DOCUMENT RESUME

ED 303 790 CS 009 535

AUTHOR Pinnell, Gay Su; And Others
TITLE Reading Recovery: Early Intervention for At-Risk First Graders. ERS Monograph.
INSTITUTION Educational Research Service, Arlington, Va.
PUB DATE 88
NOTE 87p.
AVAILABLE FROM Educational Research Service, 2000 Clarendon Blvd., Arlington, VA 22201 ($18.00 subscriber; $36.00 nonsubscribers).
PUB TYPE Reports - Descriptive (141) -- Guides - Non-Classroom Use (055)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Case Studies; Grade 1; *High Risk Students; Instructional Effectiveness; Longitudinal Studies; Primary Education; *Reading Difficulties; *Reading Instruction; Reading Strategies; Teaching Methods
IDENTIFIERS Ohio (Columbus); *Reading Recovery

ABSTRACT

This monograph presents information about Reading Recovery, describes the latest research concerning the program, and summarizes practical experience concerning the implementation of this innovation in reading instruction. Chapter 1 presents a general description of Reading Recovery instructional procedures. Chapter 2 contains three case studies that provide a more concrete look at how the program works with individual children and teachers. Chapter 3 discusses a longitudinal study conducted in the Columbus Public Schools to determine both the short-range and the long-range effects of Reading Recovery on a group of at-risk students. Chapter 4 describes the studies of Reading Recovery at sites throughout the state of Ohio during the years of 1985-86, 1986-87, and 198-88. Chapter 5 describes the Reading Recovery staff development component, along with studies of teacher training and development in program techniques. Chapter 6 presents suggestions for school districts or state agencies that wish to implement Reading Recovery. Thirty-three references and three appendixes containing a list of books used in Reading Recovery, a description of the alternative intervention program employed during the first year of the longitudinal study, and measures used to assess children in the Reading Recovery Program are attached. (MS)

ERS Monograph

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Reading Recovery:

Early Intervention for At-Risk First Graders

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Contents

Appendices:

Foreword

Early reading difficulties can prevent children from achieving initial success in school, locking many of them into an early pattern of school failure. Even with extensive and costly remedial assistance throughout their school careers, such children often do not break out of this pattern. The dilemma of how to take children with early reading difficulties and put them on the road to success is a major concern for school officials and teachers.

This monograph, *Reading Recovery: Early Intervention for At-Risk First Graders,* describes an innovative program that has achieved impressive results with a large percentage of faltering early readers. Reading Recovery originated in New Zealand, and has been a nationwide program in that country since 1979. It has been successfully adapted and tested for four years in Ohio, and is now being disseminated to many other locations throughout the United States, Canada, and Australia.

I have had the opportunity to observe the Reading Recovery program in action first-hand in Ohio, in New Zealand, and in Australia. In each of these varied locations and with a variety of children, the program has consistently produced positive results by taking a large proportion of children who were performing in the bottom 15 or 20 percent of their class in reading skills and raising these children to the average range for their class in a very short time. Moreover, these gains were consistently sustained over the long term without further intervention.

Although the Educational Research Service, in accordance with its standard policy, does not endorse any particular program or instructional method, the Reading Recovery results and evaluations presented in this monograph deserve the special consideration of educators and concerned citizens nationwide. The monograph describes these study results, how Reading Recovery operates, and how it may be implemented in local school districts. The monograph is an example of the role that ERS plays in providing dependable information that school officials, other educators, and responsible citizens need to make sound educational decisions in their states and school districts. As with all ERS monographs, the data and views presented in this publication are solely those of the authors, and should not be construed as those of ERS or any of its sponsoring organizations.

ERS wishes to thank the authors of this monograph, Drs. Gay Su Pinnell, Diane DeFord, and Carol Lyons, for the excellent work they have done in explaining in an interesting and understandable way both the Reading Recovery process and the research on its immediate and long-term effects on children having difficulty learning to read. In addition, I personally want to acknowledge and thank Dr. Marie Clay, Professor of Child Psychology, the University of Auckland, who initially researched and developed Reading Recovery, and Dr. Barbara Watson, who is Director of Reading Recovery in New Zealand, for their kind assistance in acquainting me with their research and their long-term experience with Reading Recovery in the land of its origin.

Glen Robinson
Director of Research
Educational Research Service

Acknowledgments

The story of Reading Recovery implementation is in itself a case study of the kind of inter-institutional and interpersonal collaboration needed to create positive change in education. The first year of the project was jointly funded by The Martha Holden Jennings Foundation and the Columbus Foundation, with additional resources contributed by The Ohio State University and Columbus Public Schools. Since summer 1985, funds for training and materials have been provided by The Ohio General Assembly.

From the beginning, a number of exceptional individuals in different organizations have collaborated to conceptualize and implement the Reading Recovery project. The Ohio Department of Education, under the leadership of Franklin Walter, Superintendent of Public Instruction, G. Robert Bowers, Associate Superintendent, Nancy N. Eberhart, Director, and Hilda Edwards of the Division of Inservice Education, worked to communicate with school districts and other agencies, to create the necessary policy climate, and to solve implementation problems. James Hyre, who was Superintendent of the Columbus Public Schools at the start of the project, made the first test and longitudinal research for the program possible; the current Superintendent, Ronald Etheridge, has provided the continuing strong administrative support so necessary to the program's long-term success. Evelyn Luckey, Assistant Superintendent, played a critical leadership role in encouraging teachers and administrators to undertake the project. Stacey Woodford, Director of Federal Programs, and Shirley Mann provided support and encouragement. Teachers in the project are especially grateful to John Hilliard, Director of Chapter 1, for his problem-solving ability and his commitment to making Reading Recovery a quality program for children.

At The Ohio State University, the Office of Research and Graduate Studies, Thomas L. Sweeney Associate Vice President, has contributed tuition costs for NDN Teacher Leaders. The Office of the Provost, David Boyne Associate Provost, has contributed continuing support for the project. The Office of the Dean of Education, Donald P. Anderson, Dean, and the OSU Research Foundation have provided valuable leadership. Faculty members involved in the project especially thank our Department Chair, Frank Zidonis, and our colleagues in Language, Literature, and Reading.

The first teacher leaders, Mary Fried, Arlene Stuck, and Edwina Bradley, now Director of Reading, as well as those teacher leaders, site coordinators, and area administrators who have assumed the responsibility for the state of Ohio program, took on extra heavy work loads and many new responsibilities. Those leaders and the Reading Recovery teachers have been willing to learn new ways of teaching and performing their roles, and they have done so with such high quality that they are responsible for the results described here. At The Ohio State University, the Reading Recovery project staff over the five-year period has included Katie Button, Eleanor Handerhan, Kathleen Holland, Nancy Nussbaum, Andrea McCarrier, Barbara Peterson, Jim Schnug, Kathy G. Short, Susan Tancock, Nora White, and Daniel Woolsey. Special thanks are due to Phil Young, Jim Rinehart, Will Place, and David Bates for data analysis, and to Linda Hopper, Adrianne Johnson, and Karen Kerr for preparation of reports.

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Gay Su Pinnell is Associate Professor of Educational Theory and Practice at The Ohio State University, where she teaches courses on language arts, literacy, and children's literature. She is the author of *Teaching Reading Comprehension, Discovering Language with Children,* and numerous articles on language and literacy development. She is Director of the Reading Recovery project at The Ohio State University, and Principle Investigator for the Early Literacy Research Project. Dr. Pinnell has been an elementary classroom teacher in the California and Ohio public schools and has served in state administration in Ohio. She received the Ph.D. degree from The Ohio State University, and since has been involved in administration, evaluation, teaching, and research related to school organization, teacher education, and the development of language and literacy. She has served as an officer of the National Council of Teachers of English, the International Reading Association, and the National Conference on Research in English. She currently serves on the Commission on the English Language of the National Council of Teachers of English. She is a member of the American Educational Research Association.

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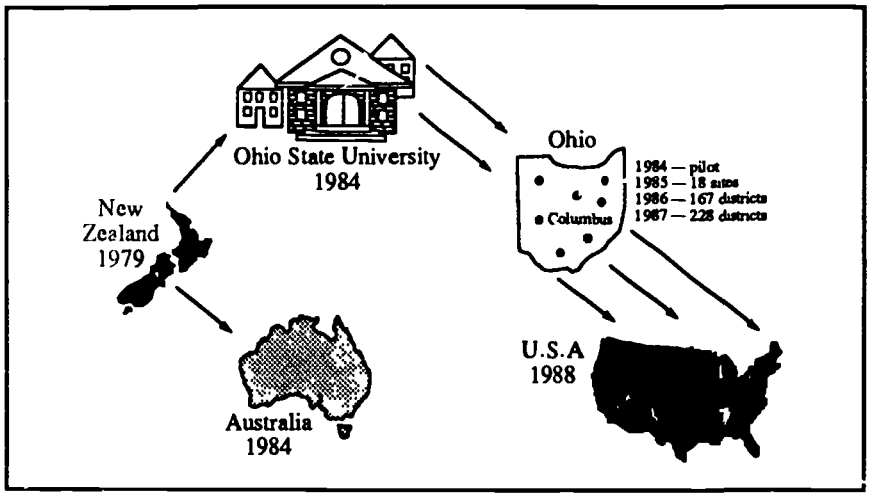
Introduction: What is Reading Recovery?



The early years are crucial in the process of becoming literate. Although most children make the "breakthrough" to literacy during their first years of school, many find it difficult to learn to read and write.

It is risky to wait and see whether such children will "grow into reading" or "catch on" later in school. When a child cannot read, the problem soon goes beyond reading. Children who experience reading difficulties quickly fall behind in school, meet failure repeatedly, and require continuous and expensive extra help for many years. Often, they never learn to read well.

Current efforts to help such children require an enormous, long-term investment of resources. Unfortunately, the evidence shows that this remediation often fails to help many children with difficulties. The problem is not simply one of immaturity, to be solved by holding children back to give them time to grow. Nor is it a matter of raising standards so that children are not promoted until they are "motivated" or master certain skills. Children who have early difficulty with reading need extra time and special help, and they need it in the initial stages of learning. We must find ways to teach the skills children need so that they can make timely progress and can function productively in school.

Fortunately, research has provided the basis for promising approaches which can now be applied in a variety of school settings. This monograph reports the implementation and evaluation of Reading Recovery, which is an early intervention effort to reach those first-grade children who are having the most difficulty learning to read and to help them catch up before they fall into a pattern of school failure.

The Reading Recovery Program

Literacy at age six or seven serves children throughout school and frees them to continue to acquire knowledge and understanding all their lives. It is crucial, therefore, to ensure that all children have access to literacy in the early years of their education. That was the goal of the Ohio Department of Education, The Ohio State University, and the Columbus Public Schools when they decided to try a new program of early intervention for children who were at risk of reading failure in their first year of school.

Originally developed by New Zealand child psychologist and educator Marie M. Clay, Reading Recovery has been successfully adapted and tested for four years in Ohio. It has won support from teachers, principals, school boards, the state education agency, and the state legislature. Studies of the research and development phase demonstrate the program's effectiveness across economic and ethnic groups. Now, Reading Recov-

ery is a statewide program in Ohio, existing in 228 school districts. Separate school district projects have begun in Arizona; Illinois; South Carolina; Texas; Ontario, Canada; and Victoria, Australia. Reading Recovery has been a nationwide program in New Zealand since 1979.

Reading Recovery is based on the premise that early, high-quality help has the greatest potential for lasting impact and for reducing the need for continued compensatory help.

The program is an intensive one-to-one intervention program for the poorest readers (lowest 20 percent) in first-grade classrooms, as identified by teacher judgment and a Diagnostic Survey. The primary goals of Reading Recovery are to reduce reading failure through early intervention and to help children become independent readers. The program accomplishes this by: 1) bringing children who are "at risk" of reading failure up to the average of their class within a short period of time, so that they can profit from ongoing classroom instruction, and 2) helping these children develop a self-improving system for continued growth in reading, so that additional help is not necessary.

Reading Recovery supplements but does not substitute for conventional classroom teaching. During daily, 30-minute lessons, teachers who are specially trained in Reading Recovery techniques individually tutor these faltering readers to help them develop the kinds of strategies that good readers use. The power of Reading Recovery is in the framework of the lesson itself and in the development of teacher knowledge and problem-solving ability. The approach combines the use of related reading and writing experiences, close interaction between teacher and child within the lesson, and careful selection of materials for reading. In this instructional program, the teacher follows and guides the child individually in his or her use of reading and writing strategies. The teacher closely assesses and monitors progress and makes appropriate decisions to accelerate the child's progress.

Research to date indicates that Reading Recovery has potential for substantially reducing the number of children with reading difficulties. As a result of accelerated progress, children typically leave the program within 12 to 16 weeks and are able to perform at satisfactory levels in reading without continued extra help. The sustained success that Reading Recovery achieves with the poorest performers in first-grade classes runs counter to the experience in most remedial education programs.

Unique Features of Reading Recovery

A number of specific aspects characterize Reading Recovery and distinguish it from other programs designed to help children who have reading problems. Some of these unique features are listed below.

1. Early Intervention.

Reading Recovery is an early intervention program rather than a remediation program. The idea is to provide intensive and focused intervention while the child is in the process of learning the early strategies of reading. The intervention takes place before the emotional impact and confusion of failure occurs. The program attempts to get children on the right track in reading, thus preventing further difficulty.

2. Short-Term Extra Help.

The program provides temporary help that enables children to develop the self-generating system they need to continue learning independently. Like most remedial programs, Reading Recovery means taking the child out of the classroom for 30 minutes each day; however, this "pull-out" period lasts a relatively short time and yields a tremendous payoff by boosting the read-

ing skills of a high percentage of at-risk readers up to the classroom average.

3. Building on Strengths.

Reading Recovery supports the development of reading strategies by helping children use what they already know. Some remedial "deficiency" models focus on drilling children on the very items that confuse them. In contrast, the Reading Recovery teacher assesses each child's strengths in great detail and builds on those strengths in daily, individual lessons. Children gain confidence because they realize that what they already know and can do has value in the reading-writing process. More importantly, they learn specific strategies for applying their own knowledge.

4. Independence.

In Reading Recovery, children learn how to be independent because they are taught how to solve problems using specific strategies such as self-monitoring, cross-checking, predicting, and confirming. They are encouraged to use multiple sources of information while reading and writing; they learn to "orchestrate" strategies while attending to the meaning of the text. The program emphasizes learning "how to" rather than memorizing any specific list of words.

5. Flexibility and Responsiveness.

Unlike other programs, Reading Recovery does not depend on particular materials. It is not based on the use of any one set of reading texts or one teaching method. Instead, it depends on teachers developing a systematic knowledge of the reading-writing process and helping children to acquire the strategies they need to construct meaning from texts.

Once teachers are trained to work with children in Reading Recovery, they can effectively select and use a wide range of books and can help children use their own writing to assist in reading. They can perform and record their own assessments. No prescribed, step-by-step kits or sets of consumable materials are necessary.

6. Action-Oriented.

The program is based on the premise that children are active learners. As they interact with others and with texts, they bring their own meaning to the books they read. The instructional setting provides the opportunity for children to think and solve problems while reading. The teacher provides choices and support, but the child must do the work and solve the problems.

7. Enabled Participation.

Reading Recovery is not specifically tailored to match the classroom program. However, the teacher is constantly aware of the level the child must reach to be released from Reading Recovery. The program goal is not a set criterion or "gain." The aim is to help each child reach the average range for the particular instructional setting (class or school, whichever makes sense programmatically) in which he or she is operating.

Children who enter this program at some time during their first-grade experience generally have already fallen far behind. They may have difficulty making sense of much that goes on in classroom instruction. When a child has moved ahead in the Reading Recovery program to the point where he or she can read texts equivalent to the average group in the classroom, then the child can begin to profit substantially from the ongoing instruction and can continue to improve in reading without extra help.

8. Accelerated Progress.

Reading Recovery children are expected to make accelerated progress so that they can catch up with their peers in the regular classroom setting. Intensive individual tutoring by specially trained teachers supports the children so that they

grow better and better at using various strategies. The child does the accelerating, supported and guided by a knowledgeable teacher.

9. Reading-Writing Connections.

Every Reading Recovery lesson has both reading and writing components; learning in each situation enhances learning in the other. Writing is used in lessons as a support to developing reading strategies. Writing allows children to attend to the details of print and to develop strategies for hearing sounds in words, for generating new words from known words, and for monitoring, searching, and cross-checking.

10. Individual Tailoring of Instruction.

The lesson provides a framework of activity; within this framework, however, the program differs for each child. The difference takes place in the nature of the moment-to-moment interactions between teacher and child, in the particular texts selected and read, and in the writing work on a message the child has composed.

11. Teacher Expertise and Judgment.

Children are identified for the program by their teachers rather than by specialists. These children are the lowest achievers in the first-grade age cohort, excluding none. Thus, Reading Recovery provides a good "first net" for children who are most likely to have reading problems. It enables good teachers to work with children in special ways. These teachers, who because of the nature and high intensity of the program work only half of the day in Reading Recovery, can and usually do teach other subjects during the rest of the day.

12. Focus on Meaning.

In Reading Recovery, children read for meaning from the very beginning stages of their instructional program. From a list of over 500 very short and interesting story books, the teacher selects those that suit the child's interests, that have appealing language and stories, and that are at a relatively easy level for the child to read. Thus, at every level of text difficulty, children read fluently and for meaning and enjoyment.

13. Sound-Letter Relationships.

Although the basic approach is to teach the child to read fluently for meaning and enjoyment, each lesson includes writing, through which children learn the relationship between the sounds contained in problem words and their relationship to specific letters and combinations of letters. Thus, the child is encouraged to use the sound-letter relationships as one of the basic strategies in solving problems that he or she encounters when reading. Unlike some other approaches, in Reading Recovery the child works from the sounds in words to the letters representing those sounds, rather than from letters to sounds.

14. Staff Development.

Initial training for teachers takes one academic year, but Reading Recovery teachers and Teacher Leaders begin to work with children immediately. In the year-long staff development program, teachers learn to observe children's behavior carefully and systematically, to draw inferences from their observations, and to make decisions based on that information. From their wide repertoire of actions, they try to select the most powerful and the most supportive at the particular time. A key feature of the staff development program is the extensive use of a one-way glass through which teachers watch each other and analyze the child and teacher interactiing in various situations.

15. System Intervention.

Reading Recovery is more than a program for children and a staff development course. It is a carefully designed set of interlocking principles and actions that require the long-term commitment

of an entire school system in order to ensure a quality program and sustained results.

Contents of the Monograph

The purpose of this monograph is to present information about Reading Recovery, to describe the latest research concerning Reading Recovery, and to summarize practical experience concerning the implementation of this innovation in reading instruction. The monograph has been prepared for the use of school officials, teachers, parents, political leaders, and concerned citizens who are interested in examining and perhaps implementing a Reading Recovery project.

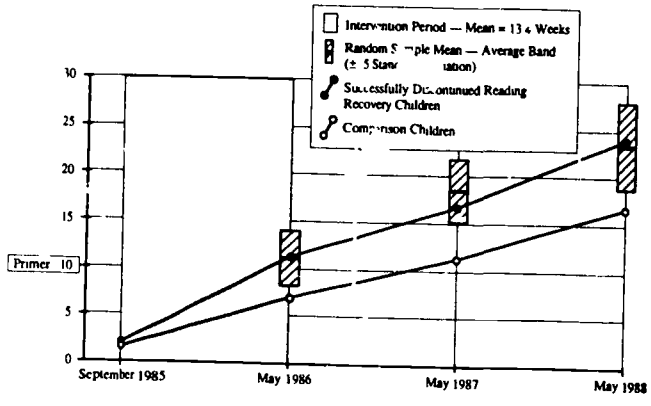
Chapter 1 presents a general description of Reading Recovery instructional procedures. However, it is not the purpose of this document to provide specific instructions on how to apply the teaching procedures used in Reading Recovery. The procedures for diagnosis and instruction are discussed in detail in the text used in the year-long training program for teachers, *The Early Detection of Reading Difficulties* by Marie M. Clay (Heinemann, 1988).

Chapter 2 contains three case studies that provide a more concrete look at how the program works with individual children and teachers.

In the Chapters 3 and 4, we report the results of evaluation studies conducted in Ohio to assess the effectiveness of Reading Recovery.

Chapter 3 discusses a longitudinal study conducted in the Columbus Public Schools to determine both the short-range and the long-range effects of Reading Recovery on a group of at-risk students. These children, who were first graders in fall 1985, were in the bottom 20 percent of their class in reading skills, according to diagnostic measures and their teachers' assessments. Evaluations through the end of their third-grade year showed that the Reading Recovery intervention these children received in the first grade raised a large proportion of them (73 percent) up to the average reading level of other first-grade children. Most importantly, these gains were maintained for a substantial number of these children through the end of grade three *without further intervention.*

The chart below, from Chapter 3 page 36, shows that the group of successfully discontinued Reading Recovery children (those who were successfully released from the program) made sustained gains compared with the band of average scores of a random sample of all first-grade students, and also compared with a group of similar children who received an alternative intervention program.



Chapter 4 describes the studies of Reading Recovery at sites throughout the state of Ohio during the years 1985-86, 1986-87, and 1987-88. Children who received Reading Recovery instruction at these sites were assessed on various measures and compared with a random sample of first graders at the end of their respective first-grade years. The results statewide supported the positive findings of the longitudinal Columbus study.

Chapter 5 describes the Reading Recovery staff development component, along with studies of teacher training and development in program techniques. Finally, Chapter 6 presents suggestions for school districts or state agencies that wish to implement Reading Recovery

Chapter 1: Description of Reading Recovery Lessons

This chapter describes how the Reading Recovery program works for children: how the lesson format was developed, how the lessons are structured, and the theoretical assumptions on which the instruction is based. This general description is followed in Chapter 2 by three case studies showing the difference that Reading Recovery has made in the lives of individual children.

Reading Recovery provides individually designed lessons to help children who are having reading difficulties to develop the kinds of strategies used by good beginning readers. This goal is accomplished through teachers interacting with children who are engaged in holistic reading and writing activities.

Development of the Process

Marie M. Clay, a professor in child psychology at the University of Auckland, who developed Reading Recovery in New Zealand, began her research with detailed observations of good readers in the early stages of learning to read. After constructing knowledge of just what these good readers do, she looked at children who were having difficulty, asking the question: "Can we see the reading process going wrong in the first year of schooling?" As teachers of young children can verify, the answer to that question was "yes" (1988).

Clay went on to design and experiment with intervention procedures based on her detailed observations. Acting on their observations while working with children, teachers sensitively intervened to support children's development of strategies. The goal was to help children expand the range of strategies available for their use.

Next, Clay's research team constructed a lesson framework. The activities were selected not as a "lesson plan" with a script to follow, but as a set of generative activities that would provide plenty of opportunity to read extended text, to talk about what was being read, and to use the full range of information sources available for constructing meaning. After pilot Reading Recovery procedures were further refined, the staff development program was created. Reading Recovery has been a nationwide program in New Zealand since 1979.

Diagnostic Procedures

In Ohio, children are selected for Reading Recovery in the middle or late September of their first-grade year. All children selected for Reading Recovery must be in the lowest 20 percent achievement group of their first-grade class in

reading. The Reading Recovery teacher selects students by using a combination of measures, including the classroom teacher's ranking, the kindergarten teacher's opinion if applicable, scores on the six measures of the Diagnostic Survey, and any additional information, such as standardized test scores, that may be available. (In districts where Reading Recovery is supported by Chapter 1 funds, all children served must also qualify under Chapter 1 criteria.)

Prior to beginning a Reading Recovery program, children are assessed using the comprehensive set of individually administered instruments that make up the Diagnostic Survey. To administer the Diagnostic Survey, teachers involve the children in six assessments, each presenting a different aspect of reading and writing. The goal is to gain an understanding of what the child already knows about reading and writing.

There are several important points to note concerning the Diagnostic Survey. First, most of the measures involve children in reading and writing tasks. Throughout the testing, which takes about one hour, the teacher and child interact in an informal way with books and through writing.

Second, no one of the measures is intended to be used as the sole determinant of a child's program. Reading Recovery teachers look at the child's behavior across all measures to summarize relevant information about the child. This summary is only the beginning of the teacher's detailed observation of the child's behavior. He/she will spend the first 10 days of the program interacting with the child and observing closely the reading and writing behavior that provides clues to the child's additional knowledge.

Third, scores on the assessment instruments are less important than the observations and notes made during the assessment and teaching sessions. Teachers are prepared to notice significant behavior and to draw inferences to build their knowledge of the child's competence.

Fourth, these assessments should not be confused with the instructional program. They are intended to provide a broad first look at the child. Several of the tasks — for example, writing all the words the child knows — are not used in instruction. Successful release from the program depends on a qualitative look at the documentation of the child's progress over time.

The Diagnostic Survey includes the following assessments:

1. *Letter Identification.* Children are asked to identify as many as they can of 54 characters (the entire upper-case and lower-case alphabets, plus the alternative printed forms of "a" and "g"). They may identify the name of the letter or the sound the letter makes, or they may suggest a word that starts with that letter. Any of these responses would be considered correct. Teachers notice the kinds of substitutions children make as well as their accurate responses; for example, calling a "j" by the name of "t" may indicate awareness of distinctive features. This assessment is used not because children must be able to name all the letters in order to read; rather, teachers must find out what the child knows about letters to help integrate this information into the instructional program.
2. *Word Test.* The word list used in Ohio was compiled from the high frequency words on a Dolch word list. Clay (1988) advises that the list be made up of the most frequently occurring words in whatever oasic reading texts are being used in the system. This test helps the teacher get an idea as to whether the child is acquiring knowledge of frequently occurring words; it does not provide information as to the child's ability to read extended text. Again, the assessment should not be confused with instruction. At no time in the Reading Recovery program is the child asked to read isolated words.

3. *Concepts About Print.* The teacher and child interact as the teacher reads a little book with pictures. The teacher questions the child in order to assess the child's development of significant concepts about printed language. For example, the child is asked to show a letter or a word, the front of the book, where we start to read, and which way we go when we read.
4. *Writing.* Children are asked to write all the words they can write (on a blank piece of paper) during a maximum of 10 minutes. After the child exhausts his/her supply of known words, perhaps beginning with the child's name, the teacher prompts from a list of high frequency words. The teacher notes words at which children make good attempts, because those show competence and knowledge.

   Reading Recovery teachers and classroom teachers may also examine writing samples produced by the child in the classroom setting, to gain as much information as possible about the child's knowledge of writing. (An informal period of two weeks will follow the assessment, during which the child will engage in writing, and the teacher will have a chance to observe the process.)
5. *Dictation Test.* The teacher reads a simple sentence, containing 37 phonemes, and asks the child to try to write it. Here, we are interested in the child's ability to analyze a word and to represent the sounds heard. Accurate spelling is not the goal.
6. *Text Reading.* The teacher takes a "running record" of the child's reading of an extended piece of text. For a child who cannot yet independently read even very short books, the teacher does most of the reading aloud and asks the child to read predictable books with repeated language patterns. A child who can read a little is asked to read texts while the teacher uses checks and other symbols to record reading behavior. Then, the teacher analyzes the record, looking for evidence about how the child uses the cueing systems in reading (meaning, language structure, or visual information) and getting information about the complex processes going on during reading.

   The Text Reading level is a numerical score and refers to the level of difficulty a child can read with 90 percent accuracy or above. In addition to level, the teacher makes a qualitative assessment of the child's reading based on the behavior observed in reading various texts, from hard to easy.

This list provides only a brief description of the Diagnostic Survey. For a full description and directions for administration and use, see Clay, *The Early Detection of Reading Difficulties,* 1988, third edition.

In all of these assessments, teacher judgment and ability to analyze are the critical factors. The process produces a set of numerical scores that can be quantified and used as justification for providing special help (for funding agencies, for example) or as documentation of progress. By adding the qualitative analysis, the teacher builds the foundation for the instructional program. This analysis provides the basis for the Diagnostic Summary, a written document in which the teacher brings all the test results together. The teacher looks across assessments to make a set of summary statements that will provide a starting point for Reading Recovery instruction.

"Roaming Around the Known"

For the first 10 days of the child's 30-minute daily program, the teacher does not teach, but rather, explores reading and writing with the child. During this time they can talk together, enjoy books and collaborative writing, and get to know each other. The teacher has some basic in-

formation about what the child knows, and uses this information to involve the child in very easy tasks that make the most of what the child can do.

In this very supportive situation, the child may begin to take risks and to produce responses that have not been evident in the classroom or testing situation. By the end of the "roaming around the known" period, the teacher has a much broader knowledge of the child and a better knowledge base on which to proceed. Additionally, a foundation of trust has been established and the teacher and child go into more intensive lessons with greater confidence.

The Reading Recovery Lesson

Each Reading Recovery lesson includes reading many small books and composing and writing a story. The lesson framework includes the following.

The child rereads familiar books.

The child reads again several favorite books that he/she has previously read. The materials are story books with natural language rather than controlled vocabulary. Books within a lesson may range from quite easy to more challenging, but the child is generally reading above 90 percent accuracy. The accuracy rate here guides the teacher in making sure that the texts selected are appropriate for the child; that is, they are easy enough for the child to use effective strategies, and difficult enough to provide opportunities for independent problem solving.

In addition to the accuracy index, the teacher also assesses the balance of strategies and cues. During this time, the child has a chance to gain experience in fluent reading and in using strategies "on the run" while focusing on the meaning of the text. The teacher interacts with the child during and after the reading, not "correcting," but talking with the child about the story and supporting the effective actions the child has taken.

The teachers analyzes reading using the running record.

Each day the teacher takes a "running record" of a book that was new for the child the previous day. The running record is a procedure similar to miscue analysis (Goodman, Watson, and Burke, 1987). Using a kind of shorthand of checks and other symbols, the teacher records the child's reading behavior during oral reading of the day's selected book. The teacher examines running records closely, analyzing errors and paying particular attention to behavior such as self-correction. In this way, he/she determines the strategies the child is using to gain meaning from text. This assessment provides an ongoing picture of the progress the child makes.

The Reading Recovery teacher does not consider one record an adequate source of evidence about a child's reading. He or she looks across records, taken daily over a period of time, to discern patterns and change. During this time, the teacher acts as a neutral observer; the child works independently. The accuracy check tells the teacher whether the text has been well selected and introduced the day before.

The child writes messages and stories and then reads them.

Every day the child is invited to compose a message and to write it with the support of the teacher. Writing is considered an integral part of gaining control over messages in print. The process gives the child a chance to closely examine the details of written language in a message that he/she has composed, supported by his/her own language and sense of meaning. Through writing, the child also develops strategies for hearing sounds in words and using visual information to monitor and check his/her own reading.

After the construction of the message, the teacher writes it on a sentence strip and cuts it up for the child to reassemble and read. This activity provides a chance to search, check, and notice

visual information. Using plastic letters on a magnetic board, the teacher may take the opportunity to work briefly with the letters to increase the child's familiarity with the names of letters and their use in known words, such as the child's name. This work will vary according to the knowledge the child already has.

The child reads new books.

Every day the child is introduced to a new book that he/she will be expected to read without help the next day. Before reading, the teacher talks with the child about the book as they look at the pictures. The teacher helps the child build a frame of meaning prior to reading the text. The purpose of the introduction is not necessarily to introduce new words, but to create understanding in advance of reading so that it will be easier to keep a focus on meaning.

This basic framework for the Reading Recovery lesson provides a guide, but the teacher's own knowledge of the child and of the repertoire of possible variations make it possible to individualize the lesson. Within this framework, every child's program differs. Children do a great deal of reading, but not from a graded sequence. No child reads the same series of books. The small books are carefully selected by the teacher for that child at that time. In writing, children work on their own messages, so they are writing and reading works that are important to them individually. The special techniques used in the writing part of the lesson are most powerful when used on the children's own produced text. The major difference within and across lessons lies in the teacher's ability to follow each child and to respond in ways that support acceleration and the development of strategies.

Meeting the Child's Individual Needs

Reading Recovery teachers recognize that the difficulties children experience in learning to read differ greatly from child to child. Therefore, although all Reading Recovery lessons follow a standard structure, within this structure the teacher carefully selects the activities needed by each child at a particular time. Throughout the lessons, the teacher looks for effective reading strategies that the child needs to acquire or strengthen. Such strategies may include directional movement, one-to-one matching, self-monitoring, cross-checking, using multiple cue sources, and self-correction. The Reading Recovery teacher uses instructional techniques designed to help the child develop and use such strategies.

As one example of the different instructional techniques that the teacher may weave through the basic lesson to encourage a specific reading skill, a section of *The Early Detection of Reading Difficulties* (1988) is reproduced below. Clay outlines the following suggestions for teaching the skill of self-monitoring.

> The successful reader who is making no errors is monitoring his reading at all times. Effective monitoring is a highly skilled process constructed over many years of reading. It begins early but must be continually adapted to encompass new challenges.
> - To encourage self-monitoring in the very early stages ask the child to go back to one to one pointing:
>   Say *'point to each one.'*
>   Or *'Use a pointer and make them match.'*
> - Direct the child's attention to meaning:
>   Say *'Look at the picture.'*
>   Or *'What happened in the story when. . .'*
> - For particular attention to an error allow the child to continue to the end of the sentence:
>   Say *'I like the way you did that.*
>   *But can you find the hard bit?'*
>   Or *'I like the way you did that.*
>   *You found the hard bit.*
>   *Where was it?'*
> - If the child gives signs of uncertainty — hesitation, frowning, a little shake of the head — even though he takes no action:
>   Say *'Was that OK?'*
>   Or *'Why did you stop?'*
>   Or *'What did you notice?'*
>
> These questions tell the child that you want him to monitor his own reading. The operation to be learned is checking on oneself. It is more important that the child comes to check on his own behaviour than that

he be required to use all the sources of cues at this stage.

- Don't forget to reinforce the child for his self-monitoring attempts whether they are successful or not. Say *'I liked the way you tried to work that out.'*
- Cues from letter sequences. Let the child predict the word he expects it to be. Cover the problem word and ask for something you know he knows about that word. One of these questions might be useful.
  'What do you expect to see at the beginning?'
  at the end?
  after the 'M'?'
  Then ask him to check as you uncover the work.
- Ask the child 'Where you right?' after both *correct* and *incorrect* words. Ask 'How did you know?' after correct words.
- As the child becomes more skilled do less teaching and prompting and modelling. Merely say 'Try that again' but make sure that your voice carries two messages. You are requiring him to search, because you know he can, and you are confident he can solve the problem. (Clay 1988, pp. 72-73)

Completion of the Program

There is no set time or sequence of activities to finish in order for the child to be released from the Reading Recovery program. Instruction continues until the individual child has reached about the average level of text reading for his/her class or school. In addition, analysis of the child's reading behavior must provide substantial evidence that he or she has developed effective reading strategies and will be able to continue learning without extra help. This may happen any time during the school year. A typical program could last for 12 to 16 weeks. Clay's guidelines state the following:

> There is no fixed set of strategies nor any required levels of text nor any test score that must be attained to warrant discontinuing. It is essential that the child has a system of strategies which work in such a way that the child learns from his own attempts to read. (Clay 1988, p. 82)

The goal of the program has been achieved when the child has developed the kind of independent reading system that good readers use. Then, the child can profit from the ongoing instruction in the regular classroom and stands a good chance of surviving without compensatory help.

Materials

The Reading Recovery program uses few consumable materials. There are no workbooks or worksheets. Instead, teachers use blank writing books and pencils or markers. They also have a set of magnetic letters and a small magnetic chalkboard.

The major materials for the program are the hundreds of little books that the children read. Books come from many different publishers and have been selected for their potential in supporting literacy development for young children. They include many different stories that offer support for readers by using familiar language patterns within the framework of a predictable story. The easiest levels include repetitive or patterned language; more difficult levels present a wider variety of writing styles.

Books are organized into 20 reading levels for teachers to use in tracking children's progress and as a guide in selecting the daily new book. Level 1 approximates a pre-reading stage in classroom instruction and indicates that the child can read very little beyond his or her name in an unsupported situation; Level 20 approximates material that good first-grade readers can read by the end of the year.

A committee of Reading Recovery Teacher Leaders has emphasized that "the Booklist is not a list of required or recommended books but a resource for Reading Recovery teachers. Selecting the appropriate new book is a decision-making process that draws on a knowledgeable teacher's understanding of a child's current use of strategies and need for engaging in some reading work" (Report of the Committee on Books, 1988). Appendix A contains an abbreviated booklist.

Theoretical Principles

To summarize the program description, we would like to emphasize six theoretical principles

that serve as the foundation for the Reading Recovery program for children.

1. Reading is a strategic process that takes place inside the reader's mind.

Readers are required to monitor and to use information or "cues" from a range of sources, including meaning, language structure, features of print, visual information, letter-sound relationships, and connections with individuals' own unique backgrounds. Through complex, "in the head" processes, called "strategies," readers access the information they need to construct meaning from written text. The meaning is never contained only in the print; readers bring their own meanings to the text. Therefore, even beginning readers need to go beyond simple decoding and to maintain a focus on meaning throughout all literacy activities.

Good readers have several ways of functioning according to the difficulty of the material. They "orchestrate" strategies, simultaneously monitoring cues while maintaining a focus on the messages. Poor readers, on the other hand, may operate on a narrow range of strategies, perhaps focusing on one kind of information and neglecting others. The goal of Reading Recovery is to help children become good readers who can use effective strategies in a flexible and integrated way. For those readers, skill improves whenever they read because they have developed a "self-improving system."

2. Reading and writing are interconnected, reciprocal processes.

As children read and write, they make the connections that form their basic understandings about both processes. Learning in one area enhances learning in the other. Discovering and using reading-writing connections may be an important part of the process of becoming literate.

Children becoming literate — especially children at risk — need many opportunities for exploring and relating the two processes. Throughout the Reading Recovery program, reading and writing are used flexibly to help children develop concepts and skills. The supportive situation allows children many chances to make connections between reading and writing. Teachers actively support that process.

3. In order to make accelerated progress in reading, children must actually engage in reading.

Almost every minute during the lesson, children actively engage in reading or writing messages and stories. Familiar material helps children build fluency and experience success; new material challenges children to do independent problem solving. The teacher selects texts that are clear, interesting, and easy for the child and that include language close to the child's natural way of talking. These texts should provide opportunities for the child to apply new responses, skills, or procedures.

4. Literacy instruction in school has a powerful influence on children's developing concepts of what reading is all about.

This statement is especially true for children at risk because they are vulnerable to the school experience. Programs linked to abstract drill on small segments of language may not provide the experience in reading whole texts that children need. Children may become convinced that reading is only looking at words or letters and making sounds; those readers may fail to integrate the isolated activities into the larger process of constructing meaning from text.

On the other hand, programs that assume a "macro" view and emphasize only language and meaning may not give at-risk children the special support they need in order to focus on details of print within a meaningful context. Those children

may not know how to use what they already know to make sense of reading.

As they learn to read, children develop their own theories about the process of reading; they need experiences that help them develop an implicit understanding of the whole range of information that they must use in reading and writing.

5. It is most educationally productive to intervene early.

In the past, many educators have believed that children need to "mature" into reading and that given time and a rich environment, all children will become literate. In our view, development has a role, but children's experiences have an enormous impact. For the small group of children who, no matter how good the classroom teaching, have great difficulty in learning to read, it makes sense to intervene early, before the child is locked into unproductive responses and experiences the frustration of failure and accompanying deficits in other areas of the curriculum. These children need sensitive early intervention with a high quality program that involves the child in real reading and writing.

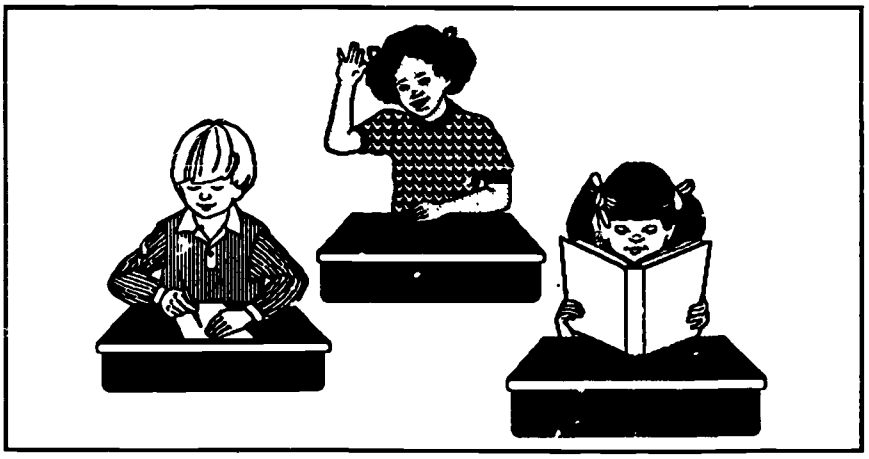
We can see the reading process going wrong in the first year of instruction; we can identify causes of the problem; we can identify the child's strengths; we can trace subtle shifts that indicate progress; and we can assist those children to develop the same abilities that good readers have. Since we *can* do it, we are *obliged* to do it.

6. Accelerated progress is possible.

Children at risk can make the accelerated progress needed in order to catch up with their peers. Acceleration is not achieved by applying pressure or making the child struggle. It is not Reading Recovery's goal to force fast pacing or accuracy. In our experience, young children do want to read — some want it desperately — and with the right support they will learn.

Because the teacher and child are working together, the at-risk child can achieve more than would be possible alone or in a group. Acceleration is achieved as the child takes over the learning process and works independently, discovering new things and pushing the boundaries of his/her own knowledge.

Chapter 2: Case Studies Of Children



The following three case studies, as told by the children's Reading Recovery teachers, give an idea of how the program works for real children. The case studies also allow insights into the views of the teachers involved. These three children provide "living images" that represent important information for program implementers. They attend both urban and suburban schools, and they represent different races. All three had great difficulty in beginning reading.

As these case histories illustrate, traditional program evaluation is only part of the data to be examined in implementing a Reading Recovery program. Raising test scores is important, but it is also important to learn more about how individual children develop their own successful reading strategies. Detailed analyses of individual lessons provide insights into teacher-child interactions that produce success as well as ways teachers can tailor instruction to meet individual needs.

KEY TO NOTATIONS USED IN RUNNING RECORDS

The figures that appear in the following pages illustrate teacher running records made during Reading Recovery lessons in these case studies. Notations in the running records include:

Notation	Meaning
✓	Child read word correctly.
child's response / correct word	Child read work incorrectly. Child's response is written above line, and correct word is written below line.
SC	Child self-corrected.
R	Child returned to beginning of arrow and reread.
•	Child skipped word.

The columns on the right of some running records (beginning in Figure 3) are used to tabulate (first two columns) and then to analyze (second two columns) errors and self corrections. The letters are codes representing the probable source of information being used by the child:

M=using information from the meaning system.
S=using information related to the structure of language.
V=using visual information, including letter/sound correspondence.

MELANIE
by Andrea McCarrier

Melanie was the lowest reader in her first-grade class when I began working with her in the Reading Recovery program. She was able to remember and use language patterns in reading, but she appeared uncertain about whether pictures or print carried the message. She did not have control of left-to-right directionality or one-to-one matching in reading. Consequently, she tended to invent the text rather than attend to the printed message. She had a strong sense of story structure and could predict a meaningful message, but she did not notice discrepancies between her own reading and the written text.

A good example occurred during her third lesson. (See the running record in Figure 1, page 17.) She was reading *The Tree House,* a book that she had read for the first time the day before. When she came to the last sentence, one with an inverted structure, Melanie's strong sense of oral language patterns overrode the visual information, so that she read the sentence as it would more commonly occur.

Based on the diagnostic tests and on many examples such as the one above, I decided that Melanie needed to learn to check her predictions with the visual information in the text. I would continue supporting her sense of meaning and use of language to predict, but I would also encourage her to attend to the print. It would also be important to encourage her to point to words as she read to build her knowledge of early strategies such as directionality and one-to-one matching.

As Melanie gained experience in reading, she became more aware of 1) a mismatch between the number of words in the text and her reading; and 2) discrepancies between her oral rendition and the print on the page. She began to monitor her own reading and to hesitate and self-correct when appropriate.

Melanie also began to attend more closely to print as she wrote her own messages and then reassembled them after they had been written on a paper strip and cut apart. This activity gave her a chance to notice visual details within a language context that was particularly her own. She began to look more closely at initial letters and to use her knowledge of the alphabet. Writing helped her to slow down the process so that noticing visual details would not distract her from the meaning of the language.

She quickly gained control over early strategies, and soon she did not need to point to words while reading, although she continued to use this technique in a flexible way when she read difficult pieces of text. As her lessons progressed, she continued to learn more about how to integrate visual cues with other sources of information. For example, when she read *You'll Soon Grow Into Them, Titch,* she substituted "socks" for "sweater." Both items of clothing were depicted in the illustration, and the two words started with the same letter. By carefully checking her prediction with the details of print, Melanie was able to self-correct, therefore gaining an understanding of the text.

Even though she was working in a classroom where invented spellings were acceptable and writing was a daily activity Melanie was reluctant to attempt writing her own stories. By writing every day in Reading Recovery, Melanie discovered how to make her own sound analyses of words and to represent sounds with letters in writing. She began to take more risks and to

produce more writing both in the individual session and in classroom work.

By the end of her program, Melanie was reading fluently in materials comparable with the average reading group in class. She continued to check the illustrations for information but did not have to depend on them totally. She displayed the ability to use multiple sources of information as she read, and she showed evidence of being an independent reader. In the example illustrated in Figure 2, Melanie showed self-correction and the ability to cross-check one source of information with another.

In the last running record taken in the program (Figure 3) Melanie showed her ability to read a difficult text She focused on meaning and used her ability to predict; as competent readers do, she made meaningful miscues that did not need to be corrected, but she was able to solve her own problems when she had difficulty in getting meaning from her reading.

FIGURE 1.–In her third lesson, Melanie's strong sense of oral language patterns overrode visual information.

The tree
Down came

house came down
the tree house
✓ ✓ ✓

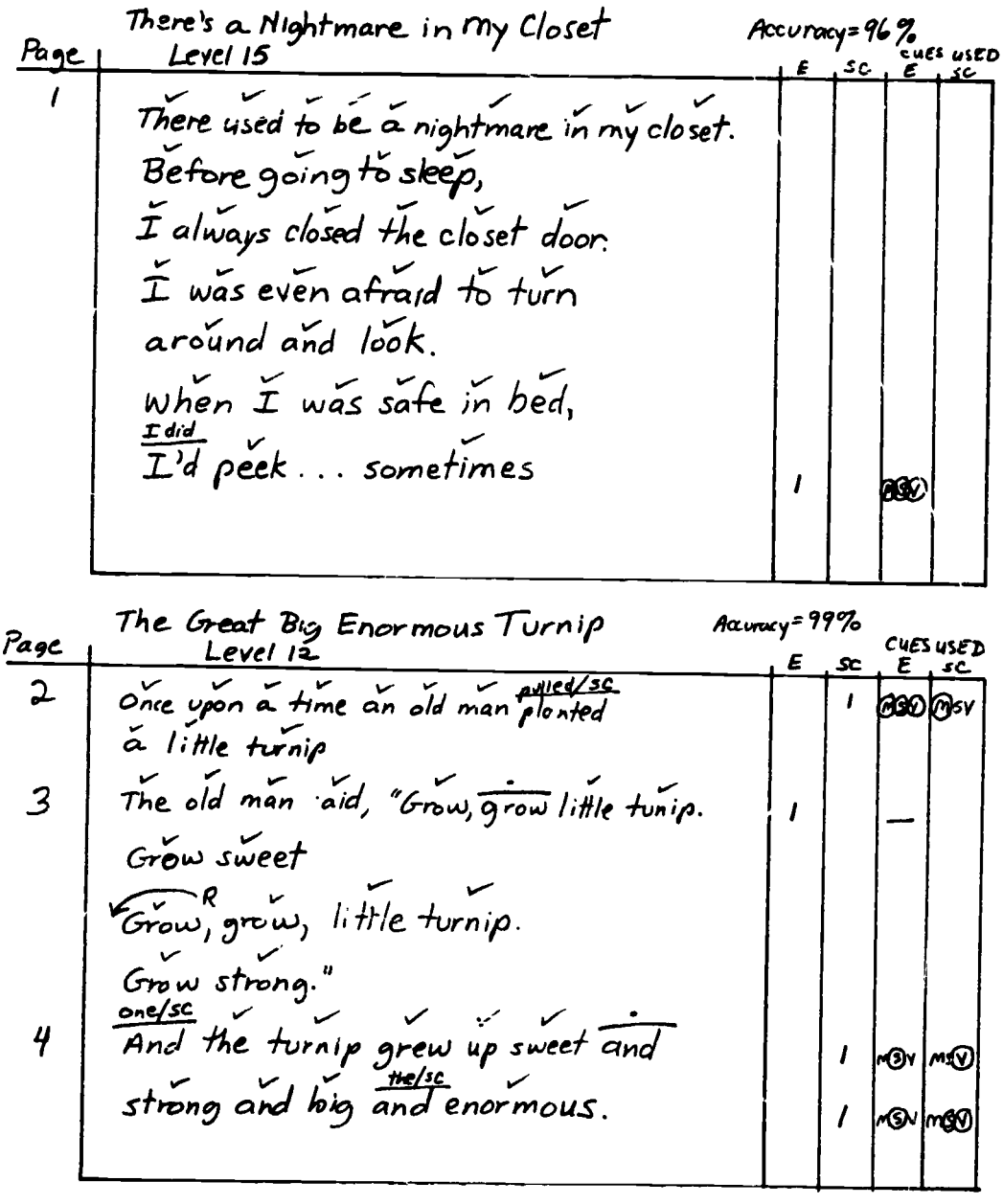
FIGURE 2.– Melanie showed self-correction and ability to cross-check.

the next day
he said to his friends
yesterday I could read.

R yesterday sc day sc
next -
yes sc
yesterday R

Melanie was discontinued from the program after 55 lessons over a span of about 16 weeks (with some time gaps because of vacation periods and absences). At that time, she was able to read beginning second-grade material. Her mother reported that her reading grade had also improved from a "D" at the beginning of first grade to an "A" at the beginning of spring and that Melanie enjoyed reading at home. Melanie thinks her two younger sisters should not have to wait until first grade to learn how to read. According to her mother, Melanie is giving them lessons now!

FIGURE 3.–Last running record taken in program: Melanie read a difficult text.



TIM
by Carol A. Lyons

The principal of Tim's school pulled a thick folder from her top desk drawer and began to describe this first-grade boy who had just spent one year in a kindergarten class for learning disabled children. The principal said she had never received so many records on a young child in her 10 years of experience as an administrator. As I examined the records, I wondered how a six year old could have endured so many standardized tests. Two teams of evaluators, school psychologists at a private clinic, and an interdisciplinary team of professionals had diagnosed him as learning disabled. The problem was that no LD classroom would be available until second grade. Tim's parents felt sure that he could not survive in a regular first-grade classroom. We ended the conference with my agreeing to work with Tim in the Reading Recovery program.

After administering the Diagnostic Survey, I predicted that Tim would have a good chance for success in the program. He had control of some early strategies such as word-by-word matching and directionality, and he knew most of the alphabet letters. He could represent 16 of the 37 phonemes on the dictation test. On the other hand, he seemed confused about how to use his knowledge when he was actually reading text, and he could not recognize words in isolation. I had discovered, however, that Tim had quite a bit of knowledge about reading and writing. He needed to learn how to make the most of his strengths.

For the first two weeks of Tim's program, I watched for and recorded what he knew about reading. I read many books to him, and soon we were reading favorite books together. He also read many very simple books to me. We collaboratively wrote messages and whole stories that Tim read in subsequent lessons.

During this two-week "roaming around the known" period, Tim demonstrated many more strengths that were not evident even in the individualized testing in the Diagnostic Survey. For example, Tim was well aware of the special language used in books. When we read together, he could easily move his finger under the words. However, when he tried to read more than one line of print independently, he was not able to attend to the print. Instead, he invented a text that was meaningful and corresponded to the illustration, but he did not monitor his reading using visual information.

Initially, Tim did not want to write anything. He had no trouble creating sentences; in fact, he usually composed several sentences. But he hesitated to write. As we worked together, he was persuaded to provide parts of the messages he composed and his strong awareness of letter/sound relationships was evident in his writing. He was particularly good at analyzing words for initial sounds, and his reading showed evidence that he could use this knowledge.

In the first two weeks, when we were reading together and the texts were very simple, Tim was growing in confidence, and his mother reported that Tim was developing "a new attitude toward reading." Although he did not give a great deal of attention to visual information, he freely invented meaningful text based on his own language sense.

When we began more structured lessons, however, I had a surprise. Tim seemed to abandon his own language sense and meaning as a source of information in reading. He appeared *not* to be attending to meaning. Instead, he tried

to look for the individual words he knew. On unfamiliar words, he guessed, using the first letter as the main source of information. He almost totally disregarded the pictures which would have been good sources for prediction. Early in his program, he provided an example of reading (see Figure 4 on page 21).

When Tim finished reading *The Bicycle,* I said, "Tim, you said 'the lake got on.' Check the picture. Did a 'lake' get on the bicycle?"

"Oh," Tim said, carefully looking at the picture. "That's silly. How could a lake get on a bicycle? It's a girl."

Here, I asked him to predict what letters he would expect to see in "girl" and check the word again. He was able finally to select "lady" as the word in the text and to reread the section to make sure that it made sense.

Tim continued in this kind of problem-solving work while reading. He began to regain his expectation that reading should make sense, and was not content to produce nonsense even if it did match the visual information. He became more consistent in reading for meaning and in using his own strong sense of language to predict what he thought the text might say. He could check those predictions with his knowledge of letters and sounds. During the next period I provided increasingly more difficult texts to try to give him more chances for problem solving. The running record shown in Figure 5 reveals Tim's progress as he independently read *Mouse*. At this point, he had shifted from an over-reliance on visual information to a more balanced set of strategies. In this example, Tim often reread, getting a "running start" to establish the language patterns and use them to predict. He was self-correcting and reading for comprehension.

Tim also made good progress in writing. He had no trouble composing a message; his sentences often contained high frequency words that he knew how to write. With unfamiliar words, he would produce all the letters he could, and I would fill in the rest. He was good at analyzing sounds in words, although he could not necessarily represent them in sequence. The underlined words and letters in Figure 6 show what Tim wrote independently The numbered boxes at the top indicate letter sounds that he produced when asked to sound out the word. Note that he produced these sounds out of sequence; the ending sound of each word was the first one produced.

Several weeks later, Tim could analyze sounds in sequence and write much more independently, as illustrated in Figure 7.

Tim continued to make good progress and was discontinued from the program in less than 10 weeks, when he was placed in the middle reading group in his first-grade class. In second grade, he was placed in the highest reading group and has remained a good reader through the third grade. In September, he will enter fourth grade as one of the best readers in his class.

I suspect that Tim believed that reading was *only* sounding out letters and visually analyzing words. He seemed to rely on visual information and to ignore his own sense of meaning and knowledge of language.

Tim's early responses to books, in protected home situations, may have been like those he displayed during the "roaming around the known" period. According to his parents, the LD kindergarten curriculum focused on isolated letter naming and letter/sound relationships. Tim rarely read any books at school, although his parents read to him at home. Could his later reading behavior have been influenced by the instructional program in kindergarten?

If the answer is yes. then Tim may have *learned* to be "learning disabled." His development of a broader range of strategies illustrates that he could learn. My hunch is that Tim was never really learning disabled. A more appropriate term might have been "instructionally disabled."

FIGURE 4.–In Tim's early reading, he disregarded his own language sense and meaning.

Page	Level 3 Bicycle Accuracy 58%	E	SC	Cues used E	Cues used SC
				week #1	
2	The clown got on				
3	and the lake lady got on	1		msⓋ	
4	and the bill boy got on	1		msⓋ	
5	and the green girl got on	1		msⓋ	
6	and the bus bear got on	1		msⓋ	
7,8	and the bicycle got saw squashed.	1		msⓋ	

FIGURE 5.–Later, Tim used a balanced set of strategies to read for comprehension.

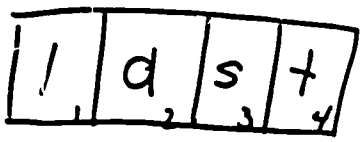
Mouse Level 4 Accuracy 100% week #3

Page		E	SC	Cues used E	Cues used SC
2	out of the home hole |R|sc creep creep		1	ⓂⓈV	msⓋ
3	Throw Through the grass creep creep |R| sc "that doesn't make sense"		1	msⓋ	ⓂⓈV
4	Up the stairs step |R|sc creep creep		1	ⓂⓈV	msⓋ
5	Under the door creep creep				
6	Around Across the floor |R|sc creep creep		1	ⓂⓈV	msⓋ
7	In |sc the cabinet |R|sc Into the cupboard creep creep		1 1	ⓂⓈV ⓂⓈV	msⓋ msⓋ
8	Up to the cheese creep creep				

FIGURE 6.–Tim's writing, Week 1. He produced letter sounds out of sequence.

It is fun to climb up on my top bunk bed.

FIGURE 7.–Tim's writing, Week 4. He wrote more independently and produced letter sounds in sequence.



I was in the fourth of July parade last yeor.

SARAH
by Diane DeFord

Sarah was seven when she was evaluated for Reading Recovery. She was among the lowest in her first-grade class, and her parents, both teachers, were concerned about the possibility that she might be retained.

Sarah had been read to by her parents since she was a toddler, and by her teachers in kindergarten and first grade. She was in a rich literacy environment, and had caring adults who supported her learning. However, by the beginning of November, she was still being considered for learning disabilities tutoring and was at risk within the classroom setting. After initial testing, Sarah was identified as one of the children to be included in the Reading Recovery program.

The early diagnostic testing indicated that Sarah had many strengths. She identified 53 of the 54 letters, was able to read 8 words out of a list of 20 basic vocabulary items (and, the, down, am, there, little, them, yes), and was familiar with many book handling concepts. She exhibited all of the early strategies, but did not attend to letter/word/line order information in the Concepts About Print Test. She could easily identify letters and specific words (was, no), and she understood the difference between the concepts of "word," "letter," "first," and "last."

In the writing portions of the Diagnostic Survey, she was able to write 13 words and to represent 19 of the 37 phonemes in the sentence "The bus is coming. It will stop here to let me get on."

As I began working with Sarah, it was evident that she was a risk taker. She made many attempts during the testing and early lessons that showed her willingness to try.

During the first 10 sessions, "roaming around the known," Sarah produced three books, exhibited another 26 written vocabulary items, and read 26 different books. She was actively participating in writing and reading experiences, and rapidly developing the necessary strategies that allowed her to quickly begin to accelerate within the program. I decided to begin her instructional program at a Level 2.

On an early reading at Level 6 (five weeks into lessons), I was pleased to see that she was reading for meaning, using language cues and checking these sources of information against visual information. (See Figure 8, page 24.)

Sarah clearly enjoyed our writing sesions. A writing sample collected in the last week before Christmas indicated that Sarah was independently generating stories and writing all of the text. (See Figure 9.) Her language was rich, and her stories creative. Her attitude in class had changed, and she was rapidly becoming one of the better readers within the lowest reading group. She was still having difficulty with writing during independent writing times, but was more often able to complete most of her seatwork in the time provided.

Sarah was discontinued within 47 lessons across 12 weeks. She grew to be an independent reader and writer, and was functioning within the average of her class in the middle reading group by the end of February. The example of her reading of *The Little Red Hen* (Figure 10) illustrates the type of strategies she exhibited at the point of being discontinued. She was reading at Level 12, which was typical of first-grade reading material with the average of her class. She was able to solve problems independently as a reader and a writer.

The dictation and writing subtests of the discontinuing testing indicate her progress in writing. She had a core of at least 35 high-frequency words she could write with ease, and she was able to represent 36 out of 37 phonemes in the sentences "I have a big dog at home. Today I am going to take him to school." In short, Sarah had developed into an independent reader and writer, and indicated she had a self-improving system.

In a follow-up of children in Sarah's school, I found that she was still progressing as a reader, and going beyond the average of her classmates. At the end of second grade, Sarah was reading at a Level 18, or at the end of the second-grade reading material. At the end of third grade, she had progressed to a Level 28, or fifth-grade material. When we talked with her classroom teacher, she indicated her surprise that Sarah had ever had problems in reading as a first grader.

FIGURE 8.–In an early reading, Sarah is reading for meaning, used language cues, and checked these sources of information against visual information.

PAGE	Cats and Kittens	E	SC	Cues Used E	Cues Used SC
2	Cats play.				
3	Kittens play too.				
4	Cats like milk.				
5	Kittens like milk too.				
6	Cats keep clean.				
	They like lick their fur.	1		m(V)s	
7	Kittens sc Cats keep their kittens clean too.		1	(m)sv	(m)sv
8	Cats hunt.				
9	Kittens hunt too.				
10	Cats get mad.				
	Their fur stands on end.				
	Their tail tails puff puffs up.	11			
11	Kittens get mad too.				
12	Cats sleep.				
13	Kittens sleep too.				

FIGURE 9.–Writing sample: Sarah independently generated story and wrote text.

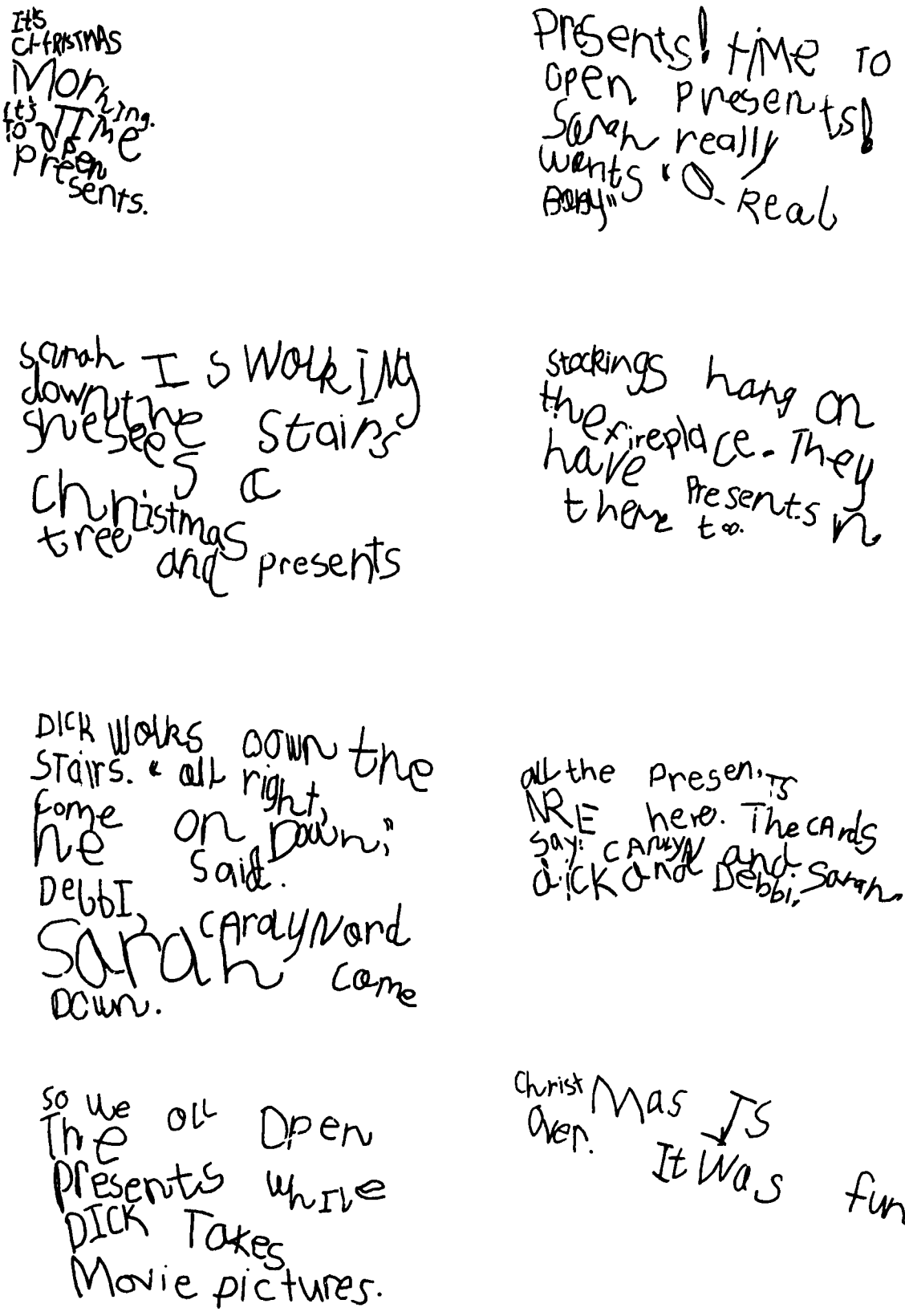
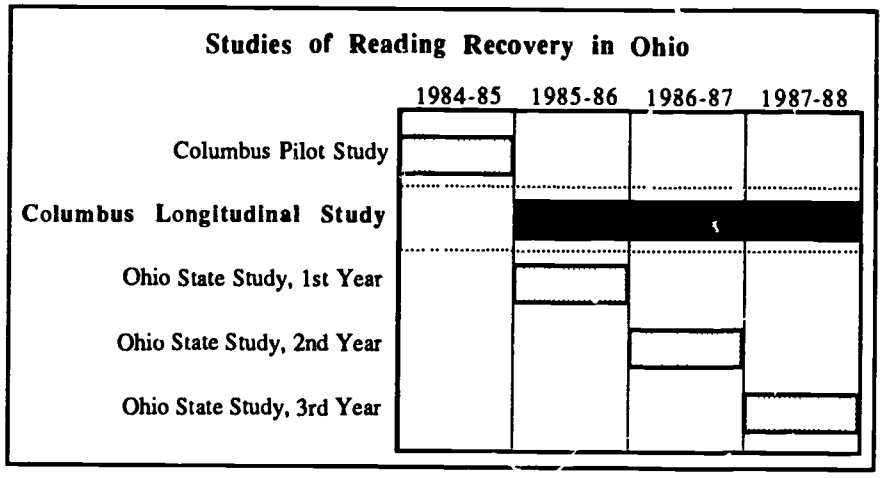


FIGURE 10.–Running record showing strategies Sarah was using in reading typical first-grade material at the time she was successfully discontinued.

PAGE	The Little Red Hen	E	SC	Cues Used E	Cues Used SC
1	Once upon a time				
	a cat and a dog and a mouse				
	and a little red hen		1	(M)(S)V	M S (V)
	all lived together in a cozy little house. R SC		1	(M)(S)V	M S (V)
			1	(M)(S)V	M S (V)
3	The cat liked to sleep all day				
	on the soft couch.				
5	The dog liked to nap all day				
	on the sunny (step) back porch. SC		1	(M) S V	M (S) (V)
6	The mouse liked to snooze all day				
	in the warm chair by the fireside. (fire)	1		(M)(S)(V)	
7	So the little red hen had to do all				
	the housework.				
	She cooked the meals and washed the dishes				
	and made (she) SC the beds. She swept the floor		1	M (S) V	M S (V)
	and washed the windows				
	and mended (made) the clothes.	1		(M)(S)(V)	

Chapter 3: Longitudinal Study, Columbus Public Schools



In Chapter 3 and Chapter 4, we describe the results of detailed studies of Reading Recovery that have been conducted in the Columbus Public Schools and in many school districts throughout the state of Ohio in the last few years. The results indicate that Reading Recovery can produce major, sustained improvement in the reading ability of a high proportion of at-risk first-grade students, rescuing these children from a future of school failure.

We present these research results as evidence of the unusual effectiveness that distinguishes Reading Recovery from the many other compensatory reading programs in use

Chapter 3 discusses the longitudinal study of Reading Recovery conducted in the Columbus Public Schools. This study followed the progress of a cohort of students who were in the bottom 20 percent of their classes in reading skills and who received Reading Recovery instruction in first grade during the 1985-86 school year.

The results showed that the short-term Reading Recovery intervention had greatly improved the reading skills of these children, and before the end of their first-grade year had enabled 73 percent of them to be 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.*

Chapter 4 reports on the implementation of Reading Recovery at sites throughout the state of Ohio. In 1985-86, the same year that the longitudinal study began in Columbus, Reading Recovery was implemented at 18 regional training sites throughout Ohio. The statewide program was expanded to 23 sites in 1986-87 and 1987-88. In Chapter 4 we describe studies of Ohio Reading Recovery students at the end of first grade in each of the three years. The results of the three separate first-grade studies confirm the positive findings documented in the first year of the Columbus Public Schools longitudinal study.

Background: From New Zealand to Ohio

The Reading Recovery program was piloted in New Zealand in 1979 with remarkable results. In Clay's study (1982, 1988), New Zealand children in the Reading Recovery program made accelerated progress and were able to reach the average levels for their classmates in an average of 14 to 16 weeks. Over 90 percent of the chil-

dren served were successfully discontinued; that is, they reached average levels and displayed evidence of having developed an independent system of reading.

After being successfully released from the Reading Recovery program, children received no further special help. Three years later, a high percentage continued to make progress and to perform at average reading levels. Based on these research results, Reading Recovery was made a national program in New Zealand.

In 1984-85, Marie Clay and Barbara Watson, National Director of Reading Recovery in New Zealand, came to The Ohio State University to train Reading Recovery teachers and Teacher Leaders. As part of the training, these teachers piloted Reading Recovery in six Columbus Public Schools from January through May 1985. Positive results of the pilot project encouraged the Columbus Public Schools to proceed with implementation of the Reading Recovery program in the 1985-86 school year and to initiate a longitudinal study of the effects of Reading Recovery.

Columbus Longitudinal Study, Initial Year

In 1985-86, the initial year of the longitudinal study, Reading Recovery was implemented in 12 schools in Columbus.

Thirty-two teachers were involved in the 1985-1986 Reading Recovery project. Of these, 12 had received their Reading Recovery training during the previous (pilot) year; another 20 were new Reading Recovery teachers who received their training during 1985-86. (For a description of the teacher training program, see Chapter 5.)

These 32 teachers began to teach Reading Recovery children in October, 1985. In some cases, a sharing arrangement was used, in which two teachers trained in Reading Recovery were paired and shared one first-grade class; each teacher spent half the day teaching the whole class, and the other half tutoring Reading Recovery children. In other cases, teachers who taught the whole class were not trained in Reading Recovery.*

Research Groups —

In September 1985, the lowest 20 percent of children in the classrooms taught by Reading Recovery teachers (as determined by the Diagnostic Survey and the classroom teachers' judgment) were selected for Reading Recovery. The lowest 20 percent of children were also identified in other classrooms in the same schools: half of these children were randomly assigned to receive Reading Recovery intervention, and the other half were randomly assigned to an alternative compensatory program. A total of 136 were assigned to receive Reading Recovery tutoring, and a total of 51 were assigned to the alternative compensatory program. (See Appendix B for a description of the alternative program.)

For research purposes, *Reading Recovery children* were defined as those children who at some time during their first-grade year had 60 or more lessons or were successfully discontinued (released) from the program. *Comparison*

*The question arose: Would children receiving separate Reading Recovery tutoring and also taught reading in first-grade classes taught by Reading Recovery teachers achieve more than did children in first-grade classes taught by regular teachers who were not Reading Recovery-trained? A rather elaborate design was established to detect any such possible impact. The results of this research have been reported in Pinnell and others (1984-86) and Deford and others (1986-88). A slight difference was found in favor of students taught in the whole class by Reading Recovery teachers, but the difference was not statistically significant. For purposes of brevity in this monograph, all children receiving Reading Recovery instruction will be treated as a single group.

children were those initially identified as being in the lowest 20 percent of regular classrooms who were served all year by the *alternative compensatory* program. No children were served by both programs.

Figure 11 on page 30 summarizes the composition of the different research groups used in the longitudinal study during the initial year (1985-86) and the two follow-up years, as this cohort of first graders moved on to the second grade and then to the third grade.

Research Questions, Initial Year —

The first evaluation of the effects of Reading Recovery on 1985-86 first graders was conducted in May 1986, at the end of their first-grade year. Reading Recovery children had received tutoring for various lengths of time during the year. Most of them had been successfully discontinued from the program; some had not been successfully discontinued by the end of the year. The following research questions were addressed:

1) How did Reading Recovery children and Comparison children compare at the end of grade one on a variety of measures of reading ability?
2) How did Reading Recovery and Comparison children perform at the end of grade one on nationally normed standardized tests?
3) What proportion of successfully discontinued Reading Recovery children (those who were successfully released from the program) achieved end-of-year scores equivalent to the average band of achievement of a Random Sample of first-grade students?

Procedures, Initial Year —

In October and May, the Reading Recovery and Comparison children were assessed on eight dependent measures. (For a description of each of the dependent measures, see Appendix C.) The measures were:

1) Text Reading;
2) Letter Identification;
3) Word Test;
4) Concepts About Print;
5) Writing Vocabulary;
6) Dictation;
7) Two subtests of the *Comprehensive Tests of Basic Skills* (Reading Vocabulary and Reading Comprehension); and
8) A writing sample.

In addition to the Reading Recovery and Comparison groups, a random sample of 102 first-grade students in Columbus project schools was also tested on the first seven dependent measures listed above. This Random Sample group provided a perspective for comparing the achievement of the two groups of Research children with the average achievement of other children at the same grade level.

Means and standard deviations were calculated on all measures.

Results and Analysis, Initial Year —

Of the 136 children assigned to Reading Recovery in September 1985, 73.5 percent were successfully discontinued from the program at various times during the school year and received no further treatment. (Three of these successfully discontinued children moved from the district before the end of the year, and therefore do not appear in the May testing results). These successfully discontinued children received an average of 67 thirty-minute Reading Recovery lessons. The other 26.5 percent of children had not been discontinued by the end of the school year.

Question #1 — How did Reading Recovery children and Comparison children compare at the end of grade one on a variety of measures of reading ability?

In Table 1 on page 38, September and May scores on the first seven measures are presented

FIGURE 11.

Summary of Groups: Longitudinal Study, Columbus Public Schools

Initial Year (1985-86)

FALL 1985 (BEGINNING OF FIRST GRADE)

Reading Recovery children —
from bottom 20% in reading
assigned to receive Reading Recovery program 136

Comparison Children —
from bottom 20% in reading, assigned to receive regular remedial instruction for full school year..... 51

MAY 1986 TESTING (END OF FIRST GRADE)

All Reading Recovery Children
Received at least 60 Reading Recovery lessons or were successfully discontinued from the program during the school year. (Three children from fall cohort who had been successfully discontinued moved from district before spring testing) 133

Number successfully discontinued from program (100 minus 3 who moved) 97

Number not discontinued from program 36

Percent of all Reading Recovery children (including three who left school system) who were successfully discontinued 73.5%

Average number of daily, 30-minute sessions for children successfully discontinued ..... 67 sessions

Comparison Children (same group as in fall 1985) 51

Random sample of first-grade students in project schools, excluding Reading Recovery and Comparison children (base for first-grade average) 102

Follow-up (1986-87 and 1987-88)

MAY 1987 TESTING (END OF SECOND GRADE)

Reading Recovery Children
successfully discontinued and not-discontinued children from fall 1985 cohort who were still in district in spring 1987 116

Comparison Children
from fall 1985 cohort who were still in district in spring 1987 43

Random sample of second-grade students in project schools, excluding Reading Recovery and Comparison children (base for 2nd-grade average) 68

MAY 1988 TESTING (END OF THIRD GRADE)

Reading Recovery Children
successfully discontinued and not-discontinued children from fall 1985 cohort who were still in district in spring 1988 105

Comparison Children
from fall 1985 cohort who were still in district in spring 1987 42

Random sample of third-grade students in project schools, excluding Reading Recovery and Comparison children (base for third-grade average) 67

for three groups: 1) Reading Recovery children, 2) Comparison children; and 3) Random Sample of all first-grade children in project schools.

These data indicate that in May of 1986, Reading Recovery children as a total group (successfully discontinued and not-discontinued combined) scored higher than Comparison children on all measures. In fact, the scores of the total Reading Recovery children were very similar to those of the Random Sample group of first-grade students. Specifically, the Reading Recovery group scored slightly higher on Letter Identification, Concepts About Print, Writing Sample, and Dictation, and slightly lower on Writing Vocabulary, Text Reading, and Word Test. As a group, the Reading Recovery children, who were in the lowest 20 percent of their class in reading skills at the beginning of the year, now scored about the same as a group of average first graders.

Table 2 (page 39) shows the May 1986 end-of-year scores broken into two groups: 1) successfully discontinued Reading Recovery children, who had made sufficient progress to be released from Reading Recovery; and 2) not-discontinued Reading Recovery children. The scores of these two groups and the scores for the Comparison group are compared with the scores for the Random Sample of all first graders. The figures show successfully discontinued Reading Recovery students scoring *higher* than the Random Sample of all students on *all* seven measures, while not-discontinued Reading Recovery students and Comparison students score lower on every measure.

Discontinued and not-discontinued children are considered separately because the expectations are different for these two groups of children. Discontinued children not only have made accelerated progress in the program; an analysis of their reading behaviors indicated that they have developed the strategies necessary to keep on learning to read better and eventually to learn from their reading. They have made the "breakthrough" to literacy. For children in some classrooms, meeting this criterion also may mean scoring at the high end of "average" or even above average. In other classrooms, a child might score at the low end of "average" yet show the necessary evidence of effective reading strategies. Barring extraordinarily negative school environments, we would expect those children to keep on making progress, and to the extent that they do, the discontinuing judgments have been made successfully.

Not-discontinued children are those who have not qualified for release either by score or by the analysis of reading and writing behaviors. Perhaps they needed a longer than average time of individual tutoring; or there may be physical or emotional difficulties that indicated the need for continued extra help. Those children may have made progress, but the system is probably not in place for them to continue that progress. They will tend to do what is typical of children in remedial programs; they will make very slow progress even with extra help.

Question #2 — How did Reading Recovery and Comparison Children perform at the end of grade one on nationally normed standardized tests?

Results from the Reading Vocabulary subtest of the *Comprehensive Tests of Basic Skills*, a nationally normed standardized test, show that Reading Recovery children had a Normal Curve Equivalent (NCE) gain score of 7.4 compared to -2.6 for Comparison children. On the Reading Comprehension subtest, Reading Recovery children had an NCE gain of 7.0, compared to -4.5 for Comparison children. On the Total Reading combined score, the NCE gain was 8.6 for Reading Recovery children and -2.4 for Comparison children. Thus, Comparison children lost ground

while Reading Recovery children gained ground relative to the expected achievement for their grade level. Table 3 (page 40) shows these data.

Question #3 — What proportion of successfully discontinued Reading Recovery children (those who were successfully released from the program) achieved end-of-year scores equivalent to the average band of a Random Sample of first-grade students?

The May 1986 end-of-year scores of successfully discontinued Reading Recovery children were compared with those of the average band of scores of the Random Sample of first-grade students. The average band of scores was calculated by computing both a mean and a standard deviation and by using plus or minus .5 standard deviation from the mean as the upper and lower boundaries of average performance.

Table 4, page 41, shows that over 90 percent of the successfully discontinued Reading Recovery students met or exceeded the average range on Text Reading, Letter Identification, Basal Word Test, and Dictation. On the Concepts About Print assessment, over 88 percent met or exceeded the criteria. Over 79 percent met or exceeded the criteria on Writing Vocabulary, and over 70 percent met or exceeded the criteria on the Writing Sample.

These very high percentages of successfully discontinued Reading Recovery children scoring within the average band at the end of first grade should be viewed in perspective. We must remember that the criterion for successfully discontinuing a child from Reading Recovery was that he or she attain a level of performance at or above the average of his or her peers. Therefore, by definition, almost all of the discontinued children would logically be expected to fall above or within the average band at the time of their release from the Reading Recovery program. However, we would not expect them to sustain this closely clustered distribution within the average band after they returned to regular classroom instruction; rather, we would expect them, while maintaining at least minimum expectations for grade level, to rearrange themselves into a distribution more closely resembling that of the Random Sample of their grade-level peers. In fact, as the discussion of follow-up testing at the end of second and third grades will show, this is what happened.

Figure 12 (page 33) indicates that the mean scores for Reading Recovery children on four measures of reading skills in May 1986 fell within the average band for first graders. It also shows that the Comparison group mean was below this average band in each case, although both Comparison and Reading Recovery children had begun the year in the bottom 20 percent of their class, far below the average band.

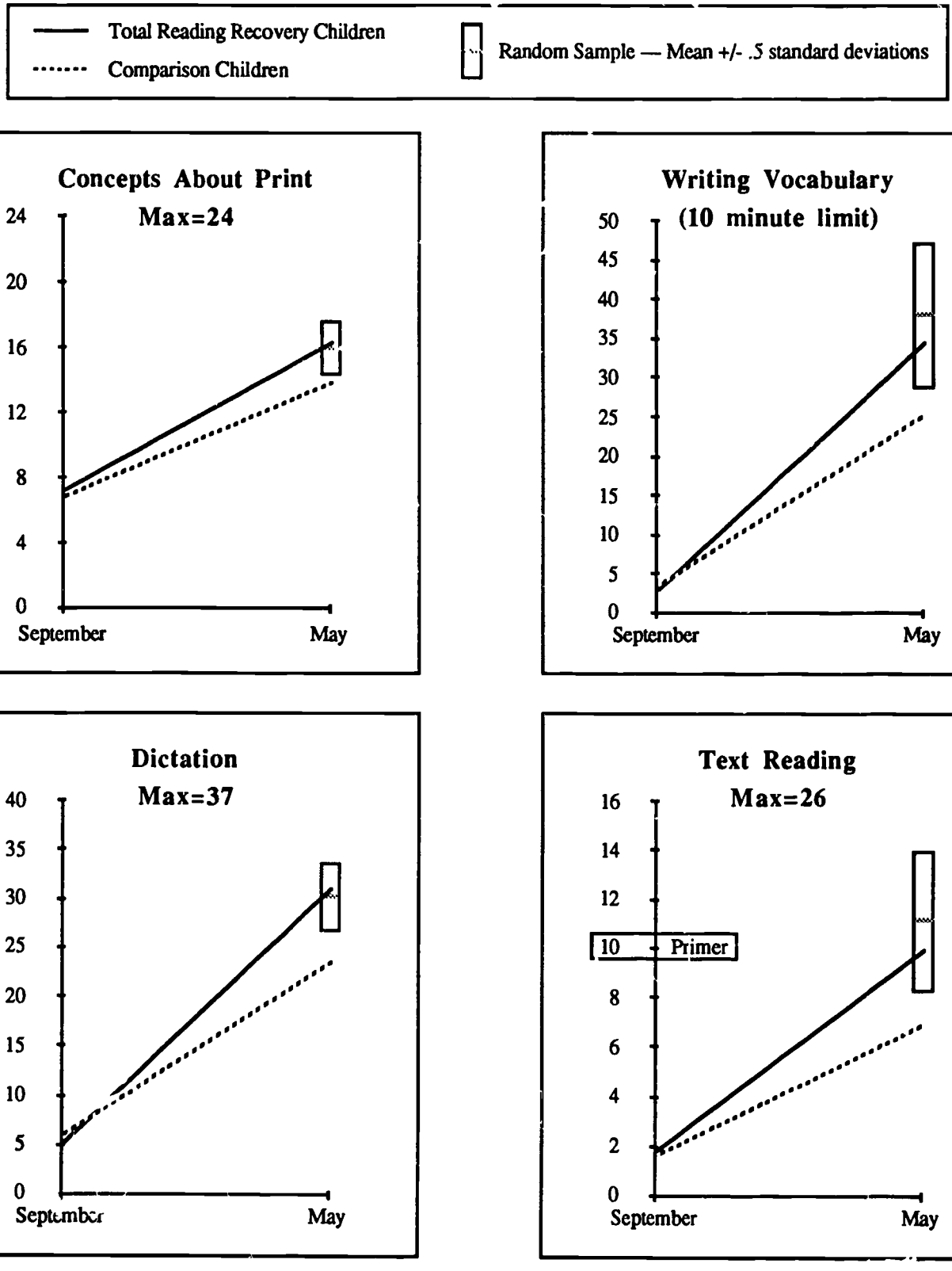
Summary of Initial-Year Results —

The Reading Recovery program, in its first full year of operation in the Columbus Public Schools (1985-86), produced positive outcomes. Of the 136 children who were provided with the Reading Recovery intervention, 73.5 percent were successfully discontinued; that is, they made sufficient progress to be released from the Reading Recovery program.

The group of all Reading Recovery children (successfully discontinued and not-discontinued combined) scored significantly higher than a control group of Comparison children on a wide variety of measures of reading performance. Successfully discontinued Reading Recovery children achieved mean scores within the average band for a random sample of all first-grade children on all measures.

These first-year results provided evidence that Reading Recovery was an effective program for Ohio children and that it could be used successfully in American public schools.

FIGURE 12.—Text Reading Scores of Total Reading Recovery Group and Comparison Groups, Compared with Average Band of First-Grade Children, September 1985 and May 1986



Follow-up Studies: Second and Third Years

The initial evaluation of the 1985-86 first-grade cohort of Reading Recovery children in Columbus demonstrated the success of Reading Recovery in taking students with severe reading difficulties and raising them up to the average level of their class in a short time. The next step in the longitudinal study was to determine whether these children would maintain their dramatic gains in subsequent school years, without further intervention.

The cohort of 1985-86 first-grade Reading Recovery children who were still attending the Columbus public schools were followed during the first and second full years after the intervention. The purpose of the follow-up studies was to gather information about the long-range effectiveness of the Reading Recovery program.

Research Questions, Follow-up Studies —

1. How did the performance of Reading Recovery children (successfully discontinued and not-discontinued combined) compare with the performance of Comparison children on text reading ability at the end of second and third grades?
2. What proportion of Reading Recovery children (successfully discontinued and not-discontinued) and Comparison children achieved end-of-year scores equivalent to the average band for all second-grade children in 1987 and for third-grade children in 1988?
3. Did successfully discontinued Reading Recovery children sustain the gains they achieved in first grade through the end of second and third grades, without any further intervention?

Procedures, Follow-up Studies —

In May 1987, Reading Recovery and Comparison children — most of whom were then completing the second grade — were assessed on their Text Reading level.* To provide perspective for the scores of both groups, a random sample of second-grade children was selected from regular classrooms in project schools and administered the Text Reading test. A similar testing process was conducted in May 1988, at the end of the third grade.

The Text Reading test for these grade levels has material representing 1-30 levels of reading difficulty. The student must read material with 90 percent accuracy to be assessed as competent in reading at a specific level. (See page 9, Chapter 1 for a description.)

All testing was carried out by "blind" testers who were given lists of children to test individually. Testers were sent to schools where they did not know the children. Children on their lists were not designated as to group (Reading Recovery, Comparison, or Random Sample).

An average band for Text Reading level was calculated for second graders in 1987 and for third graders in 1988. As before, the average band was defined as plus or minus .5 standard deviation from the mean of the Random Sample.

Results and Analysis, Follow-up Studies —

Question #1 — How did the performance of Reading Recovery children (successfully discontinued and not-discontinued) compare with the performance of Comparison children on text reading ability at the end of second and third grades?

* The Text Reading test was the most appropriate and virtually the only measure available within the financial constraints and the regular testing program of the Columbus schools in these years. Standardized tests were administered to students only in the first and fourth grades.

One year after the end of the treatment year, in May, 1987, both groups of students (most in second grade) were assessed on Text Reading. Table 5 on page 42 shows that the Reading Recovery children (total group) performed better than the Comparison children.

Again in May of 1988, two years after the end of the treatment year, when most were in third grade, the Reading Recovery children performed better than the Comparison children.

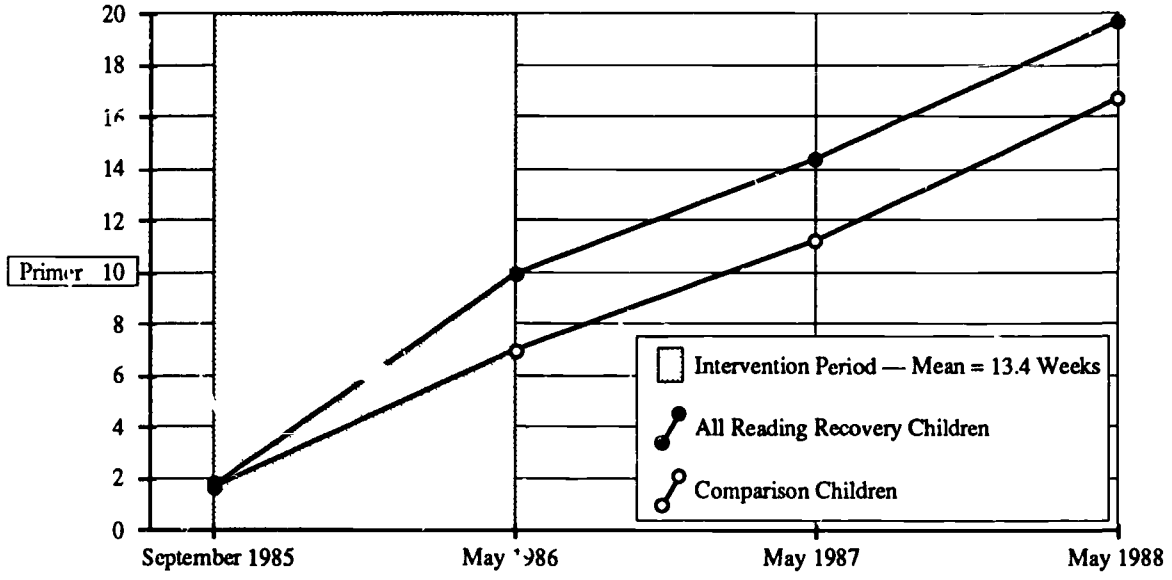
These differences were even greater for the group of successfully discontinued Reading Recovery children, who far outperformed the Comparison group at each testing. At the end of their third-grade year, the successfully discontinued Reading Recovery group averaged slightly above the Random Sample of all third-grade children in Text Reading.

Scores comparing Reading Recovery children and Comparison children are graphically illustrated in Figure 13. As shown here, the group of all Reading Recovery children still maintained the advantage that they had achieved by the end of the initial first-grade intervention.

Question #2 — What proportion of Reading Recovery children (successfully discontinued and not-discontinued) and Comparison children achieved end-of-year Text Reading scores equivalent to the average band for second grade children in 1987 and for third grade children in 1988?

One year after the intervention, both groups were compared with a Random Sample of second graders; two years after the intervention, both groups were compared with a Random Sample of third graders. The proportion of children who performed at average or above-average levels was calculated for the total group of Reading Recovery children (discontinued and not-discontinued) and

FIGURE 13. — Mean Text Reading Level for the 1985-86 First Grade Cohort: All Reading Recovery Children Versus Comparison Children



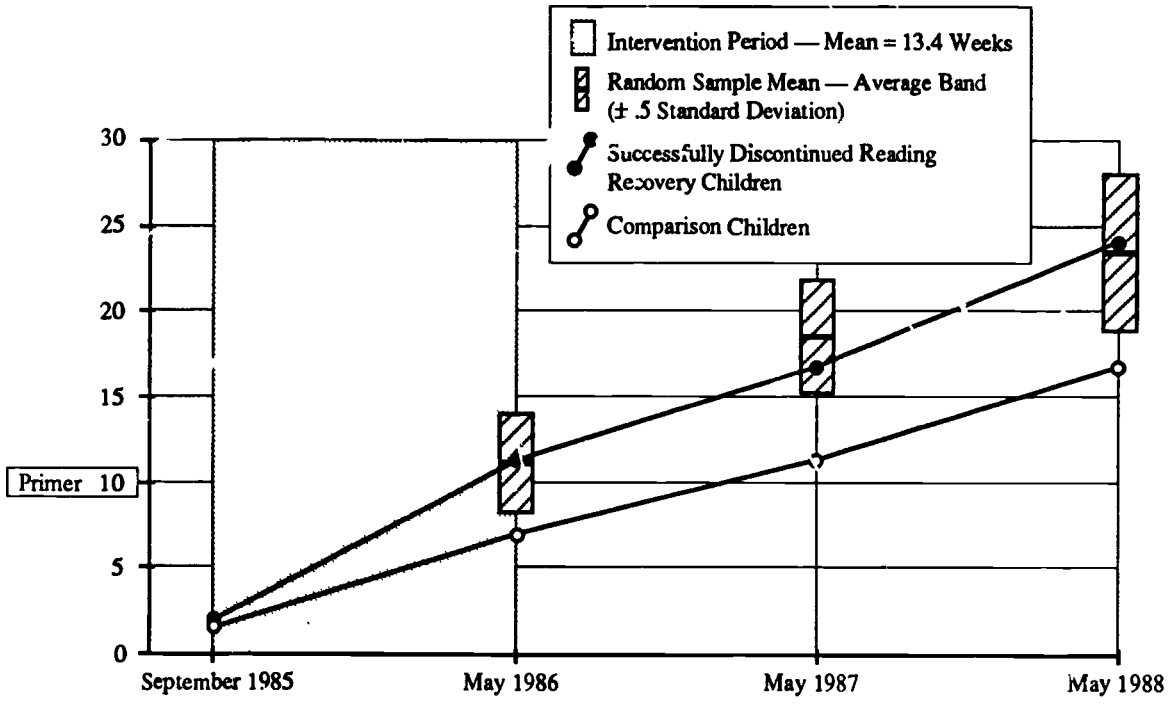
for the total group of Comparison children. These data are summarized in Table 6 on page 43.

Results of the average-band analysis indicate that substantially larger percentages of the total group of Reading Recovery children were at average or above-average levels on the measure of Text Reading compared to Comparison children. Successfully discontinued children had the highest proportions of children at average or above-average levels on Text Reading. These proportions compared favorably to those of the Random Sample. In looking at these results, we should remember that *all* of the Reading Recovery and Comparison children began their first-grade year in the bottom 20 percent of their classes in reading skills. It should also be pointed out that the great loss of children due to migration and retention for reasons other than reading are limitations of the longitudinal study.

Question #3 — Did successfully discontinued Reading Recovery children sustain the gains they achieved in first grade through the end of second and third grades, without any further intervention?

To address this question, the mean scores on Text Reading levels of successfully discontinued Reading Recovery children were examined at four points, from October, 1985, through May, 1988. Results of the follow-up data on successfully discontinued children are graphically illustrated in Figure 14. Their progress and that of the Comparison group are compared with the average band of Text Reading level achieved by Random Samples of all first-grade, second-grade, and third-grade students.

FIGURE 14. — Mean Text Reading Level for the 1985-86 First Grade Cohort: Successfully Discontinued Reading Recovery Children and Comparison Children in Relationship to the Random Sample Average Band



These results provide evidence that a high proportion of successfully discontinued children continued to make progress for at least two full years after their individual Reading Recovery intervention had taken place. At the end of first grade, successfully discontinued children as a group scored within the average band of the Random Sample of all first graders in their project schools. At the end of second grade and again at the end of the third grade, the mean Text Reading level of discontinued Reading Recovery children was still within the average band of all children for their grade level. At the same time, the mean Text Reading level of the Comparison group fell below the average band at each grade level.

These data show that, as a group, discontinued Reading Recovery children continue to perform at a level consistent with the average band for the appropriate grade level for two years following their Reading Recovery year, without the need of any further intervention.

Summary of Follow-up Studies --

The follow-up studies involved the cohort of first-grade children served by the Reading Recovery program in the Columbus Public Schools in 1985-86, the initial year of the longitudinal study. In these studies, Reading Recovery children performed better than Comparison children at the end of the intervention period, and they continued to perform better one and two years after withdrawal of the intervention. Higher proportions of Reading Recovery children scored at average or above-average levels for Text Reading. Reading Recovery children continued to make progress, while the Comparison group continued to fall further behind each year. Successfully discontinued children, as a group, were performing within the average range for their grade-level peers at the end of the intervention and continued to perform within the average range for their grade-level peers through the second and third grades.

Conclusion

The longitudinal study conducted in the Columbus Public Schools provides important information for persons interested in implementing the Reading Recovery early intervention program.

First, the evidence indicates that the program benefits a large proportion of children having the most difficulty in learning to read. In general, these effects are sustained for at least two years following the release of children from the program. It is reasonable to expect, therefore, that if the program is implemented with care and integrity, it will produce positive immediate and long-term effects.

Reading Recovery will not solve all problems related to school failure. It is evident from our experience with several years of implementation that teachers' perceptions of children and definitions of competency are hard to change. What this program will do is improve the reading ability of a large proportion of at-risk children. We need continued opportunities within schools and classrooms for these young children, many of whom still live within an "at-risk" population, to make the most of their potential abilities.

The Reading Recovery team, including school district officials, teachers, and Ohio State University personnel, are continuing to study the program carefully. Children from the 1985-86 first-grade cohort will be followed, and researchers will do additional in-depth study of the processes involved in the program. Procedures for training new Reading Recovery teachers and for identifying and working with children, particularly those from highly mobile populations, are being further developed and refined.

Highlights from Table 1:

- Although the Reading Recovery and Comparison groups had similar mean scores for the six components assessed in September, 1985, the Reading Recovery group (including both discontinued and not discontinued students) scored higher on all seven measure at the end of the school year.
- While the Reading Recovery children had been assessed as having reading skills that placed them among the bottom 20 percent of all first graders in September, their May scores approximated those of the Random Sample of all first graders.
- Reading Recovery scores were slightly lower than the Random Sample scores for text reading, but the Reading Recovery children actually did better than the Random Sample children on several other measures.

Table 1.—Means and Standard Deviations for All Reading Recovery Children, Comparison Children, and Random Sample of First Graders on Seven Measures, September and May 1985-86

Measure	Month	Reading Recovery Children[1] N	Mean	S.D.	Comparison Children N***	Mean	S.D	Random Sample N***	Mean	S.D.
Text Reading (Max=26)	Sept	131 *	1.82	.85	51	1.65	.96	—	—	—
	May	133**	9.95	3.14	51	6.96	3.07	101	11.15	5.62
Writing Sample (Max=6)	Sept	—	—	—	—	—	—	—	—	—
	May	131	2.94	1.17	46	2.33	1.10	100	2.92	19
Letter Ident. (Max=54)	Sept	131	36.35	14.67	51	33.29	14.96	—	—	—
	May	133	51.92	3.34	51	49.61	8.33	102	51.78	3.99
Word Test (Max=15)	Sept	131	2.11	2.24	51	2.04	2.09	—	—	—
	May	133	13.62	1.79	51	11.98	3.92	102	13.91	1.95
Concepts About Print (Max=24)	Sept	131	7.39	3.68	55	6.96	2.92	—	—	—
	May	133	16.40	2.82	51	13.98	3.31	102	16.00	3.25
Writing Vocab. (10 min)	Sept	131	2.99	2.81	51	3.41	3.09	—	—	—
	May	133	24.68	12.82	51	25.37	14.33	102	38.12	18.46
Dictation (Max=37)	Sept	131	5.51	5.75	51	6.22	5.72	—	—	—
	May	133	31.20	5.88	51	23.80	7.99	102	30.24	6.96

[1]Includes both successfully discontinued children and not-discontinued children who received at least 60 Reading Recovery lessons during first-grade year. There were a total of 136 such children who were served at some time during the year.
* Less than 136 because students entered program after September.
** Less than 136 because 3 students moved before May testing.
***Differences in Ns reflect students who were absent during testing.

Highlights from Table 2:

- Mean scores of *Successfully D. .ontinued* Reading Recovery children (who started the school year in the bottom 20 percent of first graders) are higher than Random Sample mean scores on all seven elements of skills tested, including text reading.
- Although *Not Discontinued* Reading Recovery children score lower than the Random Sample children on all seven measures, their scores are very similar to those of the Comparison Children who were served during the school year by a remedial reading program. Lower scores for the *Not Discontinued* Reading Recovery children would have been expected since the Comparison Children group still includes a broader range of ability/skills than the less successful Reading Recovery children represented by the *Not Disc. ntinued* segment.

Table 2.—Means and Standard Deviations of Successfully Discontinued RR Children, Not-Discontinued RR Children, Comparison Children, and a Random Sample of First-Grade Children

		READING RECOVERY CHILDREN						COMPARISON CHILDREN			RANDOM SAMPLE		
		1) Succ. Discontinued RR			2) Not-Discontinued RR								
		N*	Mean	S.D.	N*	Mean	S.D.	N*	Mean	S.D.	N*	Mean	S.D.
Text Reading (Max=26)	Sept	95	1.96	.85	36	1.47	.77	51	1.65	.96			
	May	97	11.32	2.45	36	6.28	1.30	51	6.96	3.07	101	11.15	5.62
Writing Sample (Max=6)	May	96	3.19	1.15	35	2.26	.92	46	2.33	1.10	100	2.92	1.39
Letter Ident. (Max=54)	Sept	95	40.56	12.07	36	23.64	13.97	51	33.29	14.96			
	May	97	52.66	1.21	36	49.94	5.70	51	49.61	8.33	102	51.78	3.99
Word Test (Max=15)	Sept	95	2.59	2.36	36	.86	1.22	51	2.04	2.09			
	May	97	14.32	.96	36	11.72	2.11	51	11.98	3.92	102	13.91	1.95
Concepts About Print (Max=24)	Sept		7.01	3.44	36	5.22	2.83	55	6.96	2.92			
	May		13.33	2.20	36	13.89	2.80	51	13.98	3.31	102	16.00	3.25
Writing Vocab. (Max=10 min.)	Sept	95	3.68	2.94	36	1.17	1.18	51	3.51	3.09			
	May	97	39.08	11.21	36	22.81	8.76	51	25.37	14.33	102	38.12	18.46
Dictation (Max=37)	Sept	95	6.65	5.79	36	1.94	2.07	51	6.22	5.72			
	May	97	33.59	3.48	36	24.78	6.24	51	23.80	7.99	102	30.24	6.96
Ave. No. Lessons			67			100							

*Differences in Ns reflect students who were absent during May testing

Highlights from Table 3:

- When students were given the Comprehensive Test of Basic Skills, the Reading Recovery children as a group (including both Discontinued and Not Discontinued children) *gained* ground relative to the level of skills expected of them in the fall and again in May.
- Comparison children, on the other hand, had a minus gain score. In other words, their skill level was worse in relation to expectations for first-grade students in May than in the fall.

Table 3.—Normal Curve Equivalent (NCE) Gain Scores for Reading Recovery and Comparison Groups, Comprehensive Tests of Basic Skills, May 1986

		Pretest (Fall 1985)	Posttest (May 1986)	NCE Gain Score
Reading Vocabulary				
Reading Recovery	N=126*	30.9	38.3	7.4
Comparison	N=26**	31.5	28.9	-2.6
Reading Comprehension				
Reading Recovery	N=125	31.8	38.8	7.0
Comparison	N=26	28.8	24.3	-4.5
TOTAL READING* **				
Reading Recovery	N=124	29.4	38.0	8.6
Comparison	N=26	26.7	24.3	-2.4

* N<136 because of absent students when CTBS was given.
** N<51 because Comparison children analysis was computed for children who were both present when CTBS was given and in school 80 percent of the time.
*** Total Reading is a combined score consisting of the average of individual scale scores in vocabulary and oral or reading comprehension.

Highlights from Table 4:

- In the seven skills tested, between 70.8 percent and 99.0 percent of *Successfully Discontinued* Reading Recovery children scored within or above the average band of test scores of the Random Sample of first-grade students. If the skill levels of these Reading Recovery students had remained the same throughout the school year relative to other first graders, all of them would have been expected to fall in the bottom 20 percent of students at the end of the year.
- Almost 93 percent of the *Successfully Discontinued* Reading Recovery children fell within or above the average band of test scores (+ or - .5 standard deviation from the mean score of the Random Sample of all first graders) for text reading. Even higher percentages fell within or above the average bands for the skills of letter identification, dictation, and basal word test.
- Even on the writing sample segment of the test, the skill for which scores of the *Successfully Discontinued* Reading Recovery children were lowest relative to the Random Sample group, seven out of ten of the children achieved scores that fell within or above the average band.

Table 4.—Numbers and Percentages of Successfully Discontinued Reading Recovery Children in End-of-Year Average Band, May 1986

Measure	Band	Number	Percent
Text Reading	Met or Exceeded Average	90	92.8%
	Below Average	7	7.2%
Writing Sample	Met or Exceeded Average	68	70.8%
	Below Average	28	29.2%
Letter Identification	Met or Exceeded Average	96	99.0%
	Below Average	1	1.0%
Basal Word Test	Met or Exceeded Average	91	93.8%
	Below Average	6	6.2%
Concepts About Print	Met or Exceeded Average	86	88.7%
	Below Average	11	11.3%
Writing Vocabulary	Met or Exceeded Average	77	79.4%
	Below Average	20	20.6%
Dictation	Met or Exceeded Average	94	96.9%
	Below Average	3	3.1%

NOTE: Average band is + or - .5 standard deviation from the mean score of the Random Sample of all first-grade students.

Highlights from Table 5:

- A comparison of the text reading level scores of *Successfully Discontinued* Reading Recovery students with those of the *Random Sample* students demonstrates the long-term effectiveness of the Reading Recovery program from the standpoint of helping students to incorporate successful strategies for reading into their repertoires. At the end of third grade, the mean text reading level score for *Successfully Discontinued* Reading Recovery children is 23.99 and that of the Random Sample 23.50.
- Mean scores of the total Reading Recovery (discontinued and not discontinued) group are also higher than the mean scores of the Comparison group (both of which are composed of students who were identified in the beginning of their first grade year as falling within the bottom 20 percent of all first graders on the basis of reading skills) at each of the three administrations of the test.
- Although mean scores for the *Not Discontinued* Reading Recovery students are lower than those of the Comparison group, it should be remembered that the Comparison group still contains students from the whole "bottom 20 percent" stratum while the *Not Discontinued* means represent only the scores of the least successful Reading Recovery students.

Table 5.—Means and Standard Deviations on Text Reading Level for All of the Year I Cohort (1985-86) Children at Four Points in Time

Date	Reading Recovery									Comparison			Random Sample*		
	Discontinued			Not Discontinued			Total								
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
Sept. 85	95	1.96	.85	36	1.46	.77	131	1.82	.85	51	1.65	.96			
May 86	97	11.32	2.45	36	6.28	1.30	133	9.95	3.14	51	6.[illegible]	3.07	101	11.15	5.62
May 87	85	16.71	5.84	31	8.03	2.39	116	14.39	6 42	43	11.23	4.88	68	18.60	6.67
May 88	78	23.99	6.48	27	10 19	3 49	105	19.70	5.71	42	16.71	6.80	67	23 50	9.00

NOTE: Numbers of students vary due to absence on day of testing or movement from the school system. Numbers in Reading Recovery and Comparison groups include all children who remained in the school district — both those promoted each year and those retained in first or second grade.

*Each year a new Random Sample was drawn. The numbers in the table reflect Random Sample students present on the day of testing.

Highlights from Table 6:

- At the end of third grade, the percentages of *Discontinued* Reading Recovery children who performed within or above the average band on Text Reading looked very similar to the percentages of Random Sample children performing at these levels.
- The percentages of Comparison children performing within or above the average band at the end of third grade fell far below the percentages for *Discontinued* Reading Recovery children and the Random Sample.
- The distribution of *Not Discontinued* Reading Recovery students was far lower than the other groups. However, it should be remembered that only the least successful Reading Recovery students are represented by the *Not Discontinued* group. When the Reading Recovery group is viewed as a whole (including both *Discontinued* and *Not Discontinued* students), the distribution is still markedly higher than that of the Comparison group.

Table 6.—Numbers and Percentages of 1985-86 First-Grade Cohort Reading Recovery and Comparison Children Who Fell Within the Average Band on Text Reading Level, May 1987 and May 1988

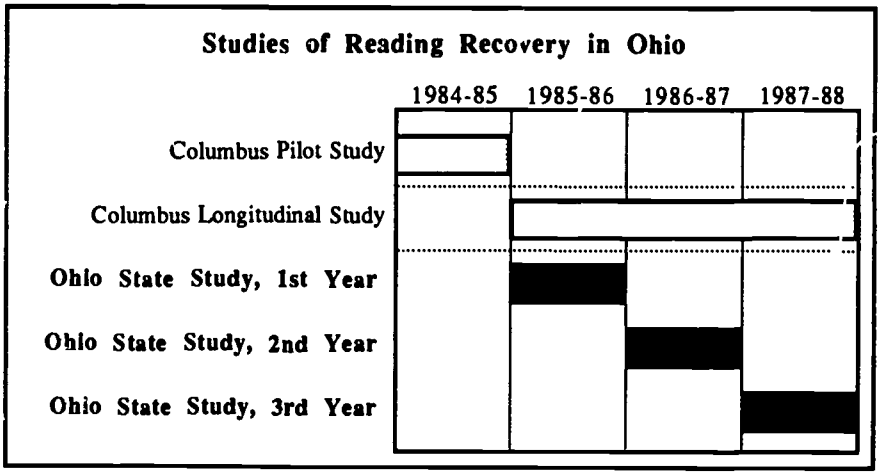
	Reading Recovery						Comparison		Random Sample	
	Discontinued		Not Discontinued		Total					
	N	%	N	%	N	%	N	%	N	%
May 1987										
Band										
Above Av.	15	18.1	0	0.0	15	15.8	2	6.7	19	27.9
Average*	21	25.3	0	0.0	21	22.1	2	6.7	21	30.9
Below Av.	47	56.6	12	100.0	59	62.1	26	86.6	28	41.2
May 1988										
Band										
Above Av.	30	48.4	0	0.0	30	44.1	5	19.2	34	50.7
Average*	13	21.0	0	0.0	13	19.1	4	15.4	14	20.9
Below Av.	19	30.6	6	100.0	25	36.8	17	65.4	19	28.4

NOTE: Numbers of children in Table 6 include only those who were actually in the appropriate grade level at the time of testing, and therefore differ from the numbers in Table 5, which include all 1985-86 first-grade cohort children regardless of the grade they were in at the time of testing.

* The average band is defined as plus or minus .5 standard deviation from the mean score of the Random Sample. Using the Random Sample means and standard deviations shown in Table 5, the average band for each testing date is:

	Mean	SD	Average Band
May 1986	11.15	5.62	8.34-13.96
May 1987	18.60	6.67	15.27-21.94
May 1988	23.50	9.00	19.00-28.00

Chapter 4: Ohio Reading Recovery Project



Implementation at State Sites

Based on the positive results of the 1984-85 pilot study in Columbus, the Ohio General Assembly provided financial support to implement a statewide Reading Recovery program. The Ohio Department of Education developed a four-year plan to implement an early reading intervention program. The program was designed to eventually reach an estimated 15 percent of all first graders in Ohio.

1985-86 —

In 1985-1986, the same year that the longitudinal Columbus project was implemented, 28 Teacher Leaders were enrolled in the training program at The Ohio State University — 22 representing Reading Recovery sites distributed geographically throughout the State of Ohio, and six prospective Teacher Leaders from the university.

Teacher Leaders were selected for experience and leadership. Each Teacher Leader taught four children each day in Reading Recovery lessons and completed various other responsibilities in his or her district. A total of 110 children were served. One day a week throughout the year, Teacher Leaders travelled to The Ohio State University for an all-day training session where they learned Reading Recovery diagnostic and intervention procedures, participated in demonstration lessons using a one-way observation glass, and acquired the theoretical and practical knowledge needed to perform the Teacher Leader role the following year.

1986-87—

During the following year, 1986-1987, trained Teacher Leaders taught 235 teachers at 23 regional training sites in Ohio. An additional 22 Teacher Leaders began training. Several of the regional training sites were consortia in which school districts and colleges or universities cooperatively implemented the program.

The state project in 1986-87 involved 167 school districts. The student population represented a wide geographic distribution and included students from urban, suburban, and rural districts. A total population of 1,130 students statewide had at least 60 Reading Recovery lessons or were successfully discontinued. These children were the participants in the evaluation study in 1986-87.

1987-88—

During the 1987-88 school year, 2,648 children received at least 60 days of Reading Recovery instruction. These first-grade students were participants in the 1987-88 study. Twenty-three

regional training sites, 228 school districts, and 416 teachers were involved.

Study of Statewide Results

As in the Columbus longitudinal study, children selected for Reading Recovery statewide ranked in the lowest 20 percent in their first-grade classrooms in reading skills. The reading skill levels of Reading Recovery children on entering and leaving the program varied according to the average skill levels for first-grade children at each site. The numbers of children served at each site varied according to the number of teachers-in-training and the hours available to work with Reading Recovery children.

Unlike the Columbus study, however, the state site project had no group of Comparison children against which to measure the Reading Recovery children's progress. Instead, the effectiveness of Reading Recovery statewide was measured in this study by comparing the Reading Recovery children with the average bands of first graders at their respective school sites and by examining their gains during the intervention year.

Children who received Reading Recovery instruction in the first grade in 1985-86, 1986-87, and 1987-88 were tested at the end of their respective first-grade years to determine the effects of Reading Recovery. The data for the state evaluation study were analyzed to answer the following research questions:

1) What proportion of children served by the Reading Recovery program statewide were successfully discontinued?
2) What proportion of discontinued Reading Recovery children achieved end-of-year scores equal to or exceeding the average band of their respective school sites?
3) What was the rate of progress from entry through the end-of-the-year testing for children who were successfully discontinued from the program during the firs six months?
4) What was the average Normal Curve Equivalent (NCE) gain score on a nationally normed test for the population of successfully discontinued Reading Recovery children and the population of not-discontinued Reading Recovery children?

Procedures —

At the beginning of the year, at the time w.en they were discontinued, and at the end of the school year, Reading Recovery children were assessed on 10 dependent measures. (See Appendix C for a description of each measure):

1) Text Reading Level;
2) Letter Identification;
3) Word Test;
4) Concepts About Print;
5) Writing Vocabulary;
6) Dictation;
7) Sight Vocabulary;
8) Phoneme/Grapheme: Consonants;
9) Phoneme/Grapheme: Vowels; and
10) Reading Comprehension.

Results and Analysis —

Question #1— What proportion of children served by the Reading Recovery program statewide were successfully discontinued?

The percentage of program children who were successfully discontinued either during the year or at the end of the school year was calculated.

During 1985-1986, a total population of 110 children were served by the 22 Teacher Leaders in training. Of that population, 73 percent were discontinued. The results were good considering the fact that, because of the all-day training sessions on Mondays, Teacher Leaders worked with chil-

dren only four days each week instead of the requisite five days.

During the 1986-1987 year, trained Teacher Leaders taught classes involving 235 teachers at 23 sites in Ohio. Of the 1,130 children who received a full Reading Recovery program (at least 60 days of instruction), 82 percent were successfully discontinued. In contrast to the previous year, all children, except those served by Teacher Leaders in training, received the requisite five days each week.

During the 1987-1988 year, of the 2,648 children who received a full Reading Recovery program, 86 percent were successfully released. The data for 1986-87 and 1987-88 are shown for individual state sites in Figure 15 (page 49).

Question #2 — What proportion of discontinued Reading Recovery children achieved end-of-year scores equal to or exceeding the average band of their respective school sites?

To address this question, discontinued Reading Recovery children at each site were compared with the average band of their respective school site. Figure 16 on page 50 lists the percentages of students meeting or exceeding the average band for each test at the end of first grade in spring 1987 and spring 1988. The data show that high percentages of the Reading Recovery children, ranging from 68.5 percent to 94.8 percent, achieved scores within the average band. Results are provided for two years. In May, 1988, only three of the measures were administered because of the time involved in testing. Experience had shown that it was not necessary to administer all measures.

Question #3 — What was the rate of progress from entry through end-of-year testing for children who were successfully discontinued from the program during the first six months?

To address this question, the continued progress of students who were released from the program during the first six months of the school year was assessed for six measures. The purpose of this analysis was to determine whether those students who were released from the program and given no further help in Reading Recovery would continue to make progress in the classroom instructional program through the rest of the year.

In 1986-1987, a total of 231 children were discontinued from the program during the first six months of the school year These students made consistent gains across the school year, even after the withdrawal of extra help. In the 1987-1988 school year, a total of 699 children were discontinued from the program during the first six months. These results replicated the trends shown in the previous year. Results are summarized in Table 7 on page 51 and are shown graphically in Figure 17, page 52.

Question #4 — What was the average Normal Curve Equivalent (NCE) gain score on a nationally normed test for the population of successfully discontinued Reading Recovery children and the population of not-discontinued Reading Recovery children?

All Reading Recovery children were assessed at the entry point of the program and at the end of the year on three scales of a nationally normed test: 1) Reading Comprehension; 2) Sight Vocabulary; and 3) Phoneme/ Grapheme: Consonants.

The Normal Curve Equivalent (NCE) gain scores for the children served in each of the two years are displayed in Table 8 on page 53. Again, the data show that Reading Recovery children made consistent NCE gains during the first two years of statewide evaluation. The Normal Curve Equivalent gain for children making average

progress — in other words, those remaining in the same place on the Normal Curve for their grade level — would be zero. For the total group of Reading Recovery children, the NCE gain in Reading Comprehension was 9.6 points in 1986-87 and 7.0 points in 1987-88; in Sight Vocabulary, 8.1 points in 1986-87 and 4.6 points in 1987-88; and in Phoneme/Grapheme: Consonants, 8.5 points in 1986-87 and 7.3 points in 1987-88. In each case, the NCE gain scores for successfully discontinued Reading Recovery children exceeded the gain scores for not-discontinued Reading Recovery children.

Summary

Evidence from the state evaluation studies indicates that the program has been successful in its first three years of implementation.

The successfully discontinued rate for project sites was high. During the first year of implementation (1985-86), the rate was above 73 percent for all sites statewide. During the second year, the rate was 82 percent for all sites, and during the third year, the rate was 86 percent. In addition, test score data indicated that Reading Recovery statewide produced gains in student reading ability similar to those documented in the Columbus Public Schools during the first year of the longitudinal study.

Examination of a random sample of teacher records showed that the program was implemented with integrity. Teacher Leaders provided the necessary amount of instruction and followed guidelines set by the university. Documented site observations and project results provided evidence that, in general, instruction in the teacher courses was of high quality.

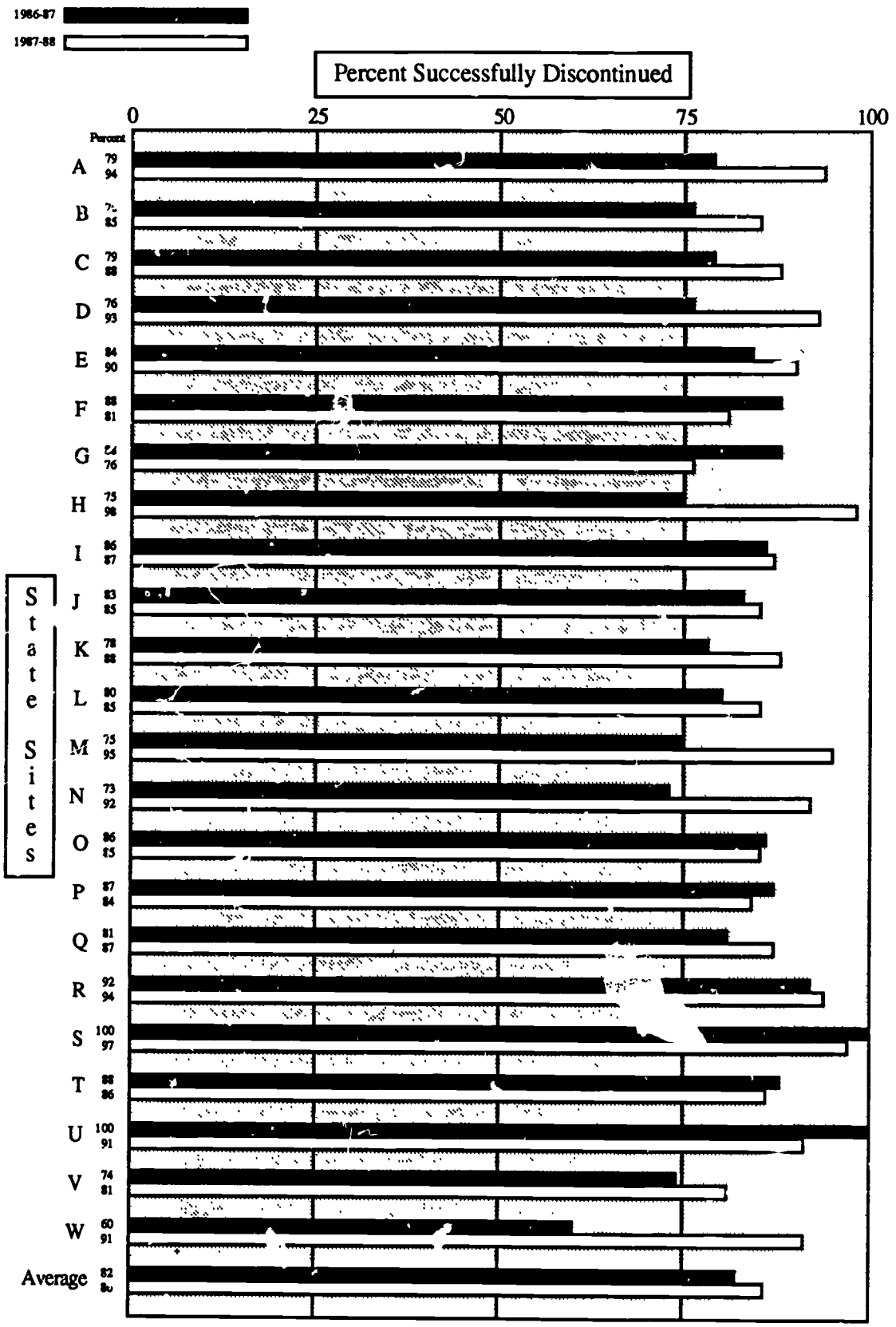
Teacher Leaders' reports (end-of-year documents from each site) of the responses of relevant other personnel (administrators, other teachers, children, and parents) indicate that the project has been positively received at the local level. The state Reading Recovery conference, which drew close to 900 participants, including many from outside Ohio, was successful in providing information about the project. Project sites hosted many visitors from Ohio and outside the state.

Evidence gathered during the state study also identified some concerns that should be addressed. First, there is a continuing need to investigate ways to integrate more children in to the program. Attendance and mobility will continue to be problems until coverage is increased.

Second, more communication with classroom teachers is needed. Classroom teachers need high quality staff development in order to understand methods of assessing children's ability and working with them, thus providing the kind of consistent service that will make the most of Reading Recovery instruction.

Third, it is necessary to continue cooperative work among the various departments and funding sources involved in the program so that teachers will devote less time to administrative duties, and more time to working with children.

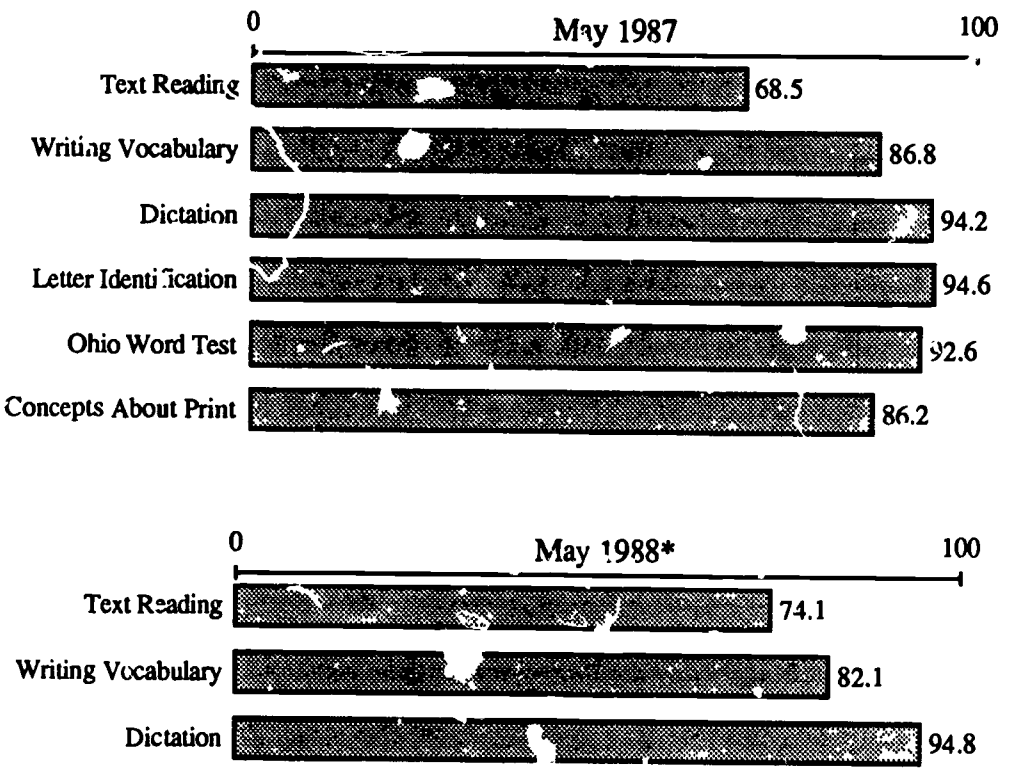
FIGURE 15. — Percent of Children Receiving Reading Recovery Instruction Who Were Successfully Discontinued, Ohio State Sites



Highlights from Figure 16:

- Both the 1986-87 and 1987-88 *Successfully Discontinued* Reading Recovery students performed significantly better on a variety of measures of reading-related skills at the end of first grade than their performance at the beginning of first grade would have predicted.
- Of the 1986-87 state site group, more than two-thirds of the *Successfully Discontinued* Reading Recovery children achieved scores in text reading equal to or exceeding the average band (+ or - .5 standard deviation of the mean score) of scores of a randomly selected group of first graders. For the 1987-88 group, the corresponding figure was 74.1 percent.

Figure 16. — Percent of Discontinued Reading Recovery Children at Ohio State Sites Achieving Scores Equal to or Exceeding Average Band at the End of First Grade



*Note: All measures were not used in 1988 because experience had shown that it was unnecessary.

Highlights from Table 7:

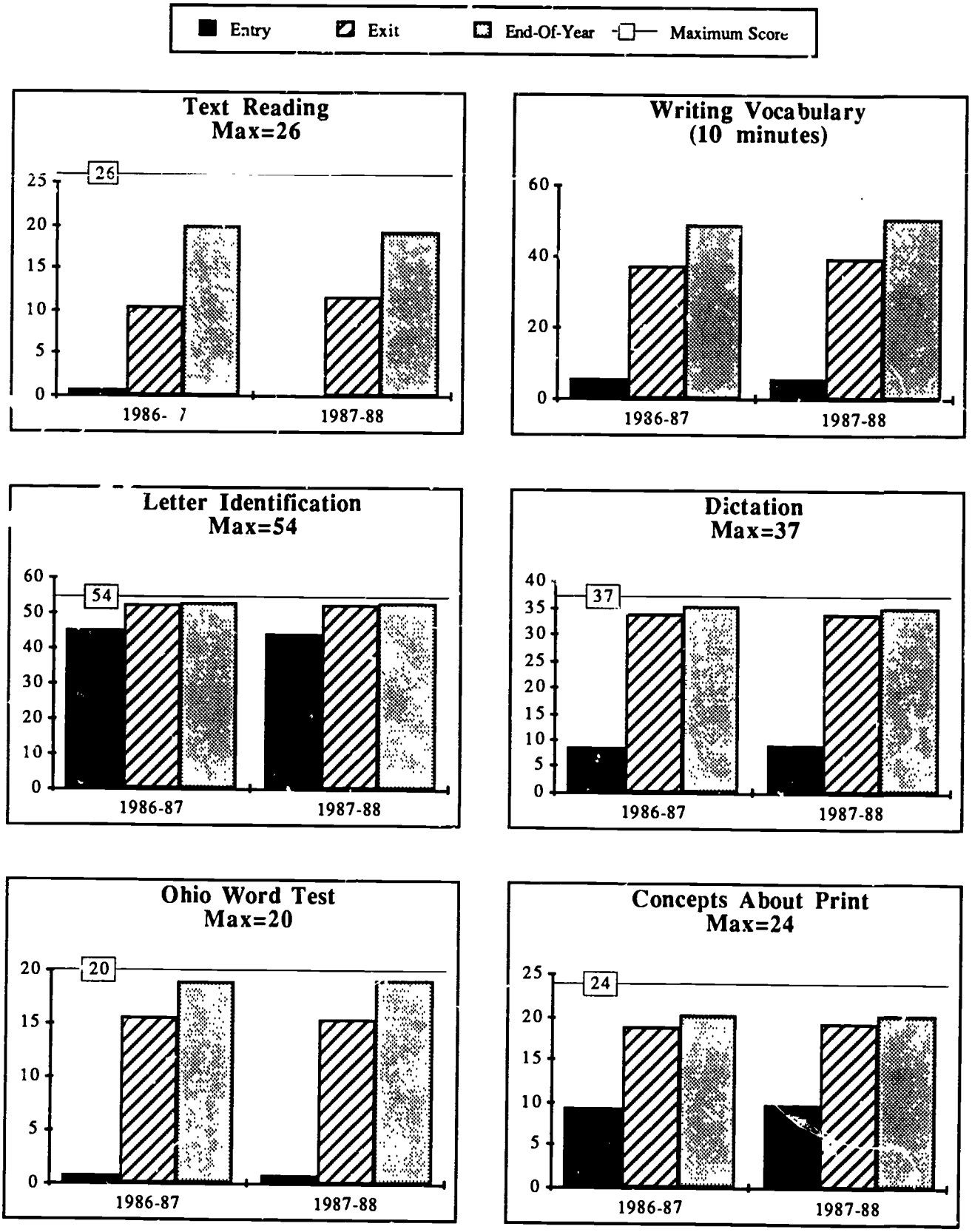
- For *Successfully Discontinued* Reading Recovery students who completed the program within the first six months of the school year, the tests of reading skills were administered three times -- at the beginning of the program, at the point at which they were discontinued, and again at the end of the school year. In all cases, the students showed *continued progress* in skill development even after they were no longer involved with the Reading Recovery program.
- While scores for many of the subskills were, at the exit point, so close to the maximum possible score that little absolute improvement was possible, the students demonstrated substantial improvement in the areas of text reading (where exit scores had been less than half of all possible points) and in writing vocabulary (where there was a time limitation rather than a specific score possible).

Table 7.—Statewide Progress of Children Who Were Successfully Discontinued from the Program During the First Six Months of the School Year

INSTRUMENT	ENTRY	EXIT	END-OF-YEAR
1986-87 (N=231)*			
Text Reading	.78	10.61	20.05 (Max=26)
Writing Vocabulary	5.54	37.84	49.11 (10 min.)
Dictation	8.80	33.88	35.38 (Max =37)
Letter Identification	45.36	52.86	53.41 (Max=54)
Ohio Word Test	.82	15.69	19.15 (Max=20)
Concepts About Print	9.43	18.87	20.44 (Max=24)
1987-88 (N=699)*			
Text Reading	.13	11.63	19.41 (Max=26)
Writing Vocabulary	5.57	39.76	51.20 (10 min.)
Dictation	9.01	34.17	35.28 (Max=37)
Letter Identification	44.39	52.97	53.37 (Max=54)
Ohio Word Test	.76	15.58	19.17 (Max=20)
Concepts About Print	9.74	19.36	20.44 (Max=24)

*Includes only those children successfully discontinued during first six months of school year. Many more children were successfully discontinued later in the year.

FIGURE 17. — Statewide Progress of Children Who Were Successfully Discontinued *Within the First Six Months* of the School Year



Highlights from Table 8:

- As with the Columbus longitudinal study, Ohio Reading Recovery students at the state sites achieved substantially positive normal curve equivalent (NCE) gain scores. The mean gain scores for *Successfully Discontinued* Reading Recovery students were substantially greater than the mean gain scores for *Not-Discontinued* Reading Recovery students.

Table 8.—Gain in Normal Curve Equivalent (NCE) Scores for Reading Recovery Students Statewide, 1986-87 and 1987-88

READING COMPREHENSION

		FALL		SPRING**		
		(N)	NCE*	(N)	NCE	NCE Gain
Year One (1986-87)	TOTAL	(908)	36.5	(1,081)	46.1	9.6
	Discontinued	(732)	37.7	(886)	47.9	10.2
	Not Discontinued	(176)	31.5	(195)	37.7	6.2
Year Two (1987-88)	TOTAL	(1945)	37.4	(2,232)	44.4	7.0
	Discontinued	(1674)	38.4	(1,929)	46.1	7.7
	Not Discontinued	(271)	31.5	(303)	33.9	2.4

SIGHT VOCABULARY

		FALL		SPRING**		
		(N)	NCE*	(N)	NCE	NCE Gain
Year One (1986-87)	TOTAL	(908)	36.5	(1,082)	44.1	8.1
	Discontinued	(732)	38.3	(886)	47.4	9.1
	Not Discontinued	(176)	29.0	(196)	31.4	2.4
Year Two (1987-88)	TOTAL	(1,947)	42.2	(2,234)	46.8	4.6
	Discontinued	(1,676)	43.8	(1,929)	49.1	5.3
	Not Discontinued	(271)	32.4	(305)	32.2	-0.2

PHONEME/GRAPHEME: CONSONANTS

		FALL		SPRING**		
		(N)	NCE*	(N)	NCE	NCE Gain
Year One (1986-87)	Total	(909)	35.1	(1,081)	43.6	8.5
	Discontinued	(732)	37.1	(886)	46.8	9.7
	Not Discontinued	(177)	28.2	(195)	29.9	1.7
Year Two (1987-88)	Total	(1,947)	40.6	(2,228)	47.9	7.3
	Discontinued	(1,676)	42.0	(1,924)	49.9	7.9
	Not Discontinued	(271)	32.4	(304)	35.5	3.1

*Mean scores were rounded to the closest whole number, and then converted from appropriate tables to percentiles which were then converted to NCE scores.

**Spring has a larger N because of students who entered the program after fall testing.

Chapter 5: Reading Recovery Staffing and Staff Development Program

Program developers and implementers agree that the key to success in Reading Recovery is the year-long staff development course for teachers and Teacher Leaders (Clay, 1982; Pinnell and Woolsey, 1985; Lyons et al., 1986). Teachers' participation in this special preparation ensures effective implementation of the program procedures.

In this chapter, we describe the roles played by Reading Recovery teachers and Teacher Leaders. We then discuss the staff development program used to prepare teachers for their difficult and challenging Reading Recovery assignments.

Importance of the Staff Development Component

The basis of good instruction is the teacher's knowledge of learning and of the particular child, along with the ability to use that knowledge in assessment and instruction. In the Reading Recovery staff development program, teachers examine and discuss their own assumptions about reading and learning to read. Teacher Leaders support teachers and challenge them so that they can push their own boundaries towards new learning.

Reading Recovery teachers are not just good teachers who are "intuitive" or who make the child feel good and comfortable. They engage in high-level analytical activity, an ongoing "pedagogical reasoning process" (Rentel and Pinnell, 1987). This process is an integral part of the program. The framework of procedures cannot be effectively applied without the simultaneous development of a set of teacher understandings.

Teacher learning cannot be short-changed. It takes time, but once accomplished, it is an irreversible process. It may require resources, but it is not a consumable material, nor will it gather dust on shelves. Knowledgeable teachers represent a resource for the school system that will continue to produce results year after year.

Reading Recovery Teachers

Reading Recovery teachers are certificated teaches who: volunteer for the program; have had experience in teaching young children (minimum three years); and possess proven ability to establish a rapport with children. In general, Reading Recovery teachers should be selected because they have demonstrated good teaching at the primary level.

Reading Recovery teachers' primary responsibility is to work with at least four children each day in Reading Recovery lessons. Although a teacher could work all day in the program, experience has shown this to be undesirable because of the intensity of the teacher-student inter-

action required in Reading Recovery lessons. Therefore, the Reading Recovery teacher should have a half-day assignment in some other area.

Several implementation models are used in Ohio. In one arrangement, a regular first-grade teacher and a reading specialist, both of whom have received Reading Recovery training, share a first-grade classroom, each working half the day with Reading Recovery children and the other half as a regular classroom teacher. Funding of this model works out as two half-time special reading teachers.

	A.M.	P.M.
Classroom teacher	Teach 1st grade	Teach RR (4 - 5) children
Chapter One teacher	Teach FR (4 - 5 children)	Teach 1st grade

One advantage of this model is that knowledge gained in Reading Recovery can inform classroom teaching. By rotating teachers, this model could also contribute to the expertise of first-grade teachers. It provides the additional advantage of helping special reading teachers understand the expectations of children in the classroom setting.

Some districts find this first model difficult to fund. Another model is to have a special reading teacher work one half day in Reading Recovery and the other half day with groups of childre from a variety of grade levels. This model enables Reading Recovery teachers to transfer some of their new skills to working with groups of children (although it is important to note that the specific teaching procedures of Reading Recovery are not suitable for group instruction).

The first two organizational patterns mentioned require reallocation of remedial reading resources, but they do not require hiring an additional teacher. If a district is able to employ additional personnel to implement the program, several more options open up. Two regular classroom teachers might share a first-grade class, each working one-half day in the classroom and one-half day in Reading Recovery. Or, if kindergarten is a half-day program, kindergarten teachers might work the other half of the day with Reading Recovery students. Some districts have hired permanent tutors to provide Reading Recovery on a half-day basis; however, tutors should be certified teachers, should work every day, and should make a commitment to take the year-long training and to work in the school for an entire year.

Reading Recovery teachers are responsible for communicating with parents about the program and for holding all necessary conferences and contacts with parents of the individual children they teach. Reading Recovery teachers also work with classroom teachers in the building so that they understand the program and can act as partners in helping the children make accelerated progress. Reading Recovery works best when the Reading Recovery teacher and the regular classroom teacher are working together to help the child develop an independent reading system.

Reading Recovery Teacher Leaders

The key implementer of Reading Recovery is the Teacher Leader. Called "tutor" in New Zealand, this role combines teaching of children with the responsibilities of teacher educator and researcher. The Leader's role is a complex one that a school district will want to investigate carefully before deciding to implement the program.

Teacher Leaders should have a master's degree or equivalent and experience in teaching young children. In addition, they should have experience in leadership roles and in providing inservice training for other teachers. The Leader role requires a high energy level, strong commitment, and a variety of skills for working with adults.

A full-time Teacher Leader is necessary in order to provide training and institute the self-renewing system of the program; however, a Leader can serve more than one district. Except for very large districts, Leaders in Ohio work in regional sites, monitoring and supporting teachers in several different districts. Although a few university professors have undertaken the role in Ohio, the Teacher Leader usually works for a school district. The Leader is also qualified to serve in an adjunct role with the college or university providing course credit for the teacher course.

Teacher Leaders perform many duties. First, it is essential that they continue to work with four children each day. Only by teaching children can Leaders refine and further develop their understanding of the procedures, techniques, and strategies included in the program. Experience has shown that when Leaders do not continue to work with a range of children, the results of the program are not as good.

The Teacher Leader also conducts the year-long course for teachers, beginning with a summer workshop so that teachers will be ready to use diagnostic procedures when school starts. The course meets each week during fall, winter, and spring. The Leader leads "behind the glass" sessions and discussions after lesson demonstrations. Additionally, the Leader provides lectures and leads discussions to help teachers broaden their theoretical base. The Leader also visits teachers in training at their schools, working individually with them at least four times during the training year. The Leader prepares course handouts, syllabi, and other materials. He/she observes the teacher group closely, in both group sessions and individual lessons, and provides the instruction needed to develop essential knowledge and skills.

In addition to teaching the class, Teacher Leaders continue to work with and monitor previously trained teachers. They visit trained teachers at sites to provide technical assistance and to confirm that the quality of the program is being maintained after the training year ends. The Leaders monitor children's progress to make sure that individual sites do not "let down" in the press for accelerated progress and high achievement.

Teacher Leaders also serve a general in-service role for the school districts. They conduct awareness sessions for parents, administrators, and classroom teachers concerning the Reading Recovery program. In addition, Leaders can help classroom teachers work more effectively with young children in reading and writing. In some districts, the Leader trains primary classroom teachers to use the diagnostic tools of Reading Recovery, such as the running record, to improve their classroom work.

Teacher Leaders work with district administrators to set up the arrangements for implementing Reading Recovery in district schools. In Ohio, an administrator usually is designated as Site Coordinator. The Site Coordinator provides for administration of the program, funding, and teacher assignment.

Finally, Teacher Leaders coordinate the recording and collection of data, and use these data during the year to monitor children's progress. Data are sent in a specified format to The Ohio State University for analysis and feedback for the sites. At the end of the year, each Leader prepares a site report detailing progress of children in the program that year. This close monitoring of progress provides ongoing evaluation of the instruction and the training program.

Goals of Staff Development Program

The staff development program is designed to help teachers learn very specific skills and develop the necessary base of knowledge needed in

order to teach young children in one-to-one situations. This program of staff development is not intended to improve classroom teaching (although participants often claim that the growth in knowledge they experience is valuable and can be applied in other areas). Teachers who have difficulty in classroom teaching should not be placed in Reading Recovery for improvement. The demanding program involves development beyond that required for good classroom teaching. Goals of teachers in the in-service program are to:

- develop a deeper understanding of the nature of the reading and writing processes;
- become sensitive observers of the reading and writing behavior of children;
- become competent in using specific teaching procedures with individual children;
- support children so that they make accelerated progress in reading;
- become comfortable and skillful in articulating how they are responding to the child during instruction;
- be able to critically evaluate their own assumptions and practices as well as those of others.

Origin of the Staff Development Program

The staff development program grew out of the activities of Clay's original research team, a group of teachers who were studying children's reading behavior.

During the research project, good reading teachers worked with individual children behind a one-way glass while the research team watched from the other side. The observers could hear everything said by the teacher and child. Standing close to the glass, they could observe behavior in detail. Over a period of time, they gathered precise information about children's behavior and about teacher responses that seemed to help children. Researchers selected the most powerful responses and produced a set of guidelines that teachers could use to make effective decisions while working with individual children. Those guidelines represented a repertoire of responses. They were subsequently tested with good results.

While planning for wider dissemination, Clay's research team did something unique in research and development efforts. Consistent with their theoretical view of learning as a process of constructing meaning, the researchers hypothesized that teachers must participate in constructing their own understandings, just as the researchers had constructed their theories. The original team valued the "behind-the-glass" activities so highly that they recommended that all future trainees continue the inquiry process, thus, in effect, engaging in theory-building activities for themselves.

Since that time, the Reading Recovery staff development model has been refined and made more explicit, but it has not lost the most critical element — teachers developing their own knowledge by observing actual Reading Recovery instruction and by talking together.

Teacher Training

During the first year of program involvement, teachers work daily in one-to-one sessions with at least four first-grade children. A minimum of four children is essential so that teachers new to the program can experience the range of flexibility that a Reading Recovery teacher must posses to adjust the instruction to individuals. Once each week, the teachers participate in an analysis of teaching from two live demonstration lessons. Then, they discuss the lesson and insights gained with the demonstration teachers present. In addition to the weekly lesson and seminars, teachers receive visits at their school

sites from colleagues and experienced Teacher Leaders. Their work with children is monitored closely, and professional colleagueship is established.

In the first four to six weeks, the course focuses on assessment training in which teachers become skilled in observing and recording exactly what children are doing as they work at reading and writing. Teachers learn to administer the Diagnostic Survey, to take running records of children's oral text reading, and then to make their observations more explicit in a Diagnostic Summary Report that describes a child's behavior and some conclusions for analysis of that behavior.

On all observations, teachers are encouraged to look beyond "scores" or "competencies" to interpreting the shades of meaning in each child's approach to the reading and writing tasks. The information collected helps teachers to select the students most in need of interventions and to determine the particular instructional program needed by each child.

During the rest of the training year, teachers concentrate on learning more about the reading process as they use the procedures with children. They observe and interpret children's behavior, and they note teacher-child interactions that support children's progress as well as those that may interfere. As teachers move into the instructional program with their children, the focus of the weekly seminar shifts to teaching demonstrations and discussions with extensive use of the one-way glass.

After their initial training year, Reading Recovery teachers come together for continuing contact sessions at least four times each school year. These sessions may take place after school; ideally they are half-day sessions with teachers released from duties. Without these sessions, teachers may begin to drift and to start resorting to old practices. They need to continue to grow in their understanding of the reading and writing processes. At these continuing contact sessions, trained teachers may view a lesson demonstration, now working at a higher level to refine their observational skills. They may also choose to analyze a taped session or to make an in-depth study of some aspect of the program. Often, they discuss research articles.

Teacher Leader Training

Training for Teacher Leaders now takes place only at The Ohio State University, although other states may soon establish such training sites.

Teacher Leaders participate in the same training provided for teachers. In addition, they must learn how to teach others and to establish the communication system for a Reading Recovery project. For one academic year, Leaders take a clinical class, similar to the teacher class, and a theoretical seminar to establish an understanding of the research base for the program. One day each week, they spend the entire day in class at the university. During the other days of the week, they teach four children each day in Reading Recovery lessons and participate in a variety of internship activities at a Reading Recovery site.

Each Teacher Leader observes and gradually takes a leadership role in an existing teacher class. This provides the opportunity to practice leading "behind the glass" sessions and discussions. It also gives the Leader a chance to observe the changes in the teacher group over time and to see an experienced Leader at work. Internship activities also include visiting individual teachers in schools and participating in continuing contact sessions.

Talking While Observing

The Teacher Leader works with the class of 10 to 12 teachers for the entire year. During

weekly "behind the glass" sessions, the Leader stimulates the discussion and challenges the observers to deal with difficult ideas, to revise their thinking, and to speculate about the learning that may be taking place.

Through this behind-the-glass experience, the teachers learn to be sensitive observers of children's reading and writing behavior and to develop skill in making those moment-to-moment diagnoses that inform instruction. The good teacher makes decisions "on the run" while teaching and quickly tailors his/her own responses to support the child's learning. The lesson is fast paced; observers must test diagnostic and decision-making skills as the lesson unfolds.

In "talking while observing," teachers are required to state their observations aloud and to risk making inferences and reaching on-the-spot conclusions. They hone their conceptual skills as they speculate about the possible decisions. They become aware that the way they respond to children has a powerful influence.

In behind-the-glass discussion, teachers may challenge each other. Participants do not always agree on the best possible action. Teacher Leaders say that the most powerful learning takes place when teachers in the group start to argue and defend their statements with evidence from the child's behavior or from external sources.

After the observation, the group members talk with each other and the demonstrating teacher. During this time, the participants can reflect on the lesson and check their observations with the teacher's views and with other sources. Although some critical feedback may be given to the demonstrating teacher, the purpose of the observation is not simply to critique the teachers' behavior or style of teaching. It is not to compare the teacher to a checklist or any model of teaching. The observation session is mainly for the benefit of the group of observers.

The talking-while-observing process might be compared to a group of doctors observing a complicated operation. Freed from the responsibility of action, the observers have the chance to develop their ability to predict and to make decisions. Teachers can become "noticing teachers." In the process, they begin to think and talk in new ways about the process of becoming literate and about children's potential for learning.

In Reading Recovery staff development, teachers reflect on their teaching decisions; they engage in discussion with their peers, they have on-the-spot assistance from a specially trained Teacher Leader. In addition, through the process of making their ideas explicit and backing them up with evidence, they build a knowledge base from which they can act.

In a sense, teachers develop their own "self generating" systems — a set of understandings and beliefs that undergird their actions with children. They build their own theories and simultaneously put those theories into practice.

Research on Reading Recovery Staff Development

Research on teachers who have been involved in Reading Recovery shows that the training program has a powerful impact on participants (Geeke, 1988; Pinnell & Woolsey, 1985; and Lyons et al. Reading Recovery Technical Reports, 1985-1988). Individuals generally experience a shift in theoretical orientation, moving from a "skills-oriented" view of reading, which focuses on materials and sequential learning of specific aspects of reading, towards an orientation which suggests that children "orchestrate" a range of skills and knowledge when they learn to read and write.

Administrators in districts where Reading Recovery has been implemented comment that Reading Recovery teachers seem to change their views of children, that they are better observers of

children's progress, and that they have more confidence in their own ability to teach children to read. All of those changes are the result of connecting theoretical knowledge with daily, close work with children and with the development of observational skill that allows teachers to notice and document progress, even in very small steps. When these slowest children begin to make accelerated progress, teachers' confidence in themselves and in the children grows.

A year-long qualitative study of one group of teachers revealed continuous shifts in teachers' focus of attention throughout the training period (Pinnell and Woolsey, 1985). The data for the study consisted of transcribed group discussions that were held every two weeks following training sessions. This study of teacher language in an informal setting revealed teachers' concerns, their growth of concepts, and the complexity of ideas with which they were able to cope at various points in the in-service process.

The shift of focus over the period of three academic quarters is illustrated in Figure 18, page 62. At the beginning of the training, teacher language centered on the logistics of implementing a new program. They wanted to know "how to do it" and to be told the "right" way. Teachers were concerned about management, supplies, and the inevitable conflicts, questions, and stresses surrounding any innovation. Whatever the topic, logistics crept in and consumed attention. It is no wonder that college professors find it so difficult to persuade teachers to deal with underlying theory in a two-week course or workshop.

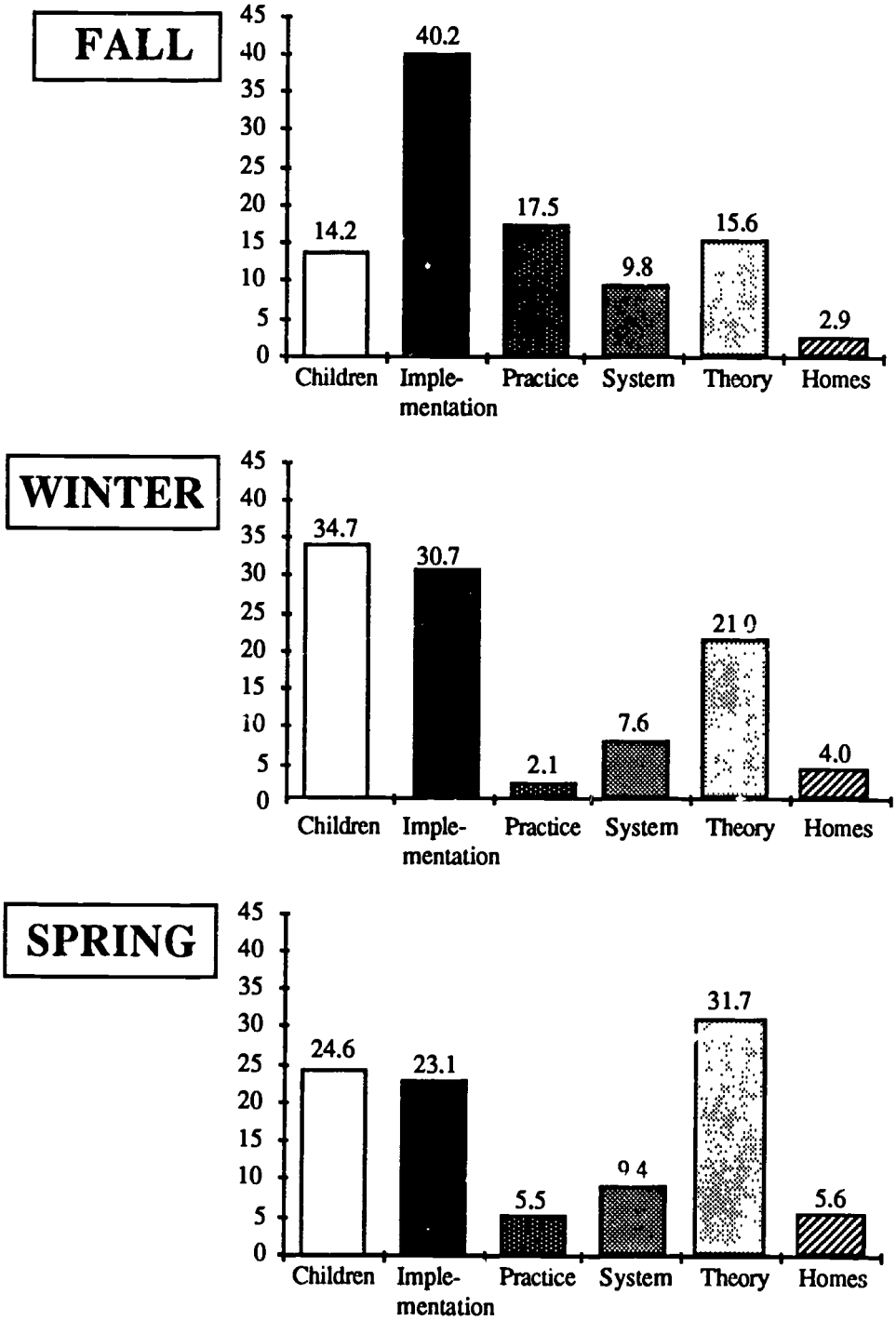
This surface-level focus continued for several months. Then, as teachers appeared to become comfortable with the new activities, they began to focus on their own discoveries and insights. The topic of children received more attention as they reported detailed observations of children, created and shared metaphors, learned about each others' students, and told stories about their work.

Finally, toward the end of their training year, another shift could be observed in teachers' focus of attention. In their discussions, they began to generalize and to make theoretical statements and to hypothesize. Specific descriptions and stories were still evident but were fewer, and teachers began to link their ideas into more cohesive statements. The increase in theorizing was not evident in teachers' discussions until they had been immersed for a long time in the process of observing, talking, and decision making in the Reading Recovery seminar. Their use of knowledge at this later time illustrates that they had begun to internalize the behaviors they were invited to engage in during class sessions.

In general, the study supports the idea of long-term training to help teachers develop their own theoretical ideas. The teachers grew in their understanding of children's learning and of their own teaching, but they also learned about being educational innovators. The educational system was influenced by the changes these teachers were making, and this spirit of change began to have impact on policy decision making at local and state levels. Through interviews and discussions with teachers, the researchers came to the following conclusions:

1. In the initial stages of an educational change effort, innovators may encounter skepticism on the part of teachers involved.
2. In the initial stages, participants are likely to concentrate on the practical arrangements necessary for implementation.
3. As logistic concerns diminish and teachers continue to talk together and observe children, the focus can shift to accomplishing the goals of the project and to more substantive issues.
4. Change is facilitated by creating a shared language among those who participate in the effort.

FIGURE 18.–Change in Teacher Focus Over a Period of Reading Recovery Training: Percentage of Teacher Comments Falling into Each Category During Group Discussions



5. Change initiators must take into account the powerful demands of the system in which the new processes must be implemented.
6. Involving teachers in observation and peer critiquing helps teachers develop the new understandings and confidence that provide the basis for change.
7. Change in understandings and attitudes precedes observable change in classroom practice.
8. Change requires time, hard work, and unusual effort on the part of everyone involved.
9. Change is often accompanied by pain and sense of discontinuity with existing beliefs.
10. Change is facilitated by a support group who can talk honestly, share concerns, and provide feedback.
11. Change is made possible when teachers reflect on their work, realize their success, and feel the power of their own teaching. People who know they are making a difference have the motivation to do what they need to do.

A study of the Reading Recovery program in Australia confirmed the value of the program for helping teachers learn (Geeke, 1988). Geeke claims that the Reading Recovery staff development program seemed to achieve genuine change in teachers. He suggests a number of possible reasons for this, including: the fact that the Reading Recovery in-service extended over a full year; the observation of Reading Recovery sessions through a one-way window; and the follow-up visits by Teacher Leaders to the schools. But the comments of the teachers on what they had learned from Reading Recovery point to yet another factor contributing to the teacher change achieved by the program: the reconstruction of beliefs about learning and teaching.

> The interview data show that most of the participating teachers had their existing beliefs shaken during the early in-service sessions. They were quickly persuaded that their current methods of teaching reading and writing were based on false assumptions about teaching and learning. Subsequently, on the basis of their observations of children and their experiences during in-service sessions, they developed new beliefs about teaching and learning. This set of beliefs then acted as a framework into which the specific teaching practices of Reading Recovery could be placed.
>
> . . . the teaching procedures were not given to the teachers as a set of "ideas" for teaching literacy. Instead, the teachers were expected to use the procedures in a way that reflected the set of basic beliefs which were being developed at the same time. The ultimate aim of the training program seems to have been the development of a dynamic relationship between belief and practice, with belief acting as an individualizing influence on instruction (Geeke, p. 144).
>
> There would seem to be a lesson here for the developers of other in-service courses. Despite the common cynicism found among teachers about "theory" as opposed to "practice," we have noted that it was a combination of specific practice related to general principle which made the tuition offered by Reading Recovery teachers so effective. It seems that real teacher change is unlikely to be achieved by simply introducing a "new method of instruction" in some curriculum area. The new "method" will only be really effective if teachers have thoroughly accepted the underlying principles of the program as well as its teaching practices. The techniques employed by Reading Recovery to achieve this result deserve close examination, especially as it appears to have been much more successful than usual in achieving teacher change in the group immediately involved (Geeke, p. 145).

Through interviews with Reading Recovery teachers in training, Geeke identified six beliefs that teachers said they had developed from their involvement in Reading Recovery. He states these beliefs as the following:

1. Effective learning depends on the child assuming responsibility for learning.
2. Effective learning is built on the child's current knowledge and skills, and depends on

the child understanding what is expected of him or her.

3. Effective learning leads to an awareness of one's mental processes, self-monitoring of the cognitive strategies being employed, and the development of a self-correcting system.
4. Effective teaching depends on accurate observation and sensitive response, within a framework of coherent beliefs and effective practice.
5. Effective teaching depends on the quality of interaction with the child. In particular, it depends on astute questioning which shows the child how to solve his own learning problems.
6. Effective teaching depends on the teacher's understanding of the learning process, checked against the actuality of children's observable learning behaviors. Only if the teacher really knows how children learn will he/she be able to adapt teaching methods appropriately in response to the children's demonstrated needs (Geeke, p. 145).

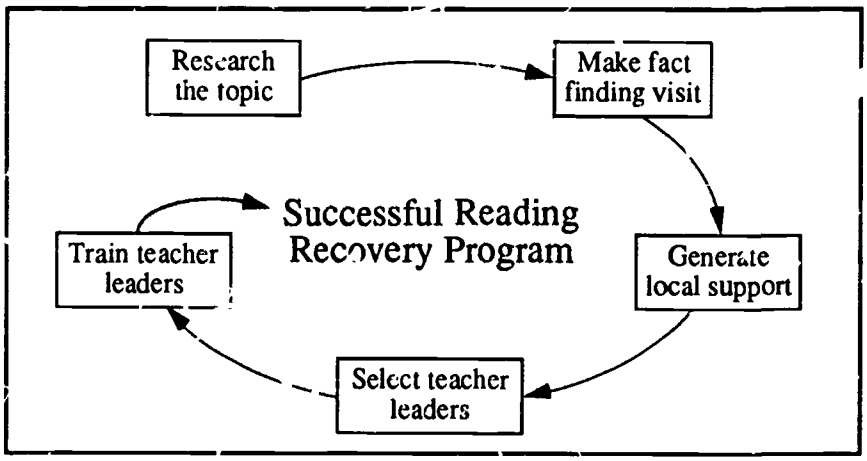
Conclusion

These studies provide evidence that the Reading Recovery staff development program has a powerful impact on teachers and Teacher Leaders who participate. These findings also have implications for the creation of staff development programs in general.

Attention is being given now to the importance of developing teachers as professional decision makers. Administrators and staff developers are turning away from the idea of "materials approaches" that provide scripts and step-by-step activities for teachers to follow. They are starting to concentrate instead on the expansion of the teachers' "knowledge base." In order for teachers to change their views and develop their professional knowledge, staff developers and teachers must be prepared to invest time and unusual effort in long-term learning experiences. Reading Recovery presents a promising new direction for staff development in literacy education.

Finally, it must be recognized that the Teacher Leaders in Reading Recovery are taking on new professional roles. This task is further complicated because there is no comparable role within our educational system. The Leader is simultaneously a teacher educator, a teacher of children, a researcher, a supervisor/evaluator, and a university liaison. The Teacher Leader must demand excellent performance from teachers and must be prepared to give critical feedback. Reading Recovery staff development is not considered successful unless it has observable outcomes in terms of student learning; this situation is unique among in-service programs and causes some pressure for teachers and Teacher Leaders. These positive outcomes have been observed at all sites. Continuing to improve outcomes for children depends on continuing to offer a quality staff development program.

Chapter 6: Implementing a Reading Recovery Program



Establishing a Reading Recovery program may at first seem like a complicated and difficult operation. Educators involved with Reading Recovery sometimes say that "what makes it hard, also makes it easy." That is, getting started requires effort and commitment, but maintenance and continuing improvement are built in. In this chapter, we will expand on that idea and provide some concrete suggestions for implementing a high quality program.

Need for a Quality, Long-Term Effort

The program described here is radically different from the usual innovations that come and go in school districts. Most experienced school administrators can point to a dozen innovations, all with promise, that have been adopted and discarded within a three-year period. Each time an innovation is superficially implemented and then quickly phased out in favor of the next "hot" item, personnel become a little more cynical.

We now have a teaching population that tends to stay for an extended career. Those teachers need a chance to engage in long-term change and to see the results of their efforts. No new approach or program lasts forever, but high quality implementation, with maximum chance of success, will encourage staff members to put more effort into growth and change.

A System Approach

Reading Recovery is much more than a defined curriculum and instructional program for children. It is a complex set of interlocking systems, all necessary to implement the program. In fact, it is a *system* intervention. This systemic aspect gives the program the chance to be established, to be implemented in an effective way, and to last long enough for rigorous evaluation to take place.

Initiating the Reading Recovery system requires commitment, resources, time, and effort. Once in place, however, it operates as a self-maintaining and self-renewing system. People involved continue to become more knowledgeable and skillful rather than out of date or routinized.

The Ohio Model

Since Reading Recovery is a state-sponsored program in Ohio, it is appropriate to describe the state network that exists for implementing the program in that state.

In Ohio, various institutions have established working relationships to provide the administrative and technical support needed. Within

each school district and at the state level, Chapter One staff and curriculum area staff work together to sponsor the program. In most districts in Ohio, Reading Recovery is a Chapter One innovation, although several other funding sources are also used. Some districts support Reading Recovery through the general fund. At the state level, departments related to federal programs, staff development, and curriculum cooperate to provide resources, evaluate the program, and perform necessary administrative tasks. The university, school districts, and the state agency work closely together. The state agency administers funds; selects Reading Recovery sites, teachers, and Teacher Leaders; and collects books and materials. The Ohio State University provides training of Teacher Leaders and teachers, monitors collection and analysis of data, and prepares a final report each year. The university also provides continuing support to Teacher Leaders throughout the year.

The effectiveness of the program depends on the knowledge base of teachers and Teacher Leaders. Thus, it is necessary to continually expand and update their knowledge. Their training makes it possible for teachers to apply new knowledge to their work with children, refining their decisions and skills as they do so. Each year, data on children at the regional sites provides a feedback system for refining the program, while research in the field provides new insights.

The State Agency Role —

For Reading Recovery to be implemented on a statewide basis, the state education agency must provide strong leadership. In the Ohio project, the state agency helped in securing the grants for the pilot study and devised the plan for implementing Reading Recovery as a statewide program the next year. The state education department selects sites, administers funding, and ensures that the program meets regulations. Collaboration between the Division of In-service Education and the Division of Federal Programs has ensured that Reading Recovery projects funded by Chapter One meet the guidelines for that program. The State Department of Education also provides the small books used by the children in Reading Recovery and the instructional materials for the teacher classes; centralized ordering saves both cost and time. The state agency also sponsored an outside evaluation of the program, conducted by a nationally selected panel of experts in reading education.

The University Role —

The Ohio State University serves as a system coordinator for instruction of Teacher Leaders, teachers, and children. University personnel develop guidelines for program implementation and design supporting materials for training classes. The university assumes responsibility for training Teacher Leaders and providing continuing contact sessions for previously trained Leaders.

The Teacher Leader course, as described in Chapter 5, is a one-year experience that includes clinical training, a theoretical seminar, and a variety of internship experiences to help the prospective Leader learn all facets of the role. Continuing contact sessions include four one-day conferences during which Teacher Leaders have a chance to share ideas and update their knowledge. Two major events are the Reading Recovery conference, sponsored yearly by the Ohio Department of Education, and the Summer Institute, an intensive four-day session in June of each year. The Summer Institute provides a time for further professional development, for reviewing the success of the project in the previous year, and for working to improve program quality. During the 1988 Summer Institute, for example, Teacher Leaders created guidelines and suggestions for working more effectively with parents, re-evaluated the book list, planned for colleagues visits, and refined the course syllabus for the teacher classes.

They also discussed their work in relation to theoretical work by several authors and explored the literature related to metacognition.

University personnel also supervise the courses by approving syllabi, visiting classes, and updating instruction when necessary. In addition, university personnel serve a role in data collection and management. Children's test scores and other information are collected, sent to the university, and analyzed Each year, the university prepares a state report which is provided to all sites and to the State Department of Education.

Getting Started

For a school system or a state agency, starting a Reading Recovery project will probably involve a two-year process, including awareness, groundwork, decision making, Teacher Leader training, and teacher training. This process is outlined in the five steps below.

1. Examine descriptive materials.

School officials at either the local or the state level who are interested in the possibility of initiating a Reading Recovery project should first gather written materials, such as descriptive articles and research reports, and distribute those materials (or a summary of them) to appropriate decision makers in the district or state. A planning group might be established to include the following: teachers, principals, the superintendent, the Chapter One director of personnel, representatives of the state agency, and personnel from a local college or university.

2. Make a fact-finding visit.

After an initial meeting, the decision makers may generate questions which could be answered by personnel at The Ohio State University or at local Ohio sites. If interest is strong, the planning group may wish to invite a knowledgeable person to come and provide more information or to make a fact-finding visit.

There is no substitute for first-hand viewing of teachers and children at work. Ohio is now the only place where the complete program may be viewed. A visit will provide information about: 1) the in-service courses for teachers and Teacher Leaders; 2) administration of the project; 3) materials; 4) instruction of children; 5) problems that might be encountered; 6) funding sources; and 7) evaluation. The best use of time during a visit is to examine the Teacher Leader training, the teacher training, and the implementation in schools. Teacher Leader training and an overall view of the state program should be the focus of the visit to The Ohio State University; for the regional site visit, an area should be selected that is similar in size and characteristics to the visitors' home district. A typical schedule for a fact-finding visit might look like this:

Monday: The Ohio State University
- A. M. Orientation
  - Observation of Clinical Course
  - Lunch with Teacher Leaders in Training
- P.M. Observation of Theoretical Seminar, or
  - Meeting With School District Officials
  - Questions

Tuesday: Regional Site
- A.M. Observation in Schools
  - Lunch with District Officials
- P.M. Observation of Teacher Class
  - Questions

After the fact-finding visit, the planning team will have a good idea about whether they want to implement a Reading Recovery program in their district.

3. Generate local support.

If the planning team has been well selected, support will already have a broad base. The planning team can conduct a series of presentations to help convince key decision makers to make a

commitment to the program. This commitment must be long-term — supporting initial implementation, teacher training, and continual support of the Teacher Leader in his/her role.

4. Select Teacher Leader.

To begin Reading Recovery, the local district must take care in selecting the key implementer, the Teacher Leader. A person or persons should be sent to The Ohio State University for one academic year (end of September to first of June) to participate in the Teacher Leader course and related internship activities. For a large school system, two Teacher Leaders are recommended.

Teacher Leaders should have an M.A. degree, documented experience in good teaching at the primary level, documented experience in leadership of other adults, and the quality that denotes leadership. Leaders must be flexible; they must be able to analyze situations and find solutions to problems; they must be hard workers. The person to select for this important role is one whom nobody can possibly do without for a year. Teacher Leaders must be volunteers and willing to come to Ohio for an extended time. In the future, Leader training may be available in other geographic areas, but at present only The Ohio State University offers the year-long course.

5. Apply for information about Teacher Leader training.

Districts that wish to obtain more information about having a trained Teacher Leader should contact The Ohio State University, Reading Recovery Program, 200 Ramseyer Hall, 29 West Woodruff Avenue, Columbus, Ohio 43210. Application materials for sending a Teacher Leader trainee to the University are available.

Local Implementation

The Teacher Leader course begins in the fall and continues through spring of an academic year. During this year, the district or state should conduct an awareness campaign to ensure that individuals who will be affected by implementing Reading Recovery are knowledgeable and involved. The Leader in training can return to conduct such sessions beginning in December of the training year. From the beginning, the implementation of the program should be a shared venture. It is a good idea to bring key administrators, including principals, to an existing site for a visit conducted by the Leader in training. There should also be sessions for classroom teachers, parents, the school board, and prospective Reading Recovery teachers. Often, districts send key people to the Reading Recovery conference, held near the end of January each year.

Local implementation begins in August during the year after the Teacher Leader completes training. In spring and summer before the training begins, the Leader will order books and materials for teachers and will supervise the construction of a one-way glass and facility for the teacher training class. Training begins with a workshop on diagnostic procedures, to be held in August prior to the start of school. As a result of this workshop, Reading Recovery teachers in training will be able to test and select students immediately when school begins. The Leader will supervise the selection of students and will collect necessary data to be sent to The Ohio State University.

The Teacher Leader will conduct training sessions and provide individual assistance to teachers in training throughout the academic year. In addition, the Leader will work with children, provide in-service for other district personnel, and establish administrative arrangements necessary for conducting the program and collecting data. Final testing of children will be accomplished in late May, leaving as much instructional time as possible during the school year. The Leader will also return to The Ohio State University for a

summer institute each June for continued learning.

When a local district implements the Reading Recovery program, it puts in place a proven system of operation. Initial training of the Teacher Leader takes time and resources; however, the district gains a knowledgeable person who can perform a valuable role in improving programs for children at risk of failure in reading. As interest in the program spreads, Teacher Leader training may be available in local areas on a drive-in basis, thus reducing the costs considerably. Within a geographic area of 100-150 miles, teachers could work with children in their own districts and complete Teacher Leader requirements by driving to a university campus and demonstration sites once or twice each week.

The National Diffusion Network

Adopting Reading Recovery has been made easier since the program's approval and funding by the National Diffusion Network (NDN), which was established in 1974 as a vehicle for assisting educators in a search of innovative solutions to practical problems. Operating with the U.S. Department of Education, the Network's basic goal is to identify exemplary programs and make them available to private and public schools, colleges, and other educational institutions. Within each state, a state facilitator serves as a link between local educational agencies and NDN-designated exemplary programs.

In January, 1987, Reading Recovery was invited to submit a proposal to NDN to become a Developer Demonstrator project. In addition to a complete description of the program, the proposal addressed: 1) specific claims and evidence to support each claim reported; 2) procedures, data analysis, and results for each claim; 3) the relationship between effect and treatment; 4) control for rival hypotheses; and 5) significance of the results compared with other programs designed to treat similar populations. The U.S. Department of Education's Program Effectiveness Panel agreed that the proposal provided convincing evidence of the effectiveness of the Reading Recovery program, and was therefore eligible to compete for dissemination funds from NDN.

A second proposal and Reading Recovery training materials were reviewed by the U.S. Office of Education's Program Significance Panel. This panel was responsible for weighing the need, content, program design, evidence of effectiveness and educational significance. Reading Recovery was one of six new programs that received funds for dissemination in 1987-1988. Funding will continue for three more years.

Reading Recovery is an unusual project for the sponsorship of NDN because it requires a long and complex training program and is not easily disseminated. Furthermore, no consumable materials are available. The program depends on the knowledge of the teacher; there are some training materials, but they do not stand alone.

In 1987-88, NDN funding assisted the development of two Reading Recovery sites outside Ohio: Richardson, Texas, and Summerville, South Carolina. Reading Recovery will also expand to Tucson, Arizona, and to Scarsborough, Ontario. Teacher Leaders in this group of districts constitute the Reading Recovery national network of Teacher Leaders. Results of these projects are collated through a collaborative research effort involving all projects. These data are available through The Ohio State University and NDN as evidence of program effectiveness.

The Reading Recovery project in Ohio has been visited by representatives from 37 states. Currently in training in the 1988-1989 Teacher Leader class are representatives from Halifax, Nova Scotia; Louisville, Kentucky; Madison, Wisconsin; Carrollton, Texas; Plano, Texas; Mercer County, West Virginia; Coeur d'Alene, Idaho; Chicago, Illinois, University of Illinois (Champaign, Illinois); Portland State University

(Portland, Oregon); and New York University (New York, New York). Each year, two sites are selected to receive modest NDN grants. Recipients also have tuition waived by The Ohio State University. Other participants may also be designated as officially approved NDN sites, even if they do not receive the actual grant assistance. Advantages to the school district coalition are the assistance of OSU staff in the first year of operation and the communication network offered by the Reading Recovery project.

Recognition by NDN is not only a recognition of the program's effectiveness. It provides a [illegible]o ensure high quality implementation in those sites that are sponsored by NDN and to gather and disseminate other research results. Sites that do not publish data provide no evidence of the program's success other than the opinions of people involved. Although we believe that perceptions of professional educators are important, we also are aware that perceptions can be altered by those involved. Through the NDN data collection network, participants in Reading Recovery can provide their own monitoring of their efforts.

Cost Effectiveness

In the implementation of any new program, costs must be considered. According to Levin, Glass, and Meister (1986) cost effectiveness analysis must satisfy two requirements.

First, the educational interventions must be readily implemented. That means that the interventions must have been applied in conventional settings, established for a reasonable time, and have characteristics that make them transferable to other settings. Reading Recovery has been implemented nationally in New Zealand, at four sites in Australia, and at 23 sites in Ohio. In Ohio, the program has been implemented in hundreds of school districts across the state. The 5,408 children served from 1984-1988 were from populations of low-achieving first graders from a variety of urban, suburban, and rural elementary schools. The program was so highly regarded that it was recommended by the National Diffusion Network. Numerous replications of the program provide evidence that the program can be transferred to new settings with minimum adaptations.

Second, the methods used to evaluate costs and effectiveness must be acceptable (Levin et al., 1986). Reading Recovery has been subject to ongoing evaluation in New Zealand and for four years in Ohio. In addition to the evaluations already described in this monograph, an outside evaluation team, headed by Richard Anderson, Director of the Center for the Study of Reading, University of Illinois, critically examined qualitative and quantitative data from the first four years of the Ohio operation. This team of outside evaluators verified the evaluation results, affirmed the potential of Reading Recovery for helping at-risk children, and suggested further research (Anderson et al., 1988). These evaluations warrant further investigation of Reading Recovery to determine its cost effectiveness.

It will take a longer period of investigation to determine whether Reading Recovery provides an acceptable cost benefit. First, full coverage is needed so that students who are highly mobile will have a better chance of staying in the program long enough to be successfully discontinued. Second, an adequate sample of students must be followed over a number of years to determine long-term benefits. In the final analysis, it is always difficult to determine benefits which arise from preventive programs because we can only speculate about costs that might be saved in special education assignments, dropout problems, or disciplinary problems. Although the project is in the development phase, we can estimate cost benefits by considering savings related to length of service and retention. In most remedial programs, children are served on a continuing basis; in

Reading Recovery, they are discontinued after about one-half of the academic year.

In deciding to implement the program, many school districts have projected their own cost-benefit estimates. A superintendent of a suburban Ohio school district serving approximately 5,000 elementary students reported that by February of the second year of implementation, the program had paid for itself in savings related to reduction of services and retention. A rural school district in Ohio projected in January that 95 percent of the children selected for Reading Recovery would be retained. In June, only 10 percent were actually retained. Even if more of the children are retained in subsequent grades, the savings will be substantial enough to pay for the program.

Obviously, these projections need to be followed up with statewide studies of further service and retention. During 1988-1989, The Ohio State University will conduct surveys about children served during the first and second years of statewide implementation. In addition, a National Evaluation Panel will be conducting a cost benefit analysis on a large sample of children.

Until these data are available, we encourage school districts to analyze what they now spend to help at-risk children and what the results are in terms of long-term help for these children. Effective implementation of Reading Recovery does require a major investment in terms of teacher training, and the instructional program itself depends on labor-intensive one-to-one tutoring. However, Reading Recovery also offers distinct cost advantages. It is a short-term, intensive program which can reduce children's need for expensive remediation programs over many years of schooling. In addition, Reading Recovery does not depend on costly consumable materials, as many commercial remedial programs do. Considering all these factors, each school district must project what it might be able to invest in Reading Recovery.

Making a Difference

Changing the educational prospects for at-risk children will require enormous resources in the coming years. That investment of resources is necessary because we must increase the educational level, quality of life, and productivity of an increasing proportion of children at risk of school failure. We have already invested much in remedial programs. We know that many of them do not make the fundamental changes that are needed.

Reading Recovery has demonstrated its potential for improving both the reading success of individual children and the productivity of educational systems. The program is designed for successful long-term implementation. The factors that make it difficult to initiate a Reading Recovery program are the same factors that ultimately make it easy to sustain and improve the program, thereby making a profound difference in the learning and lives of children.

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Appendix A—
Some Small Books Used in Reading Recovery

List prepared by: Barbara Peterson

Children read four or more books during every Reading Recovery lesson. First, they read several familiar books to build fluency and confidence. Each day a new book is introduced, providing opportunity to use reading strategies on unfamiliar and more challenging texts. Reading Recovery teachers carefully select each new book according to the strengths and needs of the child.

During their year-long inservice program, teachers learn how to select and introduce books appropriate for each child. Books used in Reading Recovery are selected from a number of sources. No single series can adequately serve the program.

Reading Recovery teachers select books from a list of hundreds of titles. This list is revised frequently as new books are published and others are found inadequate. Consequently, booklists are considered training materials and are not made available.

Here are EXAMPLES of the kinds of books we use in Reading Recovery. Books which provide support for beginning readers have familiar language patterns within the framework of a predictable story. Books for more independent readers challenge them in many ways, always in the context of a complete story or message.

The purpose of this list is to highlight some of the small books available on a Reading Recovery booklist. Most could be obtained through bookstores and school or public libraries. At the end of the book list, we have inserted a list of sources.

Level 1

Jonas, Ann	NOW WE CAN GO	Greenwillow
Maris, Ron	MY BOOK	Puffin
Tafuri, Nancy	HAVE YOU SEEN MY DUCKLING?	Puffin
Wildsmith, Brian	CAT ON THE MAT	Oxford

Level 2

Ziefert, Harriet	WHERE IS MY DINNER?	Grosset & Dunlap
Zeifert, Harriet	WHERE IS MY FRIEND?	Grosset & Dunlap

Level 3

Hutchins, Pat	1 HUNTER	Morrow
Wildsmith, Brian	ALL FALL DOWN	Oxford
Wildsmith, Brian	TOOT, TOOT	Oxford

Level 4

Martin, Bill	BROWN BEAR, BROWN BEAR	Holt, Rinehart, and Winston
Peek, Merle	ROLL OVER	Clarion

Level 5

Peppe, Rodney	HUMPTY DUMPTY	Viking
Stobbs, William	ONE, TWO, BUCKLE MY SHOW	Bodley

Level 6

Burningham, John	THE SCHOOL	Crowell
Ginsburg, Mirra	THE CHICK AND THE DUCKLING	Macmillan
Lindgren, Barbro	SAM'S BALL	Morrow
Lindgren, Barbro	SAM'S COOKIE	Morrow
Lindgren, Barbro	SAM'S LAMP	Morrow
Lindgren, Barbro	SAM'S TEDDY BEAR	Morrow
Lindgren, Barbro	SAM'S WAGON	Morrow
Peek, Merle	MARY WORE HER RED DRESS	Clarion

Level 7

Shaw, Charles	IT LOOKED LIKE SPILT MILK	Harper & Row

Level 8

Burningham, John	THE BLANKET	Crowell
Campbell, Rod	HENRY'S BUSY DAY	Viking
Hill, Eric	WHERE'S SPOT?	Putnam
Kraus, Robert	HERMAN THE HELPER	Windmill
Langstaff, John	OH, A-HUNTING WE WILL GO	Atheneum
Roffey, Maureen	HOME SWEET HOME	Bodley

Level 9

Asch, Frank	JUST LIKE DADDY	Prentice-Hall
Campbell, Rod	DEAR ZOO	Four Winds
Hutchins, Pat	ROSIE'S WALK	Macmillan
Lloyd, David	GRANDMA AND THE PIRATE	Crown
Maris, Ron	ARE YOU THERE, BEAR?	Greenwillow
Maris, Ron	IS ANYONE HOME?	Greenwillow
Stobbs, William	GREGORY'S GARDEN	Oxford
West, Colin	HAVE YOU SEEN THE CROCODILE?	Harper & Row
West, Colin	"PARDON?" SAID THE GIRAFFE	Harper & Row

Level 10

Brown, Ruth	A DARK DARK TALE	Dial
De Regniers, Beatrice	GOING FOR A WALK	Harper & Row
Gerstein, Mordecai	WILLIAM, WHERE ARE YOU?	Crown
Rockwell, Anne	CARS	Cutton
Rockwell, Harlow	MY KITCHEN	Greenwillow
Stadler, John	HOORAY FOR SNAIL!	Harper & Row
Ward, Cindy	COOKIE'S WEEK	Pubnam
Watanabe, Shigeo	I'M THE KING OF THE CASTLE!	Philomel
Wheeler, Cindy	MARMALADE'S NAP	Knopf
Wheeler, Cindy	MARMALADE'S SNOWY DAY	Knopf
Wheeler, Cindy	ROSE	Knopf

Level 11

Ahlverg, Janel and Allan	EACH PEACH PEAR PLUM	Viking
Kraus, Robert	WHOSE MOUSE ARE YOU?	Macmillan
Mack, Stan	10 BEARS IN MY BED	Pantheon
Rockwell, Anne	BOATS	Dutton
Stadler, john	SNAIL SAVES THE DAY	Harper & Row

Level 12

Barton, Byron	BUZZ BUZZ BUZZ	Puffin
Burningham, John	THE BABY	Crowell
Burningham, John	THE CUPBOARD	Crowell
Burningham, John	THE DOG	Crowell
Burningham, John	THE FRIEND	Crowell
Burningham, John	THE RABBIT	Crowell
Burningham, John	THE SNOW	Crowell
Ginsburg, Mirra	THREE KITTENS	Crown
Hutchins, Pat	TITCH	Macmillan
Krauss, Ruth	THE CARROT SEED	Scholastic
Long, Erlene	GONE FISHING	Houghton
Shulevitz, Uri	ONE MONDAY MORNING	Scribner's
Stadler, John	THREE CHEERS FOR HIPPO	Crowell
Taylor, Judy	MY DOG	Macmillan
Watson, Wendy	LOLLIPOP	Puffin
Wescott, Nadine	PEANUT BUTTER AND JELLY	Dutton

Level 13

Alexander, Martha	BLACKBOARD BEAR	Dial
Jonas, Ann	TWO BEAR CUBS	Greenwillow
Jonas, Ann	WHEN YOU WERE A BABY	Puffin
Kovakski, Maryann	THE WHEELS ON THE BUS	Little, Brown
Rockwell, Anne	THE AWFUL MESS	Four Winds
Rockwell, Anne and Harlow	THE TOOL BOX	Collier
Tolstoy, Alexei	THE GREAT BIG ENORMOUS TURNIP	Pan Picolo

Level 14

Adams, Pan	THERE WAS AN OLD LADY WHO SWALLOWED A FLY	Scholastic
Baron, Byron	BUILDING A HOUSE	Puffin
Brown, Margaret Wise	GOODNIGHT MOON	Harper & Row
Carle, Eric	THE VERY BUSY SPIDER	Philomel
Hutchins, Pat	YOU'LL SOON GROW INTO THEM, TITCH	Greenwillow
Kraus, Rovert	COME OUT AND PLAY, LITTLE MOUSE	Greenwillow
Kraus, Rovert	WHERE ARE YOU GOING, LITTLE MOUSE?	Greenwillow
Robart, Rose	THE CAKE THAT MACK ATE	Little Brown
Taylor, Judy	MY CAT	Macmillan

Level 15

Fox, Mem	HATTIE AND THE FOX	Bradbury
Guilfoile, Elizabeth	NOBODY LISTENS TO ANDREW	Modern Curriculum
Kline, Suzy	DON'T TOUCH!	Puffin
McPhail, David	FIX-IT	Dutton
Nodset, Joan	WHO TOOK THE FARMER'S HAT	Scholastic
Wood, Audrey	THE NAPPING HOUSE	HBJ

Level 16

Alexander, Martha	WE'RE IN BIG TROUBLE, BLACKBOARD BEAR	Dial
Bennett, Jill	TEENY TINY	Putnam
Bonsall, Crosby	AND I MEAN IT STANLEY	Harper
Hutchins, Pat	GOODNIGHT OWL	Puffin
Hutchins, Pat	HAPPY BIRTHDAY SAM	Puffin
Kent, Jack	THE FAT CAT	Puffin
Kuskin, Karla	JUST LIKE EVERYONE ELSE	Harper
Kraus, Rovert	LEO THE LATE BLOOMER	Windmill
Mayer, Mercer	THERE'S A NIGHTMARE IN MY CLOSET	Dial
McLeod, Emilie	THE BEAR'S BICYCLE	Puffin
Minarick, Else	A KISS FOR LITTLE BEAR	Harper
Ruddell, Chris	BEN AND THE BEAR	Harper & Row
Seuling, Barbara	THE TEENY TINY WOMAN	Puffin
Wells, Rosemary	NOISY NORA	Dial

Level 17

Bornstein, Ruth	LITTLE GORILLA	Clarion
Galdone, Paul	THE LITTLE RED HEN	Scholastic
Galsone, Paul	THE THREE BEARS	Scholastic
Hurd, Edith Thacher	JOHNNY LION'S BOOK	Harper
Hutchins, Pat	THE DOORBELL RANG	Greenwillow
Johnson, Crockett	HAROLD AND THE PURPLE CRAYON	Harper
Lobel, Arnold	MOUSE SOUP	Harper
Lobel, Arnold	MOUSE TALES	Harper
Mayer, Mercer	THERE'S AN ALLIGATOR UNDER MY BED	Dial
Mayer, Mercer	THERE'S SOMETHING IN MY ATTIC	Dial
Nicol, Helen	MEG AND MOG	Puffin
Peppe, Rodney	THE HOUSE THAT JACK BUILT	Delacorte
Udry, Janice May	LET'S BE ENEMIES	Scholastic
Vipont, Elfrida	THE ELEPHANT AND THE BAD BABY	Coward

Level 18

Carle, Eric	THE VERY HUNGRY CATERPILLAR	Puffin
Dabcovich, Lydia	MRS. HUGGINS AND HER HEN HANNAH	Dutton
Emberley, Ed	DRUMMER HOFF	Prentice-Hall
Krasilovsky, Phyllis	THE MAN WHO DIDN'T DO HIS DISHES	Doubleday
Lionni, Leo	LITTLE BLUE AND LITTLE YELLOW	Astor

Lobel, Arnold	OWL AT HOME	Harper
Minarik, Else	LITTLE BEAR	Harper
Sendak, Maurice	WHERE THE WILD THINGS ARE	Harper

Level 19

Burningham, John	MR. GUMBY'S MOTORCAR	Puffin
Burningham, John	MR. GUMBY'S OUTING	Puffin
Hutchins, Pat	THE SURPRISE PARTY	Puffin
Lobel, Arnold	FROG AND TOAD ARE FRIENDS	Harper
Lobel, Arnold	FROG AND TOAD TOGETHER	Harper
Murphy, Jill	WHAT NEXT BABY BEAR?	Dial
Rice, Eve	SAM, WHO NEVER FORGETS	Puffin

Level 20

Allen, Pam	WHO SANK THE BOAT?	Coward
Crowe, R.	TYLER TOAD AND THUNDER	Dutton
Galdone, Paul	THE THREE LITTLE PIGS	Scholastic
Hutchins, Pat	THE WIND BLEW	Puffin
Lobel, arnold	UNCLE ELEPHANT	Harper
Sendak, Maurice	CHICKEN SOUP WITH RICE	Scholastic
Slobodkina, Esphyr	CAPS FOR SALE	Harper & Row
Zolotow, Charlotte	I KNOW A LADY	Puffin

SOURCES

Trade books are available through bookstores or book jobbers. Addresses of text book publishers are given below. Some books may be out of print.

Cypress Publishing Corporation
1753 Gardena Avenue
Glendale, CA 91204
213/244-8651

DLM Teaching Resources
P.O. Box 4000
One DLM Park
Allen, TX 75002
800/527-4747
800/442-4711 (in Texas)

Longman Inc.
95 Church Street
White Plains, NY 10601-1505
914/993-5000

Richard C. Owen Publishers
Rockefeller Center
Box 819
New York, NY 10185
212/864-7849

Rigby Education
454 S. Virginia Street
Crystal Lake, IL 60014
815/455-7220

Scott Foresman and Co.
1900 East Lake Avenue
Glenview, IL 60025
312/729-3000

The Wright Group
10949 Technology Place
P.O. Box 27780
San Diego, CA 92127
800/523-2371

Appendix B—Description of Alternative Intervention Program, Columbus Longitudinal Study 1985-86

For the program evaluation study of the first full year of Reading Recovery implementation, described in Chapter 3, low-achieving subjects from the same schools were randomly assigned either to Reading Recovery or to an alternative compensatory program. Subjects participated in one program or the other, not both.

In both programs, children received daily instruction. In Reading Recovery, the instruction was individual for one half hour daily. In the alternative compensatory program, the instruction took place in small groups of two to four children — although some instruction was individual — and varied in time from approximately 30 to 45 minutes. (The latter description is taken from informal observations by O.S.U. researchers; policy documents do not specify the amount of time spent with students except that 3.5 hours were spent in the classroom.)

The alternative compensatory program grew out of concern that previous use of aides had not demonstrated significant impact on student achievement. The purpose of this program was to train aides to work efficiently and effectively, using developed methods and materials, with underachieving students in the area of reading and language arts. The program was specifically designed to provide direct instructional assistance to children rather than to assist teachers in non-instructional tasks. Under the program, paraprofessionals received extensive staff development. The aides were given materials and were trained to implement a specific program that reinforced skills in ways different from those used in the regular classroom reading groups. The duties of paraprofessionals were very clearly described, and supervision was provided to make sure they fulfilled their specific responsibilities rather than tasks not directly related to instruction of children. Paraprofessionals performed tasks such as: taking dictation from students; reading and telling stories; reviewing and reinforcing lessons and skills taught by the teacher; conducting drills on practice work; and assisting students with written work and manuscript writing.

Because of prior agreements with the school district, the alternative compensatory program has not been described or identified by name in the Reading Recovery research reports. Neither the school district nor the research team wanted to cast doubt on the effectiveness of a highly valued program.

Interesting follow-up information is available concerning the aide program. The program director and his associates studied Reading Recovery very carefully in the year following the study, and a supervisor received training. Based on insights gained from this involvement, the program implementers redesigned and refined the assessment and instructional approaches used by this group of paraprofessionals. They are not doing Reading Recovery instruction, but they have created a new and dynamic paraprofessional program based on similar principles. The program is being tested now.

Appendix C—Dependent Measures Used to Assess Children in Reading Recovery Program

1) **Text Reading Level:** Measures of text reading level were obtained by constructing a gradient of difficulty of text, then testing for the highest level read with accuracy of 90 percent or better. For the pilot year, levels were drawn from a basal reading system. When the state project began, a different series of text reading items was drawn in the same way from a set of books not currently in use in any school district in Ohio. Levels of difficulty were indicated by the textbook publishing company; these books contained language similar to that in typical reading texts. None of the text items used for testing were used in Reading Recovery instruction.

   The first five levels were not drawn from basal texts but were specified easy books. For level two, for example, the teacher read *Where's Spot?* (written by Eric Hill and published by G. P. Putnum's Sons, 1980) to the child and on one page asked the child to point to the pattern of words that had been read on several previous pages. A child unable to respond to print in this very simple way was designated as "level one," and a child able to point to the words and read them was designated as having passed "level two." There were 30 levels in all, the highest level indicating approximately eighth-grade reading ability according to the basal series used. These materials were not used in Reading Recovery instruction but represented the kind of texts children would be expected to perform on if they were to survive in the regular classrooms without extra remedial help.

   Individually, children were asked to read stories while the tester recorded a running record of reading behavior and calculated an accuracy level. Children continued reading at higher levels until they reached two levels below 90 percent accuracy. The score on text level is the highest level read with above 90 percent accuracy.

2) **Letter Identification:** Children were asked to identify 54 different characters, including upper-case and lower-case letters and conventional print for "a" and "g."

3) **Word Test:** Children were asked to read down a list of 15 words drawn from the most frequent words from the pre-primers in use in the district. A different list was used at each administration.

4) **Concepts About Print:** Children were asked to perform a variety of tasks during a book reading. The tasks represented a standard situation to check on significant concepts about printed language, such as directionality and concept of word. Two forms of the test were used.

(continued)

5) **Writing Vocabulary:** Within a 10-minute period, children were asked to write all the words they knew. The Writing Vocabulary score was the number of words spelled accurately.

6) **Dictation Test:** Testers read a sentence to the children who were to write the words, indicating their ability to analyze the word for sounds. A different sentence was used at each administration.

7) **Standardized Tests of Reading:**

a) *The Stanford Achievement Test.* The following sections were administered in a group setting: 1) Word Reading; 2) Reading Comprehension; 3) Word Study Skills. Scores for Reading Subtotal and Total Reading were calculated. The Stanford Achievement test was used only for research children in the Pilot Cohort, 1984-1985.

b) *The Metropolitan Achievement Test: Sixth Edition (MAT 6) Reading Diagnostic Tests.* The MAT 6 Reading Diagnostic Test is a standardized test which consists of 11 subtests. Subtests of the MAT 6 Reading Diagnostic Test were administered to Reading Recovery children both in the fall and the spring of the academic year. In September, the Primer Form was administered. Subtests included: 1) Sight Vocabulary; 2) Phoneme/ Grapheme: Consonants; and 3) Reading Comprehension. In May, Primary I Form L was administered to Reading Recovery children and a group of random sample children. Subtests included: 1) Sight Vocabulary; 2) Phoneme/Grapheme: Consonants; 3) Phoneme/Grapheme: Vowels; and 4) Reading Comprehension. Raw scores were converted to percentile ranks and Normal Curve Equivalent Scores. In the 1985-86 year, the MAT 6 test was used for all Reading Recovery sites except Columbus.

c) *The Comprehensive Test of Basic Skills* was administered to Columbus subjects as part of the required evaluation of compensatory programs. Two subtests, 1) Reading Vocabulary and 2) Reading Comprehension were used for the 1985-1986 study.

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