares educators to work with children, train teachers, and operate a Reading Recovery training site. Trainers of teacher leaders prepares university and college faculty to work with children and operate a regional training center for the instruction of teacher leaders. Training for teacher leaders and trainers of teacher leaders is provided at out-of-state universities and requires one year residency. While there is no regional training center at a Virginia institution of higher education to train teacher leaders, there is one training center in two neighboring states-- North Carolina and West Virginia. This year three teachers are being trained as teacher leaders. Since the numbers being trained each year are small, the establishment of a training center is not warranted at this time.

The team examined the potential fiscal impact on implementing the Reading Recovery program in the state based on program mandates. Costs were projected for (1) employing personnel associated with the program, (2) providing facilities; (3) implementing the program in an average size school division; and (4) implementing the program on a statewide basis. Based on the information on the status of reading recovery nationally and statewide, the review and analysis of the research, and the fiscal impact, the team formulated its recommendations.

Research data reveals that the success of Reading Recovery ranges from inconclusive to extremely positive with regard to its success as a preventive program addressing reading problems in first-graders. Its long-term effects are just now being realized since the program has only been operating in the United States since 1985 and in Virginia since 1986.

Proponents credit a major success of the program to the fact that there are rigorous requirements for training and implementation. The estimated cost to implement the Reading Recovery program in an average-size school division in Virginia is \$55,800 for the first year. This figure is based on staff training for 14 teachers and one teacher leader. If in the second year the trained teachers provided services to 115 students, the total cost would be \$351,200 or \$3,054 per pupil. In the third year and subsequent years, implementing the program would remain constant at approximately \$309,175 or \$2,688 per pupil.

The Reading Recovery program targets the bottom 20 percent of all enrolled first graders. In 1992-93, there were 2,700 first-grade students who participated in a Reading Recovery program in Virginia. This number represents only 16 percent of those students who would be targeted for the program statewide.

Chapter 1 funds offer the primary avenue for funding the program in the state; however, the Chapter 1 legislation is being reauthorized, and it is anticipated that a restructuring of funding may affect the state. This may have an influence on the continuation of Reading Recovery programs in some localities.

Currently, 34 of 135 school divisions in the state have Reading Recovery programs operating in their localities. Informal investigations by the project team have revealed that some school divisions are interested in implementing the Reading Recovery program, however, the initial first-year costs for teacher training and materials (\$55,800 for an average-size school division) has impeded program growth. In addition, lack of access to training teacher leaders in the state has been a barrier to implementation.

Recommendations

1. The Department of Education should continue to study the the Reading Recovery program and determine ways the program could be expanded. In its effort the department should:
 - develop strategies to encourage school divisions to consider implementation of the Reading Recovery program as one of the effective diagnostic and prescriptive intervention programs for first-grade children who are

the least able readers. (e.g. develop a brochure, organize an annotated bibliography, etc.).

- conduct a survey to determine the commitment of school divisions and institutions of higher education to implementation.
2. State funds should be made available in the amount of \$200,000 for the first year of the biennium and \$300,000 for the second year to assist local school divisions with the costs for teacher training. This would allow a combination of 75-100 teacher leaders and teachers to be trained. It is estimated that the cost for training a teacher leader is \$11,200 and the training cost for a teacher is \$800. In addition, the start-up cost for materials and supplies for a new Reading Recovery teacher is \$1,650. The salaries and other operating costs for the program, however, would continue to be funded from local and federal sources. The monies would be offered competitively. Eligibility criteria should be used when funding these school divisions. Priority should be given to:
 - School divisions where there is no Reading Recovery program;
 - Current programs funded who may realize significant losses in Chapter 1 funding under the reauthorization bill; and
 - Existing programs that want to expand to target children not eligible for Chapter 1 services.
 3. As more Reading Recovery programs are implemented statewide and more teacher leaders are needed, consideration for the establishment of a regional training center at an institution of higher education to train teacher leaders is advised.
 4. The seven colleges and universities currently offering graduate level credit for Reading Recovery teacher training should be encouraged to continue their involvement. They are the University of Richmond, George Mason University, Virginia Commonwealth University, Virginia Tech, The College of William and Mary, Longwood College, and Lynchburg College. As additional school divisions in the various regions of the state begin programs, other institutions of higher education should be involved.

The Reading Recovery program is one of the most effective diagnostic and prescriptive intervention programs for first-grade children who are the least able readers. Implementing this program as a statewide prevention effort requires a financial

commitment. However, Reading Recovery intervention in a child's early education is an investment when compared to remedial efforts in later years.

INTRODUCTION

This document is in response to House Joint Resolution (HJR) 470 directed by the 1993 General Assembly requesting the Department of Education to study the feasibility and appropriateness of implementing a Reading Recovery Program as a statewide prevention effort to reduce illiteracy in the Commonwealth. Reading Recovery programs provide young students daily, intensive, individualized instruction from trained teachers, which proponents believe promote the development of these students as independent learners.

In response to HJR 470, a Department of Education project study team was established. The team was composed of members of the department and outside stakeholders. The team had one primary objective:

- ♦ To conduct a study of the feasibility and appropriateness of implementing a Reading Recovery Program as a statewide prevention effort.

The team employed the following strategies to meet the objective:

1. Described the Reading Recovery program, including the definition, description, implementation requirements, professional development activities, role of institutions of higher education, and national status.
2. Gathered information on the current status of Reading Recovery in Virginia.
3. Conducted an extensive review of recent studies assessing the effectiveness of the Reading Recovery Program, including analysis of the effectiveness of Reading Recovery based on the conclusions of that review;
4. Examined the potential fiscal impact of implementing the Reading Recovery program in Virginia. These projected costs included the following:
 - a. the estimated costs for Reading Recovery teachers, teacher leaders, and facilities.
 - b. the estimated costs to implement the Reading Recovery program in an average size school division.
 - c. the estimated cost to implement the Reading Recovery program on a statewide basis.

5. Synthesized information and formulated recommendations.

The team's report is organized into five chapters. Chapter one describes the Reading Recovery Program. Chapter two describes Reading Recovery in Virginia. Chapter three relates the literature review and summary of findings. Chapter four describes the cost factors related to implementation of Reading Recovery as a statewide effort. Chapter five is the concluding chapter and discusses the recommendations.

CHAPTER 1. READING RECOVERY: A SYNOPSIS

Definition

Reading Recovery is an early intervention program designed to help the lowest achieving, least able readers in the first-grade to develop effective strategies for reading and become independent readers. The goal is to bring the children to the average of their class where special assistance may no longer be necessary.

Description

Reading Recovery is a diagnostic and prescriptive intervention program which supplements the regular reading program in the classroom. The specially trained teacher and child work together daily for one half hour for approximately 16 weeks (depending on the need of the student). During that time, the child is involved in reading and writing experiences which include the following:

- **Familiar rereading.** The child rereads several books that he or she has previously read.
- **Running record analysis.** The child reads the former day's new book while the teacher records reading behaviors using a coding system called a running record.
- **Working with letters.** Letter activities include using plastic magnetic letters to construct words or analyze spelling.
- **Writing a message.** With the teacher's help, the child first composes and then writes a message, usually one or two sentences. This offers the teacher various opportunities to help the child construct words by analyzing sounds and representing them with letters.
- **Putting together a cut-up sentence.** After the message is written, the teacher writes it on a small sentence strip and then cuts it apart. The child reassembles the message, which requires searching for visual information and then checking by rereading.
- **Reading a new book.** The teacher selects and then introduces a new book. The focus is on meaning, although the child may be asked to locate one or two key words after first predicting the initial letter. Then, the child reads the story with some help.

The elements of the lesson are the same for each child, although the content differs according to specific student needs. Through this instruction, a self-improving system is developed by the child which should lead to continued growth after the lessons are completed. Daily records of the child's progress are kept at the site. Data is also collected, analyzed, and published at one of the two national centers for Reading Recovery.

Implementation Requirements

Implementation of Reading Recovery involves training for educators at three levels. Candidates for each level of training must meet the minimum education and service requirements.

- Teacher instruction, provided by Reading Recovery teacher leaders at approved training sites, prepares experienced teachers to work with children in their schools. Training to become a Reading Recovery teacher includes attending a weekly 2-1/2 hour class after school hours for one year. A key component is demonstration lessons behind a one-way glass by teachers in training with peer discussion and critique.
- Teacher leader instruction, provided by trainers of teacher leaders at regional training centers (colleges/universities), prepares educators to work with children, train teachers, and operate a Reading Recovery training site. Preparation to become a teacher leader takes one year. A Master's Degree and five years of successful teaching are required.
- Instruction for trainers of teacher leaders, provided by two sites located at The Ohio State University and the University of Illinois, prepares university and college faculty to work with children and operate a regional training center for the instruction of teacher leaders. Trainers of teacher leaders must hold a Doctoral degree and have experience in teaching children and teacher education.

A flow diagram depicting the Reading Recovery organizational structure is found in Appendix B.

Continuing Professional Development

Teacher activities for continuing professional development, after the training year, are directed by the guidelines of the North American Reading Recovery Council. Teachers attend 4-6 continuing contact sessions where they teach a child behind the glass and colleagues give them feedback. Teachers can expect to receive a minimum of one visit from the teacher leader. Teachers

also make and receive at least one colleague visit annually, and should attend a Reading Recovery conference, if possible.

Teacher leader activities for continuing professional development are also directed by the guidelines of the North American Reading Recovery Council. Teacher leaders are expected to attend and participate in ongoing professional development meetings, including an annual Reading Recovery conference and a teacher leader institute. In addition, teacher leaders are expected to conduct and receive a colleague visit with other trained teacher leaders. In their first year, teacher leaders receive a minimum of two site visits from their teacher leader trainer. Visits in subsequent years are by need or request. Teacher leaders are encouraged to participate in opportunities for interaction with other Reading Recovery teacher leader trainers, teacher leaders, and teachers, including international personnel.

Role of the University/College

Colleges and or/universities establish graduate credit for courses taught by the teacher leader for teacher training. Some universities/colleges also serve as regional training centers for training teacher leaders. Sites are established after the need in the state and/or region of the state are determined based on the number of operating sites.

Reading Recovery and the National Diffusion Network

Reading Recovery is one of more than 200 active projects in the National Diffusion Network (NDN). In operation since 1972, the NDN is an organization designed to improve educational opportunities and achievement by promoting the transfer of successful, exemplary programs from their development sites to other educational institutions. Entry into the NDN is rigorous, and programs are only accepted after they submit evidence of effectiveness in meeting program objectives and evidence that the program will meet educational needs of other in similar settings.

Status in North America

The Reading Recovery program currently operates in 38 states in the U. S. and the District of Columbia, as well as in four Canadian provinces. Since its introduction in the United States, the growth has continued. In 1992-93, there were 5,450 Reading Recovery teachers in 3,800 North American schools.

CHAPTER 2. READING RECOVERY IN VIRGINIA

Current Status

The first Reading Recovery teacher training site was established in Virginia in Fairfax County in 1986. Since that time the program has expanded and can be found in 34 school divisions in the state. The following table reveals the current status of the program:

	1992-93	1993-94	1994-95 (estimated)
Teacher Training Sites	8	9	11
Teacher Leaders	10	11	14
Teachers Trained	194	326	494
Divisions Providing Services to Children	29	34	35
Children Served	2700	4564**	6916**

Currently, two school divisions in the state have teachers enrolled in the Teacher Leader training program. In September 1994, three new teacher leaders will return to their school divisions and establish sites that will train teachers and serve children. At that time, one school division will be added to the official list of divisions providing services to children. The other school division will be added to the list of teacher training sites, but not to the list of divisions providing services since that school division is currently counted. Appendix C lists the Reading Recovery sites in the state. A map is also enclosed with Appendix C providing a visual presentation of the sites.

Figures asterisked in the above table were developed assuming that each Teacher Leader will train approximately 12 new teachers a year and that each teacher will work with 8 students annually using the Reading Recovery model. Both assumptions are based on current practices and past experience in Virginia.

1993 Site Report

Each year, all recognized Reading Recovery sites in the nation return a site report to Ohio State University. The 1993 reports from Virginia revealed that approximately 80 percent of Reading Recovery program students were reading at least as well as the average of their first-grade class. The site reports also revealed that children who were successfully released from Reading Recovery early in the school year continued to make good progress in the classroom, maintaining their average reading achievement without special assistance.

University/College Involvement

There are currently seven colleges and universities that offer graduate level credit for Reading Recovery teacher training. They are the University of Richmond, George Mason University, Virginia Commonwealth University, Virginia Tech, The College of William and Mary, Longwood College, and Lynchburg College.

Reading Recovery and Chapter 1

Reading Recovery programs in Virginia are supported primarily with Chapter 1 federal funds. Chapter 1 funds are used for programs designed to provide supplemental services in the local school divisions to meet the needs of educationally deprived children who are properly identified and selected for participation in the program. Regulations prohibit the use of Chapter 1 funds as general aid to benefit an entire school division. Those school divisions implementing Reading Recovery with Chapter 1 funds can only provide services for those first-grade students identified as eligible for Chapter 1 services.

CHAPTER 3. LITERATURE REVIEW

Context and Scope of Reading Recovery Research

Attempts by educators to address reading difficulties among students can be characterized as either remedial or preventive. Both kinds of interventions can be further classified by such variables as the size and grade level of the cohort being instructed, the characteristics of the instructor, the duration of the intervention, the instructional strategies and the nature of assessment.

Within this context, Reading Recovery is a preventive model based on one-to-one tutoring of a certain percentage of first-graders exhibiting difficulty with reading. Specially trained teachers typically teach half-hour sessions over a period of 16 weeks. Lessons are based on a framework of strategies and techniques designed to help children develop fluency and use strategies that are characteristic of successful readers. Six prescribed measures are used for diagnosis and assessment.

Reading Recovery has its origins in the mid-1970s in New Zealand and is based on the work of Marie M. Clay, an educator and clinical psychologist. Since that time, it has demonstrated a remarkable rate of adoption as a program for improving literacy among very young children. By 1979 Reading Recovery was implemented and funded on a national basis in New Zealand. In 1984, it migrated to the United States via Ohio State University where its major proponents and researchers in this country are still located. In addition to New Zealand and the United States, there is evidence in the literature that Reading Recovery is being implemented in other countries as well, including Australia, Canada and Great Britain.

A search of the ERIC database through August 15, 1993, produced a list of about 90 journal articles and other documents. About half of these articles were reports of research or evaluative studies. Of these forty or so, about half can be characterized as research about the general effectiveness of Reading Recovery programs, the majority being program evaluations at the school system level. A bibliography of articles and other documents reviewed can be found in Appendix D.

As might be expected from consideration of the context of Reading Recovery within early literacy prevention programs, the remaining half of the research reports (about 20) address the intersection of Reading Recovery with other educational issues. For the purposes of this chapter of the report, the research has been categorized under the headings Research on the General Effectiveness, Cost Effectiveness, Comparison with Other Reading Intervention Programs, Learning Disabilities, Home Literacy, School Restructuring, and Reviews of the Research. There is also

a short section entitled Problems/Issues, followed by a Summary and Conclusion.

Research on General Effectiveness of Reading Recovery

The ERIC database contains hundreds of pages of annual evaluations of Reading Recovery submitted by the Columbus (Ohio) Public Schools (Lore & Chamberlain, 1987, 1988, 1989, 1990; Pollock, 1989, 1990, 1991, 1992a, 1992b). Gleaning clear-cut conclusions from these reports about the effectiveness of Reading Recovery is not an easy task. Results vary from year to year, with anywhere between 65% and 86% of the children in the Reading Recovery Program having been "discontinued," that is, having achieved an average level of reading skill for their grade.

The most concise summary of the data contained in these reports through 1989 was found in Reading Recovery 1984-1989, a Technical Report published by the Ohio State University College of Education (1989). This report concluded, "The great majority of children who receive a full program in Reading Recovery make accelerated progress and perform within the average range for their classes. Children retain their gains and continue to make progress at least 3 years after the intervention."

Pinnell (1988, 1989) also reported on the longitudinal data from Columbus, ". . . 73 percent of [children in the program were] successfully released to regular instruction at the average level of their first-grade classmates. The two follow-up studies show that the initial gains of a high percentage of these children were sustained through the second grade and on through the third grade without any further intervention." Pinnell (1988) and Pinnell, DeFord and Lyons (1988) reported even higher rates of discontinuance for other Ohio sites.

Reading Recovery program evaluations are also available through ERIC for the Portland (Oregon) Public Schools and the Saginaw (Michigan) City Schools. In Portland, Dunkeld (1990) reported on a pilot project with inconclusive results. The Department of Research and Evaluation, Portland Public Schools, (Leitner, 1990) reported, "When compared to all students who received Reading Recovery services regardless of the number of lessons, 43% (39 of the 91 students) were successfully discontinued. When compared to the treatment group or program students (those students who were successfully discontinued or who received more than 60 lessons) 70% (39 of 56 students) students were successfully discontinued."

In Saginaw, Michigan, evaluations of the Reading Recovery Pilot Program (Compensatory Education Product Evaluation, 1992; Reading Recovery Program, 1991-92, 1992) indicated that 35 of the 55 children in the program were successfully discontinued. As in Columbus, test scores from the Reading Recovery Diagnostic Survey

and from the California Achievement Tests were used to compare normal first-graders with those who were discontinued from the Reading Recovery programs.

Cost Effectiveness Studies

Although the relative high cost of instituting a Reading Recovery program was mentioned in many of the articles, this review uncovered only two true cost analysis studies. Dyer (1992) argued that a certain percentage of annual costs for grade retention, Chapter 1 and Special Education could be avoided by implementing a Reading Recovery program. He then projected these savings over time and concluded that "from a long-term perspective, Reading Recovery offers an educationally sound and cost-effective alternative to more commonly used approaches."

Lyons and Beaver (in press) addressed the cost issue in one Ohio school system. Her analysis showed that when measured against the cost of retention or special education interventions, the cost per pupil for Reading Recovery compares favorably.

Related to cost-effectiveness is the issue of funding sources. In Ohio, where Reading Recovery has been implemented on a statewide basis, Yukish (1988) listed funding alternatives sanctioned by the Ohio Department of Education: Chapter 1, Chapter II, Disadvantaged Pupil Program Fund, Teacher Development Fund and general funds.

Comparison of Reading Recovery with Other Intervention Programs

Gaustad (1992) reviewed evidence supporting the effectiveness of tutoring as a means of preventing academic failure among at-risk students. She included a section in her review on two first-grade reading programs using certified teachers--Reading Recovery and Success for All. She also described programs using paraprofessionals, adult volunteers or students as tutors as well as peer and cross-age tutoring programs. While her report did not include original research, it was a thorough overview with a useful bibliography of the current use of tutoring as a prevention model.

Another useful review of five one-to-one tutoring programs used to prevent reading failure was prepared by Wasik and Slavin (1993). Particularly helpful were the tables comparing the characteristics of the five preventive tutoring programs: Reading Recovery, Success for All, Prevention of Learning Disabilities, Wallach Tutoring Program and Programmed Tutorial Reading materials. It is apparent that Wasik and Slavin have recognized the complexities of the issues involved and presented a thoughtful analysis and discussion of research findings. In a broader review in which nine strategies for preventing early school failure were discussed, Slavin, Karweit and Wasik (1991)

concluded that "the most effective by far for preventing early school failure are programs that involve one-to-one tutoring in reading for first graders, especially in structured models that use well-trained certified teachers as tutors." (Note: Robert B. Slavin and his colleagues at the Center for Research on Effective Schooling for Disadvantaged Students, Johns Hopkins University, have extensively researched prevention programs for at-risk students and would appear to be an excellent resource.)

A study by the San Diego (California) Unified School District (Review of Data Concerning the Reading Recovery . . ., 1992) presented data on three innovative reading programs: Reading Recovery, Turning Point and Hispanic Reading Project. Although the data supported "positive but inconclusive" results, one finding was clear: costs per pupil in the Reading Recovery program far exceeded those in the other two programs (\$3,250 : \$80 : \$82).

Reading Recovery and Learning Disabilities

Lyons, a researcher at Ohio State University, has devoted her research efforts toward Reading Recovery as a method for actually preventing learning disabilities. In a study of two groups of at-risk readers, 30 labeled learning disabled and 30 not learning disabled, Lyons (1989) found that the labeled students entered the Reading Recovery program tending to rely on visual information and ignoring or excluding supportive language. The unlabeled group tended to integrate the meaning and structure of language as well as the visual features of print in order to read. "The two groups of children become more alike as the Reading Recovery intervention program is implemented. There are no significant differences between the oral reading error patterns of the two groups at the time of exit."

In a case study (1991) of a kindergarten child who had been labeled learning disabled, Lyons argued that children actually learn to be learning disabled. She concluded that they are in fact "instructionally disabled" and, through participation in the Reading Recovery program, can learn their way out of the learning disabled category.

Reading Recovery and Home Literacy Efforts

Two studies were found relating to the involvement of parents in Reading Recovery programs. Holland (1987) investigated the role of teachers in involving parents in their children's literacy development. She studied 13 urban Black and Appalachian parents of poor and working class socioeconomic status whose first-grade children attended inner city schools in Columbus, Ohio. Her observations led her to believe that the collaboration among parent, teacher and child had a powerful impact upon parents in the study. Secondly, teachers with active

rather than passive communication styles had greater success in developing this beneficial collaboration.

Asmussen and Gaffney (1991) reported on the initial phase of a study incorporating eighteen families, their children and Reading Recovery teachers. The Reading in Families Project was designed to investigate the relationship between children's participation in Reading Recovery and literacy environments in their homes. Final results of the study have not been reported.

Reading Recovery and School Restructuring

One more tangential study indicated ways that Reading Recovery programs might relate to an already existing restructuring paradigm. Through an examination of such components of the paradigm as the change in the work design of teachers and the redefinition of teachers' roles, Rinehart and Short (1991) suggested that Reading Recovery may create conditions conducive to school restructuring.

In a similar vein, Scharer and Zajano (1992) argued that the success of Reading Recovery had "two important implications for other programs and policies aimed at educational reform." The first involves a new kind of professional development for teachers, both costly and time consuming, that will develop teachers' capacities for making expert professional judgements in the classroom. Secondly, district and state level policies need to be revised to support the kind of teacher-student interaction represented in Reading Recovery.

Reviews of Research

No comprehensive research review of Reading Recovery exists. Hiebert (in review) focused on Reading Recovery as a model for system-wide change. In so doing, she excluded a number of important studies, most notably those addressing cost-effectiveness and learning disabilities. Nevertheless, her critique of the research base for Reading Recovery is the most current and extensive to date. Her main conclusions about Reading Recovery included (1) "tutored children read as well as first graders but that the actual numbers served fall below projected RR figures;" (2) "early interventions need to be augmented with carefully designed instruction in the middle and higher grades if the effects of early interventions are to be sustained."

An abbreviated review of research was included in a dissertation by Meece (1992). Her review emphasized the annual program evaluations done the Columbus (Ohio) Public Schools since 1985 which generally showed positive results with students enrolled in Reading Recovery programs. Her review also cited a three-year study done by Fincher for the Canton (Ohio) City

Schools the results of which were not supportive of Reading Recovery. Interestingly, two other researchers, Rinehart and Byrk, analyzed Fincher's study and reported flaws in the research design. Neither Fincher's nor Rinehart and Byrk's studies were published and were not cited in any other article included in this report.

Problems/Issues

Several articles focused on problems and challenges related to Reading Recovery that have surfaced over the years the program has been in existence in this country. Zajano (1989) addressed some of the issues that may arise when school districts attempt to implement Reading Recovery programs with the assistance of federal compensatory education Chapter 1 funds. "The implication of the suggestions raised in this document is that both the Chapter 1 and Reading Recovery policies and practices may need to be adjusted in order to accommodate the instructional and accountability needs of the other."

Pinnell, Fried & Estice (1990) referred to a number of other variables that may challenge Reading Recovery programs. First, they warned that "Reading Recovery is promising, but it is not the answer . . . Children may learn to read through Reading Recovery, but they do not turn into different children . . ." Secondly, tutored children may not continue to make good progress if they do not receive continuous beneficial classroom literacy experiences. The third point raised by these researchers was an ethical question: "Since we know we can provide this powerful instruction, are we obligated to provide it to those who need it despite the cost?" In another article, Pinnell (1990) cited as drawbacks the time, cost and conflict within a system caused by the adoption of an innovative program.

Summary

There seems to be little question about the effectiveness of Reading Recovery as a program that will overcome deficits in reading performance among young first-grade readers. However, the available research, while extensive, does not address factors such as costs that may be of concern to policy makers.

Much of the reviewed research indicates that Reading Recovery is more effective than other one-on-one tutoring programs that are available to prevent reading failure among first grade children. A concern is the cost associated with implementing Reading Recovery in a local site. The extent of these costs are reflected by the fact that no site in the Commonwealth supports a Reading Recovery program using local funds solely; all school divisions rely on other sources, usually Chapter 1 federal funds, to finance Reading Recovery in whole or in part.

The findings of the research are mixed in the areas of the long term effects of Reading Recovery. Some researchers report that student gains in Reading Recovery lingers; others find that the effects are decreased after a period of time.

The researchers seem unanimous in reporting that more investigation of the Reading Recovery program is merited before more stringent claims of its success can be made. All factors must be considered when implementing the Reading Recovery Program.

In Conclusion

Reading Recovery has been in existence for about 15 years and in the U.S. since 1985. Its effectiveness has been assessed primarily by three groups or individuals: Marie M. Clay in New Zealand, evaluators from the Columbus (Ohio) Public Schools, and another group of researchers at Ohio State University (most notably, D.E. DeFord, C.A. Lyons, and G.S. Pinnell). A handful of other studies have been done by other individuals during the past two or three years.

Research data reveals that the success of Reading Recovery ranges from inconclusive to extremely positive with regard to its success as a preventive program addressing reading problems in first-graders. Its long-term effects are just now being realized since the program has only been operating in the United States since 1985 and in Virginia since 1986.

CHAPTER 4: IMPLEMENTATION COSTS

Reading Recovery Teachers:

Salary and Fringe Benefits

In 1992-93, the average salary and fringe benefit cost per teacher was \$39,300. Generally, Reading Recovery teachers are assigned to the program for 50 percent of the school day. Therefore, the estimated salary and fringe benefit cost for each teacher is \$19,650.

Supplies and Materials

There is a significant "start-up" cost for new Reading Recovery teachers. The estimated cost for materials and supplies for each teacher is \$1,650. The largest item included in this estimated cost is the 350 "little" books required for each teacher. In addition, the estimated start-up cost includes tables and chairs, file cabinets, magnetic board and timer. After the initial items are acquired, the annual operating cost is minimum. It is estimated that \$150 will be required each year for paper, test materials and replacement books.

Staff Development

First year teachers are required to enroll in a graduate level teacher training course each semester. These courses are taught by a Reading Recovery team leader. These estimated cost for these courses is \$800. In addition, reading recovery teachers are encouraged to attend regional and state conferences. Appendix E lists the estimated cost for each Reading Recovery teacher.

Reading Recovery Teacher Leaders:

Salary and Fringe Benefits

Teacher leaders are assigned to the Reading Recovery program on a full time basis. The estimated salary and fringe benefit cost for each position is \$39,300.

Staff Development

Teacher leaders are required to attend a one year teacher leader training program. Currently, no university in Virginia offers this program. The nearest programs are located in North Carolina, West Virginia, Ohio, and Illinois. The estimated cost for tuition, supplies, fees and travel is \$11,500.

After the initial training, funds are required each year for the teacher leader to attend regional meetings, national conferences and the teacher leader Training Institute. The annual estimated cost for this training is \$1,800.

Local Travel

Teacher leaders visit Reading Recovery teachers-in-training four to six times during the school year to provide guidance and clarification of appropriate procedures. In addition, teacher leaders visit trained Reading Recovery teachers at least once each year to insure quality control of the program with additional visits based on need or request. The estimated cost for this local travel is \$700 per year. Appendix F lists the costs associated with the Reading Recovery teacher leader position.

Facilities

It is necessary to provide an appropriate training site for the teacher training classes. This training site could be located at a local school division or university facility. This site should include a room with one-way glass, a sound system, stools and tables. The estimated cost for a training site is \$5,000.

Estimated Cost to Implement the Reading Recovery Program for the Average Size School Division

The following table outlines the estimated costs to implement the Reading Recovery Program in an average size school division. In Virginia, the average school division has 640 first grade students (based on actual 1992-93 first grade enrollment figures). The average percent of students scoring in the national bottom quartile on the fourth grade Virginia assessment tests is used to estimate the number of students participating in the Reading Recovery program for this school division. As noted in the table, fourteen teachers are required for the estimated 115 first grade students participating in this program. It is assumed that each teacher would work with eight students during the school year. One teacher leader will be required in this school division to provide training and supervision for this program. The salary cost for the teacher leader is reduced by 25 percent in the third year to reflect the reduction in time required to train new Reading Recovery teachers.

Estimated Cost to Implement the Reading Recovery Program Statewide

In 1992-93, there were 85,065 first grade students in Virginia. The estimated number of first grade students which may participate in the Reading Recovery program ranges from the

percent of the fourth grades students scoring in the bottom quartile on the Virginia State Assessment tests (15 percent) to the bottom twenty percent of the first grade students. This range would result in 12,760 to 17,010 students participating in this program statewide. Assuming an estimated cost of \$2,900 per pupil, the cost to implement the Reading Recovery program statewide ranges from \$37 million to \$49.3 million each year. The \$2,900 per pupil costs represents the average cost of the Reading Recovery program as illustrated in the following table.

**Reading Recovery Program
Estimated Implementation Cost for the
Average Size School Division**

Required Number of Instructional Positions:

Average No. of 1st Grade Students	Average % In Bottom Quartile (4th Grade)	Estimated Number of Students	Required Number of Teachers	Required Number of Teacher Leaders
640	18.0%	115	14	1

Estimated Costs:

	Year 1	Year 2	Year 3
Teacher Leader (1 Pos.)			
Salary and Fringe Ben.	\$39,300	\$39,300	\$29,475
Training Costs	11,500	-	-
Staff Development	-	1,800	1,800
Local Travel	-	700	700
Total	\$50,800	\$41,800	\$31,975
Teachers (14 pos.)			
Salary and Fringe Ben.	-	\$275,100	\$275,100
Set-Up Costs	-	23,100	-
Operating Costs	-	-	2,100
Training Costs	-	11,200	-
Total	-	\$309,400	\$277,200
Facilities	\$5,000	-	-
Total Costs	\$55,800	\$351,200	\$309,175
Number of Students		115	115
<i>Cost per Pupil</i>		\$3,054	\$2,688

CHAPTER 4. DISCUSSION AND RECOMMENDATIONS

The recommendations presented here have been reached as a result of conducting the study, discussing the issues related to Reading Recovery, and analyzing the findings.

Discussion

Reading Recovery is an effective early intervention program designed to help the lowest achieving, least able readers in the first-grade to develop effective strategies for reading and become independent readers. Research data reveals that the success of the program ranges from inconclusive since long-term effects are just now being realized to extremely positive.

In 1992-93, there were 2,700 first-grade students who participated in a Reading Recovery program in Virginia. This number represented 16 percent of those students who would be targeted for the program statewide. Currently, 34 of 135 school divisions in the state have Reading Recovery programs operating in their localities. The programs are primarily supported with Chapter 1 federal dollars. Chapter 1 funds are presently used for programs designed to provide supplemental services in the local school divisions to meet the needs of educationally deprived children who are properly identified and selected for participation in the program. Regulations prohibit the use of Chapter 1 funds as general aid to benefit an entire school division. Those school divisions implementing Reading Recovery with Chapter 1 funds can only provide services for first-grade students identified as target students. Thus, many students for whom Reading Recovery could be an effective intervention, but who are not eligible for Chapter 1 services, cannot benefit from this program.

Informal investigations have revealed that some school divisions have expressed interest in the Reading Recovery program, however, the initial costs for teacher training and materials have impeded the growth of the program in Virginia. Chapter 1 funds offer the primary avenue for funding in the state; however, the Chapter 1 legislation is being reauthorized, and it is anticipated that a restructuring of funding may affect the state and subsequently effect continuation of Reading Recovery programs in some localities.

At the present time, there is no regional training center at a Virginia institution of higher education to train teacher leaders. There is a training center in two neighboring states--North Carolina and West Virginia. This year three teachers are being trained as teacher leaders at an out-of-state site. Since the numbers being trained each year are small, the establishment of a training center is not warranted at this time.

Recommendations

1. The Department of Education should continue to study the the Reading Recovery program and determine ways the program could be expanded. In its effort the department should:
 - develop strategies to encourage school divisions to consider implementation of the Reading Recovery program as one of the effective diagnostic and prescriptive intervention programs for first-grade children who are the least able readers. (e.g. develop a brochure, organize an annotated bibliography, etc.).
 - conduct a survey to determine the commitment of school divisions and institutions of higher education to implementation.
2. State funds should be made available in the amount of \$200,000 for the first year of the biennium and \$300,000 for the second year to assist local school divisions with the costs for teacher training. This would allow a combination of 75-100 teacher leaders and teachers to be trained. It is estimated that the cost for training a teacher leader is \$11,200 and the training cost for a teacher is \$800. In addition, the start-up cost for materials and supplies for a new Reading Recovery teacher is \$1,650. The salaries and other operating costs for the program, however, would continue to be funded from local and federal sources. The monies would be offered competitively. Eligibility criteria should be used when funding these school divisions. Priority should be given to:
 - School divisions where there is no Reading Recovery program;
 - Current programs funded who may realize significant loses in Chapter 1 funding under the reauthorization bill; and
 - Existing programs that want to expand to target children not eligible for Chapter 1 services.
3. As more Reading Recovery programs are implemented statewide and more teacher leaders are needed, consideration for the establishment of a regional training center at an institution of higher education to train teacher leaders is advised.
4. The seven colleges and universities currently offering graduate level credit for Reading Recovery teacher training should be encouraged to continue their involvement. They

are the University of Richmond, George Mason University, Virginia Commonwealth University, Virginia Tech, The College of William and Mary, Longwood College, and Lynchburg College. As additional school divisions in the various regions of the state begin programs, other institutions of higher education should be involved.

GENERAL ASSEMBLY OF VIRGINIA--1993 SESSION

HOUSE JOINT RESOLUTION NO. 470

Requesting the Department of Education to study the feasibility and appropriateness of implementing a Reading Recovery Program as a statewide prevention effort to reduce illiteracy in the Commonwealth.

Agreed to by the House of Delegates, February 9, 1993

Agreed to by the Senate, February 23, 1993

WHEREAS, ensuring early, positive learning opportunities and promoting the educational and personal growth of young students will ultimately reduce illiteracy, drop out, delinquency, and wasted talents and abilities; and

WHEREAS, the Reading Recovery Program is designed to reduce illiteracy by addressing reading failure in the first grade; and

WHEREAS, identifying students at risk of failing to learn to read through a comprehensive diagnostic screening process, the Reading Recovery Program provides young students daily intensive individualized instruction from specially trained teachers, thereby promoting the development of these students as independent learners; and

WHEREAS, five years of research and review in Ohio have confirmed the positive results that may be obtained from this program, as over three-fourths of those students participating in Reading Recovery between 1986 and 1991 have demonstrated improved reading skills without need for subsequent remedial intervention; and

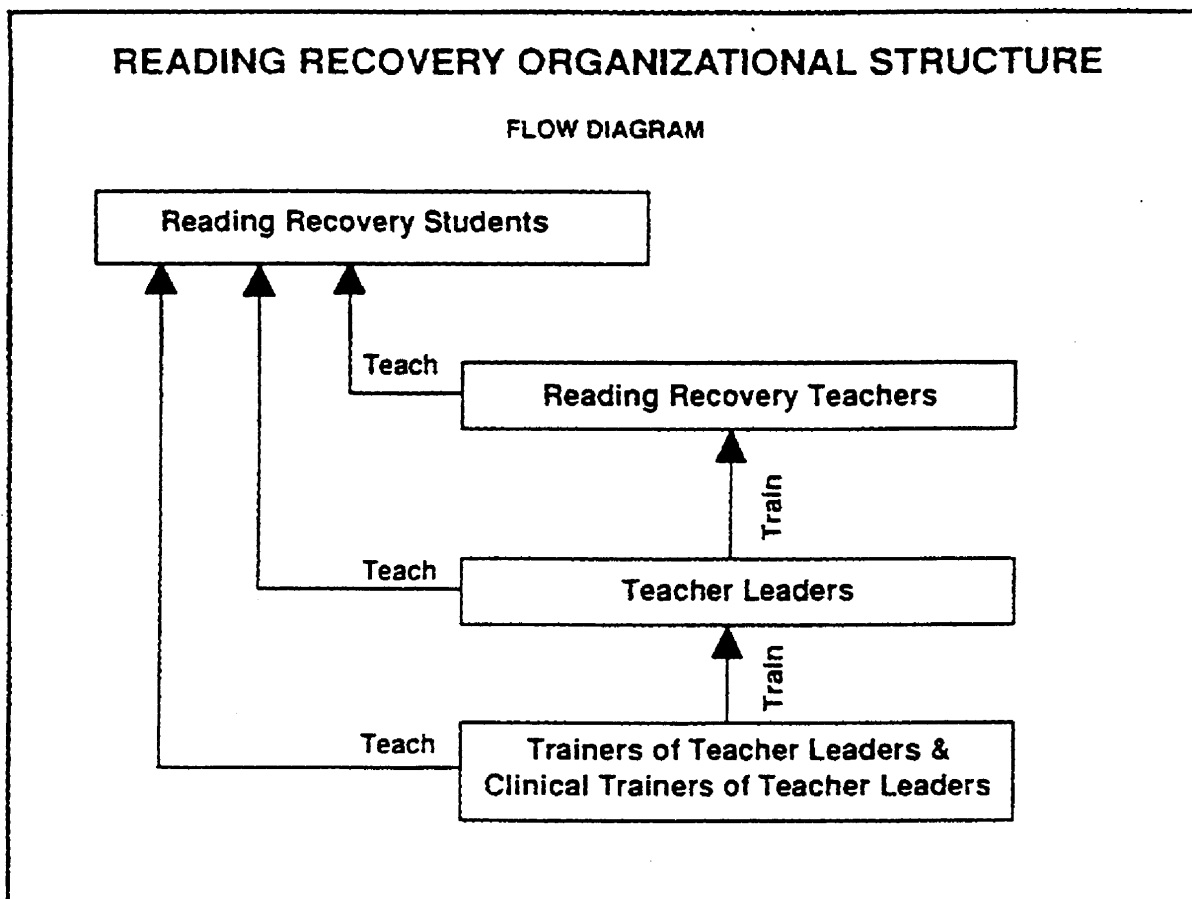
WHEREAS, the Reading Recovery Program includes specific training requirements for participating teachers, necessitating special training centers for these professionals; and

WHEREAS, while § 22.1-208.1 of the Code of Virginia establishes the Virginia Reading to Learn Project to emphasize reading as "an integral part of instruction in every subject" in the middle and high school grades, the creation of a special program focusing on reading in the early grades would facilitate those positive learning experiences so critical to the educational development of young students; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the Department of Education be requested to study the feasibility and appropriateness of implementing a Reading Recovery Program as a statewide prevention effort to reduce illiteracy in the Commonwealth.

All agencies of the Commonwealth shall, upon request, assist the Department in the conduct of its study. In conducting its study, the Department shall consider, among other things, recent studies assessing the effectiveness of the Reading Recovery Program; the identification of particular institutions of higher education in the Commonwealth as possible teacher training sites; and the potential fiscal impact of implementing this program in Virginia, including methods of funding tuition for instructional training and the establishment of training centers at designated colleges and universities.

The Department shall submit its findings and recommendations to the Governor and the 1994 Session of the General Assembly in accordance with the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.



**READING RECOVERY
TEACHER TRAINING SITES AND OTHER DIVISIONS SERVED**

Teacher Training Site	Other Divisions Served
Fairfax County	Alexandria City Manassas Park Warren County Falls Church City Arlington County Prince William County
Halifax County	Amherst County Bedford County Campbell County Lexington City Nelson County Prince Edward County
Henrico County	Chesterfield County Hanover County
Lynchburg City	None
Montgomery County	Salem City
Portsmouth City	Norfolk City Suffolk City
Richmond City	Stafford County
Virginia Beach City	None
Williamsburg/James City	Newport News Hampton City Charles City Hopewell City

Wythe County and Newport News City Schools are sending teachers for the year-long teacher leader training during the 1993-94 school year. After training has been received, the two school divisions will become teacher training sites.

READING RECOVERY BIBLIOGRAPHY

- len, D. G. (1991). A literacy program improvement plan for low-achieving first graders using reading recovery strategies. Nova University: Ed.D. Practicum. ED329945.
- lington, R. L. (1992). How to get information on several proven programs for accelerating the progress of low-achieving children (literacy for all children). Reading Teacher, 46, 246-247.
- nderson, R. C., et al. (1989). A modest proposal for improving the education of reading teacher. Technical Report No. 487. Urbana, IL: Illinois University, Center for the Study of Reading. ED313674.
- nderson, R. C., & Armbruster, B. B. (1990). Some maxims for learning and instruction. Technical Report No. 491. Urbana, IL: Illinois University, Center for the Study of Reading. ED314741.
- mussen, L., & Gaffney, J. S. (1991). Reading in families: A research update. Reading Horizons, 31, 449-52.
- rmel, S. (1987). Language development component, CLEAR-Reading Recovery program 1985-86 final evaluation report. Columbus, OH: Columbus Public Schools, Dept. of Evaluation Services. ED281157.
- ehnein, M. (1987). Reading intervention for high-risk first-graders. Educational Leadership, 44, 32-37.
- own, R. (1987). Report of the Chapter 1 sustained effects study, Education Consolidation and Improvement Act, Chapter 1. Columbus, OH: Columbus Public Schools, Dept. of Evaluation Services. ED293084.
- own-Haynes, S. (1992). Language and literacy: Implications for enhancing reading instruction. ED348653.
- apman, J. W., & Tunmer, W. E. (1991). Recovering reading recovery. Australia and New Zealand Journal of Developmental Disabilities, 17, 59-71.
- ay, M. M. (1985). The early detection of reading difficulties, 3rd ed. Portsmouth, NH: Heinemann Educational Books, Inc. ED263529.
- ay, M. M. (1988). Studying developmental change with a successful intervention. Paper presented at the Fifth Australian Developmental Conference in affiliation with the International Society for the Study of Behavioral Development, Sydney, Australia. ED299556.
- ay, M. M. (1990). Reading recovery in the United States: Its successes and challenges. Speech presented at the Annual Meeting of the American Educational Research Association, Boston, MA. ED320125.
- ay, M. M. (1991). Why is an inservice programme for reading recovery teachers necessary? Reading Horizons, 31, 355-372.
- mpensatory education product evaluation: Elementary and secondary programs 1991-1992 (1992). Saginaw, Mich.: Saginaw Public Schools, Mich. Dept. of Evaluation Services. ED350370.
- inkeld, C. (1990). Gaining Experience with Reading Recovery: A Pilot Project between Portland Public Schools and Portland State University. ED321246.
- er, P. C. (1992). Reading recovery: A cost-effectiveness and educational outcomes analysis. ERS Spectrum, 10, 10-19.

- Elkins, J. (1990). Getting reading difficulties in perspective. International Journal of Disability, Development and Education, 37, 3-16.
- Amilla, K., & Andrade, A. (1992). Descubriendo la lectura: An application of reading recovery in Spanish. Education and Urban Society, 24, 212-26.
- Ewing, J. B. (1991). President's commentary: From at-risk first graders to illiterate adults: breaking the cycle. Journal of Clinical Reading: Research and Programs, 3, 1-2.
- Filby, N., & Lambert, V. (1990). Early intervention for students at risk: Three profiles from Arizona's rural schools. Knowledge Brief No. 6. San Francisco, CA: Far West Laboratory for Educational Research and Development. ED325255.
- Gaffney, J. S. (1991). Reading recovery: Getting started in a school system. Reading Horizons, 31, 373-383.
- Gaffney, J. S., & Anderson, R. C. (1991). Two-tiered scaffolding: Congruent processes of teaching and learning. Technical Report no. 523. Urbana, IL: Illinois University, Center for the Study of Teaching. ED326842.
- Gaustad, J. (1992). Tutoring for at-risk students. OSSC Bulletin, 36 (Nov.). ED353642.
- Goldenberg, C. (1991). Learning to read in New Zealand: The balance of skills and meaning. Language Arts, 68, 555-62.
- Greenberg, B., et al. (1991). Project prevent--one school district's approach to reading recovery. Illinois School Research and Development, 27, 70-75.
- Hamill, J., et al. (1991). As we see it: Classroom teachers view reading recovery. Reading Horizons, 31, 439-448.
- Hiebert, E. H. (1993). Reading recovery and system-wide change. Educational Researcher, in press.
- Hill, L. B., & Hale, M. G. (1991). Reading recovery: Questions classroom teachers ask. Reading Teacher, 44, 480-483.
- Holland, K. E. (1987). Parents and teachers: Can home and school literacy boundaries be broken? In Education in Appalachia. Proceedings from the Conference. ED300182.
- Johns, J., & Desmond, J. (1990). At-risk students in reading, Focused Access to Selected Topics (FAST) Bibliography No. 46. Bloomington, IN: ERIC Clearinghouse on Reading and Communication Skills. ED314715.
- Jones, J. R., Ed. (1992). Reading recovery, special theme issue of Arizona Reading Journal, 20, International Reading Association, Arizona State Council. ED345198.
- Jones, N. K. (1991). Helping to learn: Components and principles of reading recovery training. Reading Horizons, 31, 421-438.
- Jongsma, K. S. (1989). Reading recovery (questions and answers). Reading Teacher, 43, 184-185.
- Jongsma, K. S. (1990). Training for reading recovery teachers (questions and answers). Reading Teacher, 44, 272-275.
- King, J. R. (1990). Structural and social metaphors in reading recovery training. Paper presented at the Annual Meeting of the National Reading Conference, Miami, Fla. ED333336.

- Landry, M. D. (1991). Developing literacy among kindergarten children through the implementation of child centered activities based upon reading recovery principles. Nova University: Ed.D. Practicum. ED335641.
- Leitner, D. (1990). Portland Reading Recovery Program 1989-90 evaluation report, year 1. Portland, OR: Portland Public Schools, Research and Evaluation Dept. ED326839.
- Lore, R., & Chamberlain, E. (1987). Language development component, compensatory language experiences and reading program final evaluation report. Columbus, OH: Columbus Public Schools, Dept. of Evaluation Services. ED290139.
- Lore, R., & Chamberlain, E. (1988). Language development component, compensatory language experiences and reading program 1987-88 final evaluation report. Columbus, OH: Columbus Public Schools, Dept. of Evaluation Services. ED299555.
- Lore, R., & Chamberlain, E. (1989). Language development component, compensatory language experiences and reading program 1988-89 final evaluation report. Columbus, OH: Columbus Public Schools, Dept. of Evaluation Services. ED313665.
- Lore, R., & Chamberlain, E. (1990). Language development component, compensatory language experiences and reading program 1989-90, final evaluation report. Columbus, OH: Columbus Public Schools. ED328882.
- Lyons, C. A. (1987). Reading recovery: An effective intervention program for learning disabled first graders. Paper presented at the Annual Meeting of the American Educational Research Association, Washington, DC. ED284170.
- Lyons, C. A. (1988). The effect of instruction on the oral reading behaviors of children classified as learning disabled. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA. ED295131.
- Lyons, C. A. (1988). Patterns of oral reading behavior in learning disabled students in reading recovery: Is a child's learning disability environmentally produced? Paper presented at the Annual Meeting of the National Reading Conference, Tucson, AZ. ED302841.
- Lyons, C.A. (1989). Reading recovery: A preventative for mislabeling young "at-risk" learners. Urban Education, 24, 125-39.
- Lyons, C. A. (1991). Reading recovery: A viable prevention of learning disabilities. Reading Horizons, 31, 384-408.
- Lyons, C. A., & Beaver, J. (1993). Reducing retention and learning disability placement through reading recovery: An educationally sound, cost-effective choice. In R.L. Allington & S.A. Walmsley (Eds.), No Quick Fix: Redesigning Literacy Programs in America's Elementary Schools. New York: Teachers College Press.
- McDonald, G., et al. (1989). More teachers, fewer pupils: A study of the 1:20 teacher-pupil ratio policy in the junior school. Wellington, NZ: New Zealand Council for Educational Research. ED327967.
- Meece, N. S. (1992). A case study of the environment of reading recovery within a selected school setting. M.A. Thesis, Otterbein College. ED352613.
- Optiz, M. F. (1991). Hypothesizing about reading recovery. Reading Horizons, 31, 409-420.
- Pinnell, G. S. (1987). Helping teachers see how readers read: staff development through observation. Theory into Practice, 26, 51-58.

- Pinnell, G. S. (1988). Holistic ways to help children at risk of failure. Teachers Networking: The Whole Language Newsletter, 9, 1, 10-12. ED301853.
- Pinnell, G. S., et al. (1988). Reading recovery: Early intervention for at-risk first graders. ERS Monograph. Arlington, VA: Educational Research Service. ED303790.
- Pinnell, G. S. (1988). Success of children at risk in a program that combines writing and reading. Technical Report No. 417. Urbana, IL: Illinois University. Center for the Study of Reading. ED292061.
- Pinnell, G. S. (1989). Reading recovery: Helping at-risk children learn to read. Elementary School Journal, 90, 161-183.
- Pinnell, G. S., et al. (1990). Reading recovery: Learning how to make a difference. Reading Teacher, 43, 282-295.
- Pinnell, G. S. (1990). Success for low achievers through reading recovery. Educational Leadership, 48, 17-21.
- Pinnell, G. S. (1991). Restructuring beginning reading with the reading recovery approach. Fastback 328. Bloomington, Ind.: Phi Delta Kappa Educational Foundation. ED347512.
- Pollock, J. S. (1989). Language development component, compensatory language experiences and reading, CLEAR-Reading Recovery program, 1988-89, final evaluation report. Columbus, OH: Columbus Public Schools, Dept. of Evaluation Services. ED315748.
- Pollock, J. S., et al. (1990). Language development component, compensatory language experiences and reading, CLEAR-Reading Recovery program, 1989-90, final evaluation report. Columbus, OH: Columbus Public Schools. ED327821.
- Pollock, J. S. (1991). Reading recovery program 1990-91 final evaluation report: Elementary and Secondary Education Act-Chapter 1. Columbus, OH: Columbus Public Schools, Dept. of Program Evaluation. ED343108.
- Pollock, J. S. (1992). Chapter 1 early literacy summer school final evaluation report. Columbus, OH: Columbus Public Schools, Ohio Dept. of Program Evaluation. ED350585.
- Pollock, J. S., & Morgan, K. L. (1992). Reading recovery/early literacy program 1991-92, Private Industry Council, Final evaluation report. Columbus, OH: Columbus Public Schools, OH. Dept. of Program Evaluation. ED351672.
- Reading Recovery 1984-1989, No. 4 (1989). Columbus, OH: Ohio State University, College of Education. ED327818.
- Reading recovery program 1991-92: Compensatory education product evaluation (1992). Saginaw, Mich.: Saginaw Public Schools, Dept. of Evaluation Services. ED350587.
- Rentel, V. M., & Pinnell, G. S. (1989). Stake that claim: The content of pedagogical reasoning. Paper presented at the Annual Meeting of the National Reading Conference, Austin, TX. ED316857.
- Review of data concerning the reading recovery, turning point, and Hispanic reading programs (1992). San Diego, CA: San Diego Unified School District, Planning, Research and Evaluation Division. ED344189.
- Rinehart, J. S., & Short, P. M. (1991). Viewing reading recovery as a restructuring phenomenon. Journal of School Leadership, 1, 379-99.
- Macore, J. (1987). Family trends and the need for cross-cultural reading interventions. ED284173.

- Sanacore, J. (1988). Independent reading for remedial and at-risk students: The principal can make a difference. ED298468.
- Sanacore, J. (1990). Independent reading for remedial and at-risk students: The principal can make a difference. Reading Research and Instruction, 30, 59-65.
- Scharer, P. L., & Zajano, N. C. (1992). Direction with discretion: Reading recovery as an example of balancing top-down policy and bottom-up decision-making. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA. ED346604.
- Simic, M., & Smith, C., Comp. (1990). Guiding at-risk students in the language arts classroom, Learning Package no. 16. Bloomington, Ind.: Indiana University, School of Education. ED333382.
- Slavin, R. E., et al. (1991). Preventing early school failure: What works? Report no. 26. Baltimore, MD: Center for Research on Effective Schooling for Disadvantaged Students. ED340475.
- Smith, J. (1986). Reading recovery in central Victoria: What we have learnt. Australian Journal of Reading, 9, 201-208.
- Stebbins, J. A., & Vliek, M. G. (1991). Emphasis: Early intervention. Arizona Reading Journal, 20, 33-34.
- Stewart, P. A. (1990). Reading recovery: An early intervention program. Ohio Reading Teacher, 25, 30-36.
- Strategies for improving adult reading performance (1990). Marion, OH: Marion City Board of Education. ED348503.
- Tam, H. P. (1987). Language development component, CLEAR-Reading Recovery summer project, summer 1987, final evaluation report. Columbus, OH: Columbus Public Schools, Dept. of Evaluation Services. ED290126.
- Thomas, P. M. (1989). Language development component, compensatory language experiences and reading: CLEAR-Reading Recovery program 1987-88 final evaluation report. Columbus, OH: Columbus Public Schools, Dept. of Evaluation Services. ED313668.
- Thomas, R. L. (1992). Education Research Consumer Guide, 3. Washington, DC: Office of Educational Research and Improvement. ED352601.
- Townsend, M. A. R. (1984). Toward a literate, multicultural society in New Zealand. Contemporary Educational Psychology, 9, 201-106.
- Wade, B. (1992). Reading recovery: Myth and reality. British Journal of Special Education, 19 (June), 48-51.
- Wasik, B. A., & Slavin, R. E. (1990). Preventing early reading failure with one-to-one tutoring: A best evidence synthesis. Report No. 6. Baltimore, MD: Center for Research on Effective Schooling for Disadvantaged Students. ED324122.
- Wasik, B. A., & Slavin, R.E. (1993). Preventing early reading failure with one-to-one tutoring: A review of five programs. Reading Research Quarterly, (April/May/June).
- Wayson, W. W. (1990). Sustaining improvement: The teacher's role in helping school systems learn. Paper presented at the Annual Meeting of the Ohio Reading Recovery Program, Columbus, OH. ED329923.
- Weaver, C. (1991). Whole language and its potential for developing readers. Topics in Language Disorders, 11, 28-44.

Yukish, J. F. (1988). Reading recovery: Early help for at-risk readers. Updating School Board Policies, 19, 1-3. ED296464.

Yukish, J. F., & Fraas, J. W. (1988). Success of Old Order Amish children in a strategy-oriented program for children at risk of failure in reading. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA. ED293105.

Zajano, N. C. (1989). Reading recovery and ESEA Chapter 1: Issues and possibilities. Columbus, OH: Ohio State University, College of Education. ED320131.

Reading Recovery Teacher Costs

A. Salary and Fringe Benefit Cost
50% Full-time Equivalent Position

\$19,650

B. Supplies and Materials

Initial Set-up Costs	Annual Costs
\$1,650	\$150
Table and Chairs	Replacement Books
Reading Books	Writing Books
Blackboard	Paper
Magnetic Board	Test Materials
File Cabinet	
Timer	

C. Staff Development

First year	
Tuition - 2 Semesters	\$800
Optional	
State Conferences	\$200
Ohio Conference	700

Reading Recovery Teacher Leader Costs

A. Salary and Fringe Benefit Cost

100% Full-time Equivalent Position

\$39,300

B. Staff Development

Regional Meetings \$200

National Conference 800

Training Institute 800

\$1,800

C. Local Travel

Monitor Reading

Recovery Teachers

\$700

First Year Training Costs

Salary and Fringe Benefits \$39,300

College Tuition 5,000

Technical Fees 2,000

Supplies 2,500

Travel 2,000

\$50,800