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CENTER ON BUDGET AND POLICY PRIORITIES

April 1, 1997

PROPOSED CONSTITUTIONAL AMENDMENT WOULD IMPEDE DEFICIT REDUCTION AND PROTECT SPECIAL INTEREST TAX BREAKS

On April 15, the House of Representatives will vote on a constitutional amendment (H.J. Res. 62) to require a two-thirds vote by the House and Senate for any bill that raises federal revenues. This amendment is ill-advised for a number of reasons.

- The nation will face deficits of unprecedented magnitude in coming decades if we maintain current entitlement and tax policies. In 1996, the Congressional Budget Office forecast that due primarily to pressures resulting from the retirement of the baby boom generation, the budget deficit is expected to equal 12 percent of the Gross Domestic Product (the basic measure of the size of the U.S. economy) by 2030 if current policies are not changed. The deficits facing us in those years are so massive that many budget experts believe we ultimately will need to consider strong deficit reduction measures that include both spending cuts and revenue increases.

The proposed constitutional amendment, however, would effectively preclude such action. It would be virtually impossible to amass the two-thirds majority the amendment requires to pass large deficit reduction packages that include both reductions in federal programs and measures to raise revenue. As a result, the amendment would erect serious new barriers to long-term deficit reduction.

- Furthermore, the amendment would be likely to skew fiscal policy in ways that benefit the wealthiest and most powerful at the expense of the rest of the U.S. population. A two-thirds majority would be required to curb special interest tax expenditures, which disproportionately benefit those at high income levels. By contrast, a simple majority vote would be required to cut federal programs, which tend primarily to benefit the middle class and the poor. Decisions as to how to shrink the deficit and apportion the sacrifice would not be made on a level playing field.
- Finally, the amendment is inconsistent with the basic principles of majority rule that are at the heart of American democracy.

I. The Constitutional Amendment and the Long-Term Fiscal Forecast

The federal deficit has now been reduced to about 1.5 percent of the Gross Domestic Product, a level that the 1996 CBO report indicates would not cause significant damage if deficits remained at that level over a substantial period of time. But if no action is taken to raise revenue or restrain Medicare, Social Security, Medicaid, and lesser entitlements — and other federal spending remains constant as a share of GDP — the deficit will rise sharply when the baby boom generation retires. CBO has forecast the deficit will rise to 12 percent of GDP by 2030 if no such action is taken.

Deficits of that magnitude would be unhealthy for the U.S. economy. To avoid such a development, major deficit reduction that extends well beyond the steps Congress and the Administration are currently considering will eventually be needed.

Testifying before the Bipartisan Commission on Entitlement and Tax Reform in 1994, Robert Reischauer, then the director of the Congressional Budget Office, observed that the public would be unlikely to accept the steps that would be required either to extract *all* of the needed deficit reduction in the decades ahead just from government programs or to extract all of the needed deficit reduction just from revenues. In the long run, Reischauer predicted, policymakers will agree on some mix of program cuts and revenue increases to prevent deficits of a magnitude that would do substantial damage to the economy.

Votes for Recent Legislation that Raised Taxes

Between 1982 and 1993, five pieces of legislation that raised significant revenue were enacted. President Reagan signed three of these measures, while President Bush and President Clinton each signed one. All five failed to secure a two-thirds vote on the House floor.

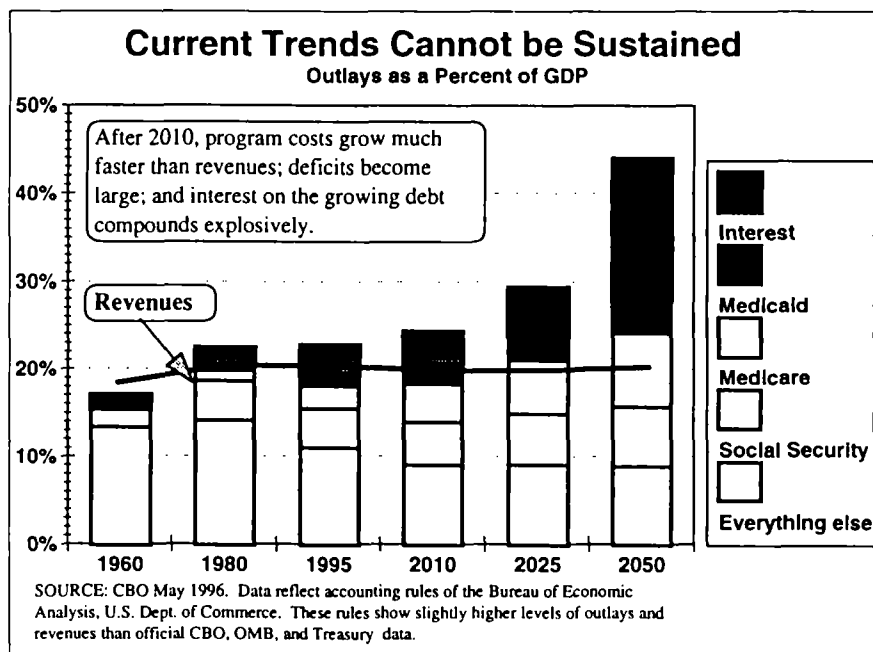
In passing the Tax Equity and Fiscal Responsibility Act of 1982, a measure crafted in substantial part by Senator Bob Dole, the House vote was 226-207. When the House considered its version of the 1983 Social Security rescue plan the following year, the vote was 282-148. The vote for the 1987 budget reconciliation bill, a product of bipartisan negotiations that contained both spending cuts and revenue increases, was 237-181, while the 1990 budget agreement passed by only 228 to 220. The 1993 budget agreement passed by a slender 218-216 vote.

During this period only one measure that raised revenue secured a two-thirds vote, the 1989 reconciliation bill. The 1989 bill was a minor measure. It did relatively little to reduce the deficit and contained only very small revenue increases. The revenue increases in all five of the pieces of legislation that failed to secure a two-thirds vote exceeded the level of revenue increases in the 1989 bill.

The proposed constitutional amendment is designed to ensure that virtually none of those future deficit reduction measures come from the revenue side and virtually all come from cutting programs.¹ That the amendment would bar virtually all revenue increases can be seen by examining House votes for the four principal deficit reduction measures enacted between 1982 and 1993 that raised federal revenue. Although three of these four measures were signed by Republican presidents and all four enjoyed the support of Democratic Congressional leaders, *none* received two-thirds support on the House floor. A fifth measure — the 1983 Social Security rescue plan, which increased Social Security payroll tax collections — also failed to secure a two-thirds vote despite strong support from President Reagan and Congressional leaders.

The constitutional amendment thus would likely lead to one of several outcomes: 1) larger deficits over time; 2) a greatly shrunken federal government that is unable to do very much beyond running Social Security and Medicare, maintaining national defense, making federal pension and veterans payments, and paying interest payments on the national debt; and 3) overly steep reductions in Social Security and Medicare that significantly reduce the living standards of millions of elderly people who are not well off. Such stark outcomes are not necessary if a balance of spending cuts and revenue-raisers ultimately can be considered over the next three decades. Such balance is what the amendment is designed to prevent.

That the statements in the previous paragraph are not hyperbole can be seen by examining the long-term fiscal forecast CBO issued last year on the magnitude of the deficit through 2050 under current tax and entitlement law. When the baby boom generation reaches retirement and an unprecedented proportion of the



¹ The constitutional amendment would require a two-thirds vote in each House to enact legislation that increases "internal revenue." While that phrase is ambiguous, it should be noted that the Internal Revenue Code covers individual and corporate income taxes; Social Security, Medicare, and other social insurance taxes; most excise taxes such as those on gasoline, alcohol, and tobacco; and gift and estate taxes.

population is elderly, some increases in revenues are likely to be needed, in addition to actions to restrain expenditures across the government, including expenditures for Social Security and Medicare.

II. The Amendment Effectively Bars Measures to Close Tax Loopholes

The requirement for a two-thirds majority would apply not only to measures to raise tax rates but also to measures to cut unproductive tax expenditures that grant subsidies to powerful special interests. A recent Congressional Budget Office study found that over half of the corporate subsidies the federal government provides are delivered through the tax code. Curbing corporate welfare provided through the tax code is one way to help reduce the deficit, but it would require a two-thirds vote under the proposed amendment. This would essentially rule out closing unproductive corporate tax breaks as a way to help shrink the deficit.

In fact, a substantial share of the federal budget would effectively be placed off-limits for deficit reduction by the constitutional amendment. Provisions of the tax code that the Joint Committee on Taxation classifies as "tax expenditures" — spending programs that operate through the tax code by selectively reducing the tax liability of particular individuals or businesses — now cost more than \$400 billion a year. (The corporate subsidy provisions that operate through the tax code are a part of this total.) This is more than the government spends on Social Security or defense.

In testimony before the Entitlement Commission in 1994, Federal Reserve Board chairman Alan Greenspan referred to these provisions of the tax code as "tax entitlements" because they entitle those who qualify for them to government subsidies provided in the form of a tax reduction. Greenspan testified that the tax entitlements should be looked at, along with the spending entitlements, in developing measures to address the nation's long-term deficit problem.

If anything, the proposed constitutional amendment would encourage the spread of more tax expenditures over time, since such measures would take only a majority vote to enact but a two-thirds vote to remove. In addition, if Congress passed a series of tax changes that

Most States Do *Not* Have Supermajority Requirements

Only seven states require the approval of at least two-thirds of their legislatures for any tax increase. Six other states either require such approval for some taxes but not others, require a three-fifths rather than a two-thirds vote, or both. Other states generally require simple majority approval for revenue increases of all sorts.

Furthermore, a 1993 General Accounting Office study of state budget trends found that a majority of states surveyed had used both spending cuts and revenue increases to balance their budgets in recent years. Revenue increases accounted for about one-third of the deficit reduction these states instituted to balance their budgets during the period studied.

were thought to be deficit-neutral, but clever, high-priced tax lawyers and accountants then found ways to convert some of the measures into tax shelters at greater-than-anticipated cost to the Treasury, it would take a two-thirds vote to scale the shelters back so the original measure did not produce a net revenue loss.

Even measures that raised revenue by shutting down opportunities for tax fraud would require a two-thirds vote. So would measures to prevent companies from gaining tax advantages by moving plants and jobs overseas.

III. Amendment Tilts Toward the Wealthy and the Powerful At the Expense of Average Families and the Poor

Most government benefits that low- and middle-income Americans receive come from government programs, such as Social Security, Medicare, Medicaid, student loans and grants, unemployment insurance, school lunches, and food stamps. By contrast, most government subsidies that wealthy individuals and large corporations receive come through tax subsidies. As a result, a constitutional amendment that makes it extremely difficult to scale back tax subsidies when decades of deficit reduction lie ahead tilts the playing field in favor of the wealthy and powerful over Americans of average or lesser means.

In addition, such a constitutional amendment would place off-limits even measures asking program beneficiaries who have high incomes to pay more for the government benefits they receive. For example, measures to "means test" Medicare premiums by raising the premium charges for those at high income levels must rely on the tax code to collect the increased premiums, since Social Security offices (which administer Medicare) have no information on beneficiaries' current incomes. Indeed, when the Republican budget bill reached the House floor in the fall of 1995, the House parliamentarian advised that its provision raising Medicare premiums for those at higher income levels could constitute a tax increase. Under the constitutional amendment, measures of this nature would require a two-thirds vote, rendering them extremely difficult to pass. This makes it more likely that when steps are taken to restrain Medicare costs, low-income and middle-income beneficiaries would have to bear a heavier share of the load.

The amendment also would be likely to injure the middle class and the poor for another reason. If the federal government is unable to raise revenue when needs for public expenditures rise, one likely result will be to shift more of the burden of raising revenue and meeting public needs to state and local governments. Most state tax codes are regressive (i.e., the taxes they impose consume a larger percentage of the income of lower-income households than of higher-income households). State and local governments extract a larger proportion of the revenues they raise from the middle class and the poor, and a smaller proportion from the affluent, than the federal government does. If revenue-raising burdens are shifted from the federal to state and

local levels, the share of the overall tax burden borne by the middle class and the poor is likely to rise.

Law School Dean Warns of Perverse Effects

In testimony before the Subcommittee on the Constitution of the House Judiciary Committee on March 18, Samuel C. Thompson, Dean of the University of Miami Law School, warned of potential perverse consequences from the proposed amendment. Thompson wrote:

"Under either interpretation, H.J. Res. 62 will have the effect of making it much harder for Congress to close tax loopholes, because any such legislation could be blocked with a mere 34% vote in either house of Congress....

"This amendment would also penalize the American public for mistakes made in the tax legislative process. For example, assume that after an adoption of this Constitutional amendment, Congress adopts a flat tax. Assume that before enactment it is estimated that the flat tax will reduce revenues by \$100 billion. It turns out, however, that the revenue estimates are wrong and the actual revenue loss is \$200 billion, which will lead to a significant increase in the budget deficit. The Treasury immediately proposes legislation to increase the revenues by \$100 billion, thereby restoring fiscal responsibility. The legislation is, however, opposed by powerful special interest groups who will prevail if they can convince just 34% of the members of either the House or the Senate to vote against the amendment....

"The core problem with this proposed constitutional amendment is that it would give special interest groups the upper hand in the tax legislative process. Once a group of taxpayers receives either a planned or unplanned tax benefit with a simple majority vote of both houses of Congress, the group will then be able to preserve that tax benefit with just a 34 percent vote in one house of Congress. Thus this amendment would create an unlevel playing field in the tax legislative process. Indeed, I believe that if enacted this amendment would become known as the 'Tax Loophole Preservation Amendment to the Constitution.'"

IV. Amendment Could Lead to Overly Large Cuts in Social Security and Medicare Benefits

Social Security and Medicare benefits need to be restrained in the years ahead. Both programs are out of long-term actuarial balance, and both contribute significantly to the projected increase in the long-term deficit.

But the constitutional amendment would likely lead to larger reductions in Social Security and Medicare benefits than otherwise would be needed, reductions that could adversely affect the living standards of modest-income or poor retirees. This would be the case for several reasons.

First, by effectively preventing revenues from contributing to deficit reduction despite the need for large-scale deficit reduction in the decades ahead, the amendment would place a greater deficit-reduction load on Medicare and Social Security. These two programs are projected eventually to constitute half or more of the federal budget, exclusive of interest payments on the debt. If there is no revenue contribution to deficit reduction, there will have to be a greater contribution from Medicare and/or Social Security than would otherwise be the case.

Second, the amendment would effectively rule out measures to raise Medicare premiums for those at higher income levels. As noted above, the 1995 budget reconciliation bill contained such a measure. When it was about to come to the House floor, the House parliamentarian advised that it could constitute a tax increase. A House rule that Congress adopted in January 1995 required a three-fifths majority for measures raising tax rates, so the parliamentarian's advice meant the budget bill would need a three-fifths vote unless this rule was waived. The House leadership promptly arranged for a waiver of the rule. But once a supermajority requirement is in the Constitution, no waivers are possible. If Medicare premiums cannot be raised on those at high income levels, more of the burden of addressing Medicare's financing problems is likely to be placed on elderly people at low- and moderate-income levels.

Third, the amendment would require a two-thirds vote for common-sense measures to help address Social Security's long-term financing problems in ways that involve raising more revenue for Social Security. For example, most Social Security experts agree that all state and local employees should be brought into the Social Security system. Some state and local government workers in a number of states remain outside the system, comprising the last sizable group of workers not covered under Social Security. Although the Advisory Council on Social Security recently split three ways in its recommendations on how to address the program's long-term financing problems, the Council was *unanimous* in recommending that all state and local government workers not covered under Social Security be brought into the system; all three of the rival Social Security plans the Advisory Council submitted contained this recommendation. Expanding coverage in this manner would improve the balance in the Social Security trust fund while benefitting many workers who spend only part of their careers in the government sector. But expanding coverage entails a revenue increase, since the newly covered employees and their state and local employers would become subject to the Social Security payroll tax. Thus, this provision would require a two-thirds vote and become more difficult to pass. Failure to pass proposals such as this would likely mean that larger Social Security benefit cuts eventually would have to be instituted instead. Such benefit reductions would require only a majority vote.

Finally, the constitutional amendment would effectively rule out small adjustments in Medicare and Social Security payroll taxes as part of the effort to bring these programs into long-term actuarial balance. Modest increases of a fraction of a percentage point in the payroll tax would require a two-thirds vote under the amendment, making them virtually impossible to achieve. Yet Medicare in particular is

so far out of actuarial balance that it is difficult to see how to restore long-term balance to the program without some increase in payroll tax contributions along with other significant changes, unless the health insurance that Medicare provides is scaled back substantially.

In a symposium in 1995, Henry Aaron of the Brookings Institution, who is a well-known expert in this area, observed that the full \$270 billion that Republican Congressional leaders were seeking at that time in Medicare savings over seven years could be achieved if one combined those aspects of the Republican Medicare proposals that represented sound (and in Aaron's words, courageous) policy — and that yielded about half of the \$270 billion in savings — with an increase of one-quarter of one percentage point in the employer and the employee shares of the Medicare payroll tax. This would slightly reduce workers' wages. (Most economists believe that both the employee and the employer shares of payroll taxes are effectively borne by employees in the form of lower wages than the employees otherwise would receive. As a result, claims that small increases in payroll taxes would heavily burden employers and cause substantial job loss have little merit.) In return, employees would get a Medicare system that had the resources to provide continually improving health care to their parents and ultimately to themselves as it took advantage of emerging medical technologies that improve health and prolong life.

Furthermore, one of several reasons that Medicare and Social Security face long-term deficits is that over time, a steadily increasing share of employee compensation is being provided in the form of fringe benefits not subject to the payroll tax, while a steadily smaller share is provided in wages that are subject to the tax. Modest measures to shore up Social Security and Medicare by slowing the erosion in the share of employee compensation subject to the payroll tax would, however, require a two-thirds majority under the proposed amendment.

V. Weakening Our System of Democracy

The amendment would seriously weaken the principle of majority rule that has been at the heart of our system of representative democracy for more than 200 years. As Rep. James Moran has observed, it would partially restore the system we had in the 1780s under the Articles of Confederation, a system that functioned poorly and was soon scrapped.

The Articles of Confederation required the vote of nine of the 13 states to raise revenue. At the Constitutional Convention in 1787, the Founding Fathers recognized this was an insurmountable defect and fashioned a national government that can impose and enforce laws and collect revenue through simple majority rule.

The proposed constitutional amendment would end the ability of a majority of the American people, acting through their duly elected representatives, to decide whether they would like to raise more revenues so the federal government can address

James Madison on Majority Rule

The Constitutional Convention rejected requiring supermajority approval for basic functions such as raising taxes. Supermajority rules had applied in the Continental Congress. The framers of the constitution had experience with these rules and understood what they were rejecting.

In the Federalist Papers No. 58, James Madison, one of the key figures in drafting the Constitution, explained why the Constitution rejected supermajority rule:

"It has been said that more than a majority ought to have been required for a quorum, and in particular cases, if not in all, more than a majority of a quorum for a decision....[But that would mean] ... [i]n all cases where justice or the general good might require new laws to be passed, or active measures to be pursued, the fundamental principle of free government would be reversed. It would be no longer the majority that would rule; the power would be transferred to the minority. Were the defense privilege limited to particular cases, an interested minority might take advantage of it to screen themselves from equitable sacrifices to the general weal, or in particular emergencies to extort unreasonable indulgences."

Madison equated majority rule with "free government." In his view, freedom consisted not just in protecting individuals from unreasonable intrusion by government, but also in the right of citizens to have an equal voice in the affairs of government. According to Madison, a person whose vote is diluted by supermajority rules is not an equal citizen and so does not fully enjoy the fruits of freedom.

needs the majority finds legitimate. The amendment would deny the majority this right both now and in future generations. As Representative Nancy Johnson (R-CT) pointed out on the House floor during debate on a similar constitutional amendment in April 1996, future generations should be "free to establish that balance between taxing and spending that they believe is in their interest."

At its core, the amendment is rooted in deep distrust of the ability of the majority of the American people to make decisions that the authors of the amendment believe to be ideologically correct. Hence, the amendment seeks permanently to deny the majority that right. Powerful, well-connected minorities would gain great power at the expense of the majority. As a result, the amendment must be regarded as anti-democratic.

VI. The Potential for Extensive Litigation

Finally, if placed in the Constitution, the proposed amendment would raise a host of knotty issues that would probably need to be resolved by the Supreme Court. For example:

- Is a bill that increases revenues in some years but decreases them in others (and decreases them over a multi-year period) unconstitutional if it does not secure a two-thirds vote?
- What if "supply side" arguments were considered correct in a certain circumstance, and a particular tax cut was estimated to increase revenues? Would that render the legislation containing this tax cut unconstitutional unless the legislation secured a two-thirds vote?

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CENTER ON BUDGET AND POLICY PRIORITIES

March 30, 1997

PROPOSED CONSTITUTIONAL AMENDMENT WOULD MAKE IT MORE DIFFICULT TO ADDRESS THE LONG-TERM SOCIAL SECURITY AND MEDICARE CRISES

The proposed constitutional amendment requiring two-thirds approval by the House and Senate to pass any bill that increases federal revenues would make it more difficult to address the long-term financing problems of Social Security and Medicare. Those financing problems are serious:

- The 1996 report of the Social Security trustees projects the Social Security trust fund will start running deficits by 2012 and exhaust all of its reserves — that is, become insolvent — by 2029.
- The trustees also project that the Medicare Hospital Insurance trust fund will become insolvent in just five years, in 2001.

The resulting trust fund imbalances will be so great that there is a strong possibility they cannot be addressed by benefit cuts alone. To do so would likely require Social Security and Medicare benefit reductions so severe that they would go beyond what the American public would accept. In 1994, a panel of Social Security experts — two Republicans and two Democrats — testified before the Kerrey-Danforth Entitlement Commission. The experts unanimously agreed that both benefit restraint and additional trust fund revenues would be needed.

Some Members of both parties believe that one way to help address the looming shortfalls in Medicare and Social Security is to scale back benefits for those at high income levels. For example, the budget reconciliation bill that Congress passed in November 1995 (and that President Clinton subsequently vetoed) would have increased the premium charged for Medicare Part B (physicians' services) to those at higher income levels. But measures such as this entail raising revenues. Social Security offices, which administer Social Security and Medicare, have no information on beneficiaries' current incomes. The only practical and efficient way to scale back benefits for high-income beneficiaries is to use the tax system to recover a portion of the benefits. To attempt to do so without using the tax system would require hiring a legion of new bureaucrats to staff Social Security offices and collect information on beneficiaries' incomes.

Indeed, when the Republican budget bill reached the House floor in the fall of 1995, the House parliamentarian advised that its increase in Medicare premiums for

those at higher income levels could constitute a tax increase. Since House rules adopted in January 1995 required a three-fifths vote on the House floor for measures raising tax rates, the parliamentarian's advice meant the budget bill needed a three-fifths majority, unless the three-fifths rule was waived. The House Rules Committee provided a waiver of the three-fifths rule; the bill passed by majority vote but did not receive a three-fifths vote. If a supermajority requirement is enshrined in the Constitution, however, no such waivers will be possible. Measures to means-test the Medicare premium to strengthen Medicare's finances and simultaneously reduce the deficit will become far more difficult to pass.

Still another example of the problems the constitutional amendment would cause can be seen by examining a measure recommended unanimously by the recent Advisory Council for Social Security. The Council called for covering all state and local government employees under the Social Security system. State and local government employees in certain states are the only substantial group of workers not now covered by Social Security. Expanding coverage to this group would likely benefit many workers who spend only part of their careers in the government sector and would improve the balance in the Social Security trust fund. But expanding coverage is a revenue increase because the newly covered employees and their state and local employers would become subject to the Social Security payroll tax.

Requiring a two-thirds vote for measures such as these would make it far harder to address long-term Social Security and Medicare financing problems without imposing deep benefit cuts on low- and middle-income beneficiaries.

The experience of the Entitlement Commission is instructive in another way as well. Mostly because of the trust fund imbalances and the growth of other federal health care entitlements, the Commission projected that by 2030, the deficit would exceed 15 percent of the Gross Domestic Product (GDP). In a more recent projection, the Congressional Budget Office has estimated the deficit will be about 12 percent of GDP in 2030 and rise further to more than 20 percent of GDP by 2050. By contrast, the current deficit is about 1.5 percent of GDP.

To erase deficits of this magnitude, extraordinary actions will be needed in future decades. Achieving this goal entirely by cutting government programs is likely to require draconian changes deemed unacceptable by the public. Indeed, although Senators Kerrey and Danforth explicitly ruled out revenue increases at the first meeting of the Entitlement Commission, by the last meeting their view had changed. Their recommendations contained a number of proposals that would increase revenues to help tame the long-term deficit, along with very tough reductions in entitlement benefits. Their revenue proposals included: covering state and local employees in the Social Security system; capping the tax deduction for employer-paid health insurance; limiting the marginal tax rate against which itemized deductions may be taken to 28 percent; and adjusting the indexing of tax brackets, the standard deduction, and other elements of the tax code for inflation based on an index other than the current CPI.

TO: Hillary Rodham Clinton
FROM: Pauline Abernathy
DATE: March 7, 1997
RE: Information on Reading Recovery

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This copy does not include
the booklets that were too
long to copy.
- Pauline

Attached is the information I have gathered on Reading Recovery from the Department of Education, Reading Recovery and the Corporation for National Service, including a new evaluation I received today that is highly critical of the program (Grossen, Coulter, 2/97, attached). I have not yet read and analyzed all of the attached materials, but because it took me longer than expected to get these materials I am sending them to you now.

White House, OMB, and Education Department staff are meeting on Wednesday to discuss Reading Recovery, evaluations of it, and its use in Title 1 and as part of America Reads -- too late for your trip to Arkansas. Carol Rasco could not do it before then.

Jean Bussell, the Executive Director of Reading Recovery, told me RR has programs in every state but Delaware. Between 1985, when the program started in Ohio, and 1996, more than 300,000 children went through Reading Recovery in the U.S. and Canada. Last year, 14,000 teachers in the U.S. were trained for Reading Recovery. As part of the volunteerism summit, Reading Recovery has pledged to reach another 300,000 children and to train 30,000 volunteers by the year 2000. Reading Recovery is one of the Education Department's 62 sponsors of Read*Write*Now. AmeriCorps has also participated in Reading Recovery, and attached is information on their involvement.

The new and highly critical program evaluation, which the Department has not yet assessed and no one I spoke with knew the authors, concludes that the Reading Recovery data are flawed, far fewer students than claimed actually benefit, children not expected to be successful are removed and not counted, and that RR does not reduce the need for other compensatory reading services and does not save on other costs.

The attached large green Education Department report, *Urban and Suburban Special Strategies for Educating Disadvantaged Children: Final Report*, evaluates the evaluations of Reading Recovery. It concludes that RR schools have made moderate gains in reading across the board, although the number of students for whom three years of reading data are available are not large enough to support any statement about RR's effectiveness. It found some research to suggest that RR can be useful to disadvantaged students, but also found that schools were having difficulty moving students through the program in the suggested 12-16 weeks, providing cause for caution as to the program's true cost per student. RR's effectiveness is assessed beginning on page 13-49 (blue tab). *This report has not yet been released, but the Department now plans to release it on Tuesday, the day of your Arkansas speech.*

✓ cc: Melanne Verveer

Attached are:

From Reading Recovery:

- Reading Recovery Council of North America, Executive Summary, 1984-1996.
- Tables on numbers of participants from Reading Recovery.
- "Reading Recovery: A Review of Research," by Gay Su Pinnell for Reading Recovery, 1996.
- *Leadership for Literacy: A Guidebook for School-Based Planning*. Reading Recovery.
- "Demonstrating the Cost-Effectiveness of Reading Recovery," RR Network News, Winter 1996.
- "Reading Recovery: A Literacy Program for At-Risk Children," by Gay Su Pinnell, in *Language and literacy in Early Childhood Education*, 1993.

From Other Sources:

- One-page summary of RR from the Education Department.
- "Reading Recovery: An Evaluation of Benefits and Costs," by Grossen and Coulter, 1997. This is the highly critical evaluation.
- *AmeriCorps for Math and Literacy*, description of AmeriCorps participation in RR.
- "Reading Recovery: A Cost-Effectiveness and Educational-Outcomes Analysis," *ERS Spectrum*, by Phillip Dyer, Winter 1992. This analysis found RR to be cost-effective.
- Reading Recovery section of *Research and Education Reform*, National Research Council, 1992. It describes RR as highly effective.
- Research Brief on Reading Recovery, National Center to Improve the Tools of Educators, 1995.
- "30 Years of NICHD Research: What We Know About How Children Learn to Read." Center for the Future of Teaching and Learning, 1997.
- "Effectiveness of Clinton Reading Plan Questioned," *Education Week*, 2/26/97.
- *School Reform for Youth at Risk: Analysis of Six Change Models*, US Dept. of Education, 1994. The Department choose RR as one of six promising models.
- The Arkansas materials you lent me and I copied.
- *Urban and Suburban Special Strategies for Educating Disadvantaged Children: Final Report*. This Education Department report has not yet been released but will be sent to Congress next week. RR's effectiveness is assessed beginning on page 13-49 (blue tab).

Table 1

U.S. university trainers, teacher leaders, teachers, school districts,
and schools participating in Reading Recovery from 1984-1996

Year	University Trainers	Teacher Leaders	Teachers	School Districts	Schools
1984-85	2	8	16	1	6
1985-86	2	3	58	23	35
1986-87	3	27	280	108	255
1987-88	3	45	531	143	227
1988-89	6	43	732	265	623
1989-90	11	54	1163	332	892
1990-91	13	80	1850	508	1406
1991-92	19	155	3164	798	2336
1992-93	24	259	5343	1246	3731
1993-94	33	388	8182	1905	5523
1994-95	39	510	12084	2543	7784
1995-96	39	625	14153	2939	9062

Reading Recovery National Data Evaluation Center
The Ohio State University

Table 2**U.S. Reading Recovery children served, program children and percentage of children discontinued from 1984-1996**

Year	Served**	Program***	Discontinued****	%
1984-1985*	110	55	37	67%
1985-1986	230	136	99	73%
1986-1987	2048	1336	1059	79%
1987-1988	3649	2648	2269	86%
1988-1989	4772	3689	2994	83%
1989-1990	7778	5848	4888	84%
1990-1991	12685	9283	8126	88%
1991-1992	21821	16026	13499	84%
1992-1993	36443	26582	22189	83%
1993-1994	56077	40493	33243	82%
1994-1995	81228	57712	46637	81%
1995-1996	99617	71193	59266	83%
Totals	326,370	234,913	194,226	81%

* Pilot year: RR teachers were in training.

** Served: Children who entered RR but did not receive a minimum of 60 lessons because they moved, were absent for extended periods of time, or the school year ended prior to their completion of lessons.

*** Program: RR children who received a minimum of 60 lessons or were discontinued prior to receiving 60 lessons.

**** Discontinued: RR children who were released from the RR program reading within the average reading level of their classmates.

**Reading Recovery National Data Evaluation Center
The Ohio State University**

KARP

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IN
EARLY CHILDHOOD EDUCATION
VOLUME 4

LANGUAGE AND LITERACY
IN
EARLY CHILDHOOD EDUCATION

Bernard Spodek • Olivia N. Saracho
EDITORS



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CHAPTER 6

Reading Recovery: A Literacy Program for At-Risk Children

Gay Su Pinnell

Reading Recovery was designed exclusively for at-risk children. This early intervention, based on a robust theory of literacy learning, has had documented success in helping struggling young readers. This chapter describes the program and presents a summary of research results.

A DEFINITION OF READING RECOVERY

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. Originally developed by New Zealand psychologist Marie M. Clay, the program has been adapted and tested for eight years in the United States and Canada. It now exists in 42 U.S. states and 4 Canadian provinces.

The theoretical base for Reading Recovery was developed through Clay's observational studies of young children learning to read. In Reading Recovery, reading is viewed as a complex process involving internal operations such as using information from a range of sources (including world knowledge, the syntactic structure of language, and visual information contained in the print) to monitor, search, and check. As they encounter written text, readers construct meaning by bringing their own knowledge to the process. Learning to read involves learning to use all sources of information in an orchestrated way. Clay (1991) suggests that "out of early reading and writing experiences the young learner creates a network of competencies which power subsequent independent literacy learning" (p. 1). Using meaning to control the process, children use in-the-head

LITERACY PROGRAMS FOR AT-RISK CHILDREN

problem-solving strategies to develop what Clay has called "independent readers" who allows them to continue to learn on their own.

Significant in the process is the role of the teacher (giver) who interacts with the child within social contexts. The teacher, such as early writing for difficult to "read" themselves—help receive feedback and observe adults; conversations surround Adults share the task; with writing than they can alone checking operations that will work in what has been called Clay & Cazden, 1990; Wood

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Children are selected by judgment and individually described later in this chapter. to reduce the instance of re independent readers. The goal

1. Bringing children within age range in their classroom instruction
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problem-solving strategies while working on print; eventually, they develop what Clay has called a self-extending system for reading, one that allows them to continue to learn.

Significant in the process is an adult (parent, teacher, or other caregiver) who interacts with the child during literacy events. Children learn within social contexts. The meaningful literacy events they experience—such as early writing for different purposes, hearing stories read, or trying to "read" themselves—help them build the knowledge they need. They receive feedback and observe demonstrations from more knowledgeable adults; conversations surrounding reading events illustrate processes. Adults share the task; with help, the children can do more reading and writing than they can alone, and they can engage in the searching and checking operations that will build the system. The adult helps the child work in what has been called the "zone of proximal development" (see Clay & Cazden, 1990; Wood, 1988).

Reading Recovery teachers work specifically with children who are having difficulty. They see their role as engaging children in rich literacy events and providing the kind of support necessary to help even those having difficulty to bring their own knowledge to this problem-solving event and to construct the internal operations they need to become independent readers.

The intensive one-to-one intervention is designed for children who are having difficulty in reading and writing after one year of school. In New Zealand, where children enter school on their fifth birthday, the poorest readers are identified at age 6. In the United States, Reading Recovery is recommended for the lowest-achieving 15% to 20% of a first-grade classroom. As to need and timing of the intervention, local judgment is required because of differences in policy and curriculum.

Children are selected using multiple indicators, including teacher judgment and individually applied observational measures, that are described later in this chapter. The primary goals of Reading Recovery are to reduce the instance of reading failure and to help children become independent readers. The goals are accomplished by

1. Bringing children who are considered at risk of failing up to average range in their classes so that they profit from ongoing classroom instruction
2. Providing an instructional context that makes accelerated progress possible so that children can catch up rather than just make progress
3. Helping each child develop a self-extending system that allows for continued progress without help beyond good classroom teaching.

In other words, Reading Recovery's purpose is not only to help or serve at-risk children; it is to remove the conditions that place these students in risky situations. It modifies the school environment and the school support system to provide the level and kind of help each child needs.

AT-RISK CHILDREN IN TODAY'S SCHOOLS

The term *at risk* can have several meanings, but the most general educational definition refers to children not profiting from the schooling they receive. The term usually refers to characteristics in the students themselves, a misleading designation because it suggests that the fault or deficiency lies within the individuals or families rather than in the interaction of home and school factors. At-risk characteristics are not necessarily problematic. They become so only if circumstances in the school interact with the characteristics to create risky situations.

Any child, whatever the economic circumstances, could be considered to be in a risky situation if he or she is not making steady progress toward the development of school-based literacy. For economic and social reasons, whole populations of children are considered to be more likely to be inadequately served by our educational system. Natriello, McDill, and Pallas (1990) have provided a thorough discussion of the term, which they say implies a look to the future, a suggestion that such students may have certain characteristics that make them more vulnerable to difficulty. They cite poverty, family composition, mother's education, racial and ethnic identity, and language background as factors that have high correlation with poor performance in school. They estimate that approximately 40% of the population under 18 possesses at least one of these characteristics; and, while many children are resilient enough to succeed in spite of vulnerability, there is the potential for large proportions of children to have problems in school.

The population of children with at-risk characteristics is increasing dramatically. Over the next 40 years, the number and proportion of minority-group children will increase; by 2020, the number of children in poverty is expected to rise to 16.5 million, an increase of 33%. Both the number and the proportion of children with a primary language other than English, with mothers who have not completed high school, or who are not living with both parents will also increase dramatically (see Hodgkinson, 1985, 1988). Clearly, these social problems are relevant to educational planning.

Even children without obvious difficulties may be considered at risk

in certain educational contexts suggested that being at a disadvantage in attaining human potential is an institutional failure.

Failure to learn to read of reading in other learning surmount during the following "there are consequences for 11). School literacy instruction to learning that children have experiences. Children entering school and, according to Clay (1991) different home backgrounds attended to their home and c

For most children, a risk in the first year, will provide between home and school literacy at marginally in classroom not fully participate in the accepting and benevolent, part of the culture that surr

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in certain educational contexts. In the 1960s Fantini and Weinstein (1968) suggested that being at a disadvantage simply means being blocked from attaining human potential and that such failure is actually a reflection of institutional failure.

Failure to learn to read in a timely enough manner to enable the use of reading in other learning creates a gap that is increasingly difficult to surmount during the following years. Furthermore, as Clay (1985) says, "there are consequences for the child's personality and confidence" (p. 11). School literacy instruction must be based on the knowledge and ways to learning that children have acquired through their preschool experiences. Children entering school have had very different prior experiences; and, according to Clay (1991), these differences may be traced not only to different home backgrounds but to the fact that children have selectively attended to their home and community learning experiences.

For most children, a rich literacy environment, with good teaching in the first year, will provide the support necessary to make the transition between home and school literacy learning. Some, however, seem to operate marginally in classroom situations. However hard they try, they cannot fully participate in the ongoing activities. Even if the environment is accepting and benevolent, they ultimately realize that they are not fully part of the culture that surrounds them daily.

They may listen to and delight in stories but pay little attention to print; they may not initiate the problem solving that moves a child from approximated versions of a story to actually reading for a precise message. Or, as a response to instruction, they may look hard at the letters and words but treat them as isolated items unrelated to their existing knowledge of language. If such circumstances exist, there is the potential that reading and reading instruction may be empty exercises that make little sense.

Extra time and extra help are the two most common approaches to reading problems. Perhaps children need more time either to mature or to build the appropriate foundation of knowledge that would make literacy learning easy. Wouldn't it make sense just to allow children to spend an extra year or two in school? The research on retention, however, does not support this view (Johnson, 1984; Walker & Madhere, 1987). A history of research (Arthur, 1936; Coefficient & Bloomers, 1956; Farley, 1936; Goodlad, 1954; Hall & Demarest, 1958) suggest that retention does not work to students' advantage. Special "transition rooms" designed to disguise retention by placing slower-moving children in one room, sometimes with decreased class size, also are problematic, leading to labeling and low expectations.

A pragmatic approach would suggest that these children need some extra help. Classroom teachers can adjust their plans to provide some individual assistance, but this minimal help may be inadequate for those having the most difficulty. Traditional solutions to providing extra help have brought their own problems. Remedial programs, both pull-out (see Johnston, Allington, & Afflerbach, 1985) and in-class (Slavin & Madden, 1987) models, do not fully meet children's needs. Such programs have the disadvantage of labeling children and entering them into a long-term compensatory education situation. Typically, learning tends to be slowed down, with drill and piecemeal learning being the norm (see Astrein, Fraser, & Steinberg, 1984). Meanwhile, usually on a long-term basis, students are missing classroom instruction, which puts them at a further disadvantage (Allington, McGill-Franzen, 1989; Good, 1986). Further, there is no evidence of long-term gains from the typical compensatory programs provided for high-risk students (Carter, 1984; Savage, 1987; Slavin, 1987).

Educators also have chosen to wait for maturity to solve the child's problems. However sensible the "wait and see" approach may appear on the surface, the evidence suggests that the issues are more complex. Students who have not had the literacy experiences necessary to provide a framework for the instruction they receive in school may find the classroom literacy activities confusing no matter what kind of curriculum they encounter (Heath, 1983; Mason, 1984; Teale & Sulzby, 1986; Wells, 1985). For example, high-risk children in a systematic, structured phonics program may find such a curriculum bewildering. They are required simultaneously to learn to distinguish the visual features of print and to link this knowledge to the systems of oral language they have learned. They may memorize items of knowledge but not know how to use these bits in orchestrated ways while problem solving on text. In more holistic curricula, children may focus on meaning but neglect detail and move along trying to "remember" texts or construct them solely from pictures. Whatever the situation, children cannot be expected to sort out confusions alone, and they do not remain "on hold."

In fact, they are learning within their social world. They listen to and notice what the teacher emphasizes; they watch others write and read. They construct new knowledge in the light of what they already understand, and for some, the process goes wrong. In Clay's (1985) view, there is a period, around the second year of schooling, when it is necessary for some children to have individual time with a teacher who tries to see from their point of view and then engages them in ways that will help to untangle confusions and recover the trajectory of progress toward effective, strategic reading. Reading Recovery is this kind of temporary extra help.

READING RECOVERY

In terms of the system, Readers selected for the program are then to identify young readers so that they can label and categorize them and engage them in intensive reading instruction from a repertoire of interventions. The teacher provides an individual supplementary to the classroom instruction exist "against the backdrop of (p. 48).

Implementers of Reading Recovery view of change. Clay (1987) introduced into an educational system model "children" (p. 38). The innovation the preexisting organization as model (see Sarason, 1991). Reading interlocking interventions that includes specified roles for administrator, a special staff developer, called Canada and a tutor in New Zealand. Innovation designs must have the problems that inevitably arise in Reading Recovery, the key personnel leader. The leader receives a supportive, university-based course as well as how to work with adult

Implementing Reading Recovery in traditional programs:

1. The daily tutorial program
2. The year-long inservice program, regional, or university
3. The year-long course for

Teachers, teacher leaders, and others with different roles and responsibilities in the teaching of children; leaders in the daily practitioners. They are in development as long as they remain. Surrounding these educational

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READING RECOVERY AS A SYSTEM INTERVENTION

In terms of the system, Reading Recovery is a "first net." Children selected for the program are the lowest achievers in reading. The idea is to identify young readers so that they can be helped but not to unnecessarily label and categorize them for long-term services. Daily, children are engaged in intensive reading and writing activities. Through careful selection from a repertoire of interactional procedures, the Reading Recovery teacher provides an individual program for each child. Designed to be supplementary to the classroom reading instruction, the program should exist "against the backdrop of a sound general programme" (Clay, 1985, p. 48).

Implementers of Reading Recovery are required to take a systemic view of change. Clay (1987) has said that "an innovation cannot move into an educational system merely on the merits of what it can do for children" (p. 38). The innovation must be designed to take into account the preexisting organization as it interacts in complex ways with the new model (see Sarason, 1991). Reading Recovery is designed as a series of interlocking interventions that support one another. The program design includes specified roles for administrators and the training and support of a special staff developer, called a teacher leader in the United States and Canada and a tutor in New Zealand, Australia, and England. To succeed, innovation designs must have a redirecting system that continually solves the problems that inevitably arise during the process of change. For Reading Recovery, the key person in the redirecting system is the teacher leader. The leader receives special preparation for one year in an intensive, university-based course that includes learning to teach children as well as how to work with adults and teach the teacher course.

Implementing Reading Recovery depends on three tiers of educational programs:

1. The daily tutorial program for children
2. The year-long inservice course for teachers, held at school district, regional, or university sites
3. The year-long course for teacher leaders held at university sites

Teachers, teacher leaders, and university personnel work together, each with different roles and responsibilities. They have in common their daily teaching of children; leaders in Reading Recovery are required to remain daily practitioners. They are also required to participate in ongoing staff development as long as they remain associated with the program.

Surrounding these educational programs is a network of communica-

tion and support that provides for continual renewal of the educational programs. For example, a newsletter containing theoretical articles and new research as well as notices of common events is circulated to all Reading Recovery teachers. Conferences provide updates on research and refinements or changes in instructional techniques. Teacher leaders attend annual institutes; people at all levels participate in collegial visits with one another to refine their skills.

A final element is the rigorous data-collection procedures that provide a way of accounting for every child served in the program. Data are collected at sites, sent to a central university location for analysis, and then returned to sites so that teacher leaders can prepare a yearly research report. Reading Recovery is a developer/demonstrator project of the National Diffusion Network (NDN), a division of the U.S. Department of Education that works to disseminate excellent programs. Aggregated data are reported each year to NDN.

THE READING RECOVERY PROCESS

For each child, participation in Reading Recovery represents a temporary adjustment in his or her educational process. Individual help is provided for a relatively short period of time, between 12 and 20 weeks. A specially trained teacher works with the child outside the classroom environment for 30 minutes each day. Accelerated learning is the goal. When the child shows behavioral evidence of an independent system of strategies that will result in further learning and can read and write within average range for the school or classroom, the extra help is withdrawn. An independent assessor helps the teacher make the decision to discontinue extra help.

Accelerated Progress

The theoretical concept of accelerated progress is basic to the process described above. Acceleration is achieved not by pushing the young student through levels of skills to "mastery." Instead, children are involved in successful reading and writing while a knowledgeable adult supports the process. Through carefully selected teacher-child interactions, children are assisted in constructing the networks of understandings that they need to develop effective reading strategies. They learn to use their knowledge of the world and of language as they check it against the visual information contained in print. The teacher carefully observes the child's

LITERACY PROGRAMS FOR AT-RISK

behavior, noting evidence of s often the teacher complements conversation that makes process tion helps the young reader do alone; it supports independent ers call this process teaching for

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behavior, noting evidence of such strategies as searching and checking; often the teacher complements the reader's moves or engages the child in conversation that makes processes more explicit. This productive conversation helps the young reader do much more than could be accomplished alone; it supports independent problem solving. Reading Recovery teachers call this process teaching for strategies.

Strategies

Clay (1985) says that strategies are in-the-head operations that cannot be directly observed or taught. Good readers apparently orchestrate a range of effective strategies (see Bussis, Chittenden, Amarel, & Klausner, 1985; Clay, 1991). They are flexible, using information from any level of language (the meaning system, the syntactic system, or the phonemic system) in concert with perceptual information. They have learned to attend to and use information efficiently as needed. Poor readers, on the other hand, seem to operate in more rigid ways. Initially, they may try to use what they know but find the task so complex that they have little success and resultantly become passive. Such children may be vulnerable to instruction (see Board, 1982) in that they follow instructions but do not actively work to fill in the gaps for themselves and use information other than that provided by the teacher. They may continue to invent text long beyond the emergent literacy period, neglecting to check their language predictions with visual information. They may take on some of the directions of their teachers (such as "sounding out" by using the first letter) but not use this information in orchestrated ways. They are content to produce what Smith (1978) called "nonsense" instead of constructed renditions of meaningful text.

The children I have described above are highly dependent on school for their literacy learning experiences. They need expert help embedded within meaningful reading and writing. Reading Recovery teachers talk about "teaching for strategies" because they realize that they cannot directly communicate the kind of in-the-head operations that good readers use. They can, however, watch carefully for evidence of productive strategies and encourage the significant behaviors. The feedback from sensitive and systematic observation helps teachers shape their teaching moves. They decide, as a result of analyzing observational data, what they will attend to and point out to children. They can provide demonstrations and suggest actions that might be productive. Teaching, for Reading Recovery teachers, "can be likened to a conversation in which you listen to the speaker carefully before you reply" (Clay, 1985, p. 6).

Observing and Analyzing Children's Behavior

At the heart of Reading Recovery is observing children while they read, talk, and write. An observational survey, consisting of six individually applied instruments, has been developed to provide an initial assessment of children's literacy knowledge. These assessments, along with the judgment of the classroom teacher, are used as criteria for admitting children to the program. The observational procedures are also helpful to classroom teachers and are extensively used in New Zealand to assess the progress of primary school children. They offer a useful, systematic way of inventorying students' strengths. On each measure, the student receives a score; however, Reading Recovery teachers interpret the results based on all the evidence, including observation of behavior during the tasks. The six measures are described below:

1. *Letter identification.* Children are asked to identify, in any way they can, the 54 characters [upper- and lowercase letters, including two varieties of two letters, a/a and g/g) of the alphabet. Teachers notice students' attempts and substitutions as signs of growing ability to distinguish features of letters.
2. *Word test.* Children are asked to identify a list of words drawn from a basic word list. The assessment provides important information about how children approach this most difficult task. Teachers note not only words identified but also important attempts. Even children who refuse to attempt some words are displaying knowledge; they know that they do not know.
3. *Concepts about print.* Teachers read a short storybook and ask children to interact with the print in various ways. This observational task measures children's knowledge of the print conventions; for example, knowing which way to go, that print (rather than pictures) carries the primary message, or that space is used to designate words.
4. *Writing vocabulary.* Children are asked to write all the words they can within a 10-minute maximum limit. Accurately spelled words are scored; teachers also note strengths and knowledge revealed by approximations.
5. *Dictation task.* The teacher reads a sentence containing 37 phonemes and asks the child to try to write it. The objective is to determine how many phonemes the child can represent with an appropriate letter.
6. *Running record of text reading.* The running record, a way of recording reading behavior, is a powerful tool for guiding instruction. To take a running record, the teacher sits beside the student, who is reading orally from a selected text. Both teacher and student can view the

material being read. The student only when necessary. When the student reads, the teacher takes a running record. For example, words read accurately are coded using a coding system. This provides an estimate of the student's reading level with 90% or greater accuracy. A description of reading behavior is also recorded. Besides the running record, a running record is used even in the program.

Roaming Around the Knowledge

Data from all assessments provide a starting point for the teacher. The teacher is required to conduct an ongoing assessment of the children they teach. The assessment involves reading, writing, and thinking. The individual's knowledge base does not try to introduce new concepts but builds on what they already know. This is evident in responses to questions about words or letters they can write and

Reading Recovery Lessons

Reading Recovery process is a combination of oral reading and writing. These components are

1. Rereading books that the student has read
2. Reading a book that takes a running record
3. Composing and then reading
4. Putting together a running record
5. Attempting, with support from the teacher

What is read and written and the activities that take place are not specified.

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Roaming Around the Known

Reading Recovery Lessons

1. Rereading books that the student has previously read
2. Reading a book that was new the previous day while the teacher takes a running record
3. Composing and then writing a brief story or message
4. Putting together a cut-up version of that same message
5. Attempting, with support, a new book that has been introduced by the teacher

What is read and written and the types of teacher-child conversations that take place are not specified. Those factors are shaped by the teacher's

analysis of the individual child's strengths and his or her predictions concerning where the young learner needs to go next. The teacher follows a recommended framework and sequence of activities but within that must adjust to each child. Following the child means that the teacher makes choices that are most productive for that learner and that allow the child to engage in problem-solving work while maintaining comprehension and fluency. To illustrate this process, and also to display the lesson framework, a sample lesson, with typical examples drawn from our experiences in Reading Recovery, is presented below.

Jon's Reading Recovery Lesson

When Jon entered the Reading Recovery program, he could recognize 39 letters and could write his name and the words *a* and *I*. He knew that print contained the message and that readers move left to right across the line of print. He did not have control of word-by-word matching but could distinguish words and letters. On the dictation task, he could represent *k* with the appropriate letter. When faced with a reading task, he could invent stories that were consistent with the pictures but did not attempt to check with the visual information. By his thirty-fifth lesson, Jon had full control of word-by-word matching and was reading most material without using his finger to point. He could write 36 words and was reading books on Reading Recovery level 11 (roughly equivalent to a third preprimer).

Jon's thirty-sixth lesson began with familiar reading. All reading in Reading Recovery lessons is oral. He first read *When Lana Was Absent* (1984), a book at about preprimer level that he could easily read without using his finger. He read fluently, with phrasing, and then quickly read another at about the same level of difficulty about what animals wear on a cold day. In this book, he noticed that *goats* and *coats* looked alike. On another page, the text said, "On a cold, cold day, kittens wear mittens." Jon noticed the word *mitlen*, saying, "If that was a *k* it would be 'kittens wear kittens.'" Finally, he read *Oh No* (Cairns, 1987), a book at about the same level that he had read twice before. His teacher helped him use magnetic letters to work out *there* and *there's* from *the*, a word he knew well. Throughout the reading, his teacher talked with him about the stories and praised his efforts. She especially commented on his fluency and noticed that he was discovering aspects of print and beginning to analyze words. An ongoing conversation surrounded the reading.

Next, Jon read *Ten Little Bears* (Ruwe, 1976), a more difficult book that had been introduced the day before, while his teacher took a running record. A segment from the record illustrates the productive problem solving this child was doing (see Figure 6.1).

Page	Text and Jon's
3	Ten little be with nothing R They wanted s
4	One little be boat in a sailboat
5	Then nine lit
6	One little be
7	Then eight li
Key:	
accurate reading	✓✓
substitution	chil tey
appeal	A

Figure 6.1. Jon's reading of

Jon operated independent to observe. She noticed that his knowledge of language syntax and visual information. He read with a correction ratio of 1:2. More interestingly, he was correcting his own reading. For example, "then nine little bears left." Then he read accurately to the end of the page, checking on himself, pointing out "sound right."

Jon decided to write a story book. His writing is shown in Figure 6.2, turned sideways so that a "story page" is below. The

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move left to right across the line
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ation task, he could represent k
with a reading task, he could
e pictures but did not attempt to
s thirty-fifth lesson, Jon had full
s reading most material without
6 words and was reading books
ivalent to a third preprimer).

familiar reading. All reading in
st read *When Lana Was Absent*
that he could easily read without
phrasing, and then quickly read
ty about what animals wear on a
oats and coats looked alike. On
cold day, kittens wear mittens."
that was a k it would be 'kittens
airs, 1987), a book at about the
re. His teacher helped him use
ere's from *the*, a word he knew
alked with him about the stories
ommented on his fluency and
f print and beginning to analyze
ed the reading.

e, 1976), a more difficult book
while his teacher took a running
strates the productive problem
.1).

Page	Text and Jason's Reading
3	✓ ✓ ✓ ✓ ✓ ✓ ✓ Ten little bears were sitting at home. ✓ <u>with nothing</u> R ✓ ✓ They wanted something to do.
4	✓ ✓ <u>LR/SC</u> ✓ ✓ ✓ ✓ ✓ One little bear went for a ride ✓ ✓ <u>boat</u> in a sailboat.
5	✓ ✓ <u>there</u> RSC ✓ ✓ <u>-/SC</u> ✓ <u>RA</u> / T ✓ Then nine little bears were left at home.
6	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ One little bear went for a ride in a jeep.
7	✓ ✓ <u>there</u> RSC ✓ ✓ ✓ ✓ ✓ ✓ Then eight little bears were left at home.
Key:	
accurate reading	✓ ✓ ✓
substitution	<u>child</u> <u>text</u>
appeal	A
self correction	<u>child</u> <u>ISC</u> <u>text</u>
repetition	R ✓ R
told	T

Figure 6.1. Jon's reading of *Ten Little Bears* (Ruwe, 1976).

Jon operated independently during the reading, allowing his teacher to observe. She noticed that he made predictions based on meaning and knowledge of language syntax and consistently checked his attempts with visual information. He read the book at 96% accuracy with a self-correction ratio of 1 : 2. More important, it was evident that he was monitoring his own reading. For example, on line five, he read, "Then there . . . then nine little bears left." Then, he returned to the beginning of the line, reading accurately to the end. His teacher commented on Jon's ability to check on himself, pointing out places where he had worked to make it "sound right."

Jon decided to write a story based on *Oh No*, currently his favorite book. His writing is shown in Figure 6.2. The writing book is a blank book turned sideways so that a "practice page" is available at the top and a "story page" is below. The child and teacher collaboratively write the

There's
 J Spot
 J Oh car
 Van Jap Bar

oh no!
 There's a spot
 oh my car.

Figure 6.2. Jon's writing.

child's story on the bottom page, providing both the opportunity to write and a finished story that can be read. The top half, or practice page, provides a space to work out words and practice writing them. The child and teacher move back and forth between the story page and the practice space as indicated by problems and opportunities in the child's story. Jon knew how to write "Oh no," which he wrote quickly on the story page,

adding an exclamation point to the practice page. First, he wrote and s by linking sound to letter there's on the story page.

A technique called hearing to construct words by accessing ships. The teacher draws a set asks the child to say the word visual frame provided by the work out words using this technique boxes to write Spot and on. He car and then saying, "Oh, that want to hurriedly write down attempts to get him to work the teacher's suggestion, he wrote needed because the substitutive

Jon read the sentence several it was finished. Then, the teacher was cut apart for him to recombine example, car and there's—to be was read again in its entirety take home and remake.

His new book was Saturday. He talked through the pictures of for example, hosed the car. She for Jon to do, though, because more independent. On his first pause or self-correct on errors checked on his reading, repeated of text. He used cues from previous his teacher kept up a support row, he will read this book in ning record. At the end of the

The lesson framework in of difficulty. The idea is to make work" as independently as possible as helping the child to work abilities for problem solving but

Studies of Reading Recovery Bryk, and Seltzer, 1991) indicate engaged time; the student is

S p o t

a p
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both the opportunity to write
top half, or practice page,
practice writing them. The child
the story page and the practice
activities in the child's story. Jon
e quickly on the story page,

adding an exclamation point for emphasis. Then, he worked out *there's* on the practice page. First, he wrote the known word *the* and then added *r* and *s* by linking sound to letters. The teacher added the *e*, and Jon wrote *there's* on the story page.

A technique called hearing sounds in words helps young writers learn to construct words by accessing their knowledge of sound-letter relationships. The teacher draws a series of boxes, one for every phoneme, and asks the child to say the word slowly while pushing a marker into the visual frame provided by the drawn boxes. The practice page is used to work out words using this technique. With the teacher's help, Jon used boxes to write *Spot* and *on*. He surprised his teacher by writing the *c* for *car* and then saying, "Oh, that has *ar*." As Clay (1985) says, "The child will want to hurriedly write down the clusters he knows, resisting a teacher's attempts to get him to work letter by letter. And rightly so" (p. 78). At his teacher's suggestion, he wrote *jar* and *bar*. No further practice will be needed because the substitution principle is well established.

Jon read the sentence several times during its construction and when it was finished. Then, the teacher quickly wrote it on a sentence strip that was cut apart for him to reconstruct. He was ready for some words—for example, *car* and *there's*—to be cut apart for reconstruction. The sentence was read again in its entirety and then placed in an envelope for Jon to take home and remake.

His new book was *Saturday Morning* (Moyes, 1983). The teacher talked through the pictures of the book and used some of the language, for example, *hosed the car*. She was careful to leave some problem solving for Jon to do, though, because one of her goals was to help him become more independent. On his first attempt, Jon needed little help. He did not pause or self-correct on errors that made no difference, but he consistently checked on his reading, repeating lines when necessary to work out a line of text. He used cues from pictures and print in a orchestrated way, and his teacher kept up a supportive conversation during the reading. Tomorrow, he will read this book independently, while the teacher takes a running record. At the end of the lesson, Jon chose *Oh No* to take home.

The lesson framework includes writing and reading at several levels of difficulty. The idea is to make it possible for the student to do "reading work" as independently as possible. We could describe the teacher's role as helping the child to work at a level difficult enough to present opportunities for problem solving but not so difficult that meaning is lost.

Studies of Reading Recovery lessons (see Pinnell, DeFord, Lyons, Bryk, and Seltzer, 1991) indicate that almost every minute of the lesson is engaged time; the student is involved in reading and writing extended

text. The lesson framework is a powerful combination of activities, but teacher decision making on a moment-to-moment basis is the most powerful component in the lesson.

RESEARCH ON STUDENT OUTCOMES

Research supports the effectiveness of the Reading Recovery model. This research includes replications of the program in New Zealand, Australia, and the United States. It also includes a statewide experimental study.

Studies and Replications

Studies of Reading Recovery represent 16 years of research, beginning with Clay's six projects between 1976 and 1981 (see Clay, 1985, 1990) and also including Australian studies (Wheeler, 1984) and the Ohio State studies beginning in 1984 (see DeFord, Lyons, & Pinnell, 1991; Pinnell, 1989). In addition, Reading Recovery has been implemented at 137 sites. Each site represents replication of the process with different teachers, different leaders, and different children. In 1990-1991, an average of 87% of students were successfully discontinued at U.S. and Canadian sites. The 9,486 students who received Reading Recovery lessons for at least 60 days were used as a basis for that figure.

A Statewide Study

A statewide study¹ (see Pinnell, Deford, et al., 1991) addressed some specific questions about Reading Recovery, for example:

1. Wouldn't any one-to-one program work just as well?
2. Is the year-long training program really necessary or would a summer workshop do as well?
3. Can you do Reading Recovery in groups and achieve the same results?

Reading Recovery seemed to work; practitioners were interested in finding out *what* it was that was effective and what could be changed to adapt it

¹This research was conducted at The Ohio State University through a grant from the John D. and Catherine T. MacArthur Foundation.

LITERACY PROGRAMS FOR AT-RISK

to local conditions or to make it to implement. For this study, characteristics, for example, of the long-term training. They are components when used together

From 33 schools serving readers ($n = 403$) were selected programs or to a control group. The first intervention program fully trained teacher. The second modeled on Reading Recovery provided with a condensed version of intervention, Direct Instruction reading teachers who did not fourth, called Reading Writing led group sessions instead of private represented typical group remediation

Each of the four intervention groups in one of the project schools ($N = 324$) were randomly assigned to the study control group; thus the study controlled across schools and school districts each of the first four groups are control classes. At the end of the covering a range of literacy skills different forms of instruction, the end of their first-grade year grade.

Analysis of the data showed that Reading Recovery performed significantly better than other special-treatment groups was better on all tests, show Recovery children were reading and were independently and at the beginning of second grade average, were lagging far behind up to this research project was Reading Recovery services after the experiment (April). These children were not had received regular remediation turn. So they, too, were reading graders.

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to local conditions or to make the program less costly or less troublesome
to implement. For this study, researchers looked at the various program
characteristics, for example, the individual nature of the program and
the long-term training. They examined the relative effectiveness of these
components when used together and separately.

From 33 schools serving low-income populations, first-grade low
readers ($n = 403$) were selected and assigned to one of four intervention
programs or to a control group that represented traditional extra help.
The first intervention program was traditional Reading Recovery with a
fully trained teacher. The second method, called Reading Success, was
modeled on Reading Recovery; however, Reading Success teachers were
provided with a condensed version of the training. Another one-to-one
intervention, Direct Instruction Skills Plan, was provided by experienced
reading teachers who did not use Reading Recovery's procedures. In the
fourth, called Reading Writing Group, trained Reading Recovery teachers
led group sessions instead of private lessons. The fifth, the control group,
represented typical group remediation classes in the state.

Each of the four interventions was compared with its own control
group in one of the project schools. The lowest-achieving first-grade stu-
dents ($N = 324$) were randomly assigned either to a treatment or a control
group; thus the study controlled for the variation in students that exists
across schools and school districts. Remedial instruction lasted 70 days for
each of the first four groups and throughout the entire school year for the
control classes. At the end of their special classes, students took five tests
covering a range of literacy skills. To measure the lasting powers of the
different forms of instruction, the students repeated some of the tests at
the end of their first-grade year and again at the beginning of second
grade.

Analysis of the data showed that Reading Recovery children per-
formed significantly better than an equivalent control group and three
other special-treatment groups. Reading Recovery was the only group that
was better on all tests, showing long-term effects in reading. Reading
Recovery children were reading the equivalent of the primer in February
and were independently and comfortably reading the first-grade reader at
the beginning of second grade. Children receiving other treatments, on
average, were lagging far behind in reading level. An interesting follow-
up to this research project was found in the children who received Reading
Recovery services *after* the experiment was over (in February, March, or
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This study supported several program components that apparently strengthen one another: (1) individual lessons, (2) the instructional approach, and (3) long-term teacher development. The results suggest, however, that the success of Reading Recovery goes beyond the individual factor and the instructional emphasis factor. The time allocations for Reading Recovery and Reading Success were quite similar, and they used the same framework for instruction; but as a group, the Reading Recovery teachers had higher student outcomes. It is clear that another factor made the difference: the intensity and effectiveness of teaching within the Reading Recovery framework. This research suggests that the training program has an impact.

A PROFESSIONAL DEVELOPMENT PROGRAM FOR TEACHERS

The professional development course for teachers is one academic year in length (see Alverman, 1990; Clay & Watson, 1982; Pinnell, Fried, & Estice, 1990; Pinnell, DeFord, & Lyons, 1988; Pinnell, Fried, Estice, & Powell, 1991). Teachers begin immediately to work with children. First, they learn to use the observational survey to select children for the program. Then, after writing an observational summary that synthesizes their beginning observations, they begin seeing children for 30 minutes daily and to meet weekly, usually in after-school sessions, for the Reading Recovery training class. In the United States, the course is nine quarter hours (six semester hours) of graduate credit. Teachers must be able to teach four Reading Recovery children daily at a school site. Typically, they work one half-day in Reading Recovery and the other half-day at another assignment, such as teaching remedial reading or classroom teaching. The course is conducted by a teacher leader who has received a full-time training course for one year at one of the national training sites.

After the assessment training, getting underway with the lesson framework, that is, with the activities, is the first task for teachers. They quickly learn to efficiently apply the framework of the 30-minute lesson. The real challenge for teachers is to reflect on and analyze their interactions with students so that they can select and attend to the kind of memorable examples that will help children increase their power over the tasks of reading. The teacher leader's job is to assist teachers in learning this complex teaching process.

Each week, two members of the class teach their students in regular lessons behind a one-way glass. The rest of the group observe closely,

developing the ability to n quickly make inferences a might signal. The observa in the class engage in an encouraged to think out lc ences and generalizations in the lesson and the inl to assume the responsibil the development of their what is going on in the le the lesson proceeds. The challenging group membe with evidence.

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Reading Recovery goes by providing a program des ing and of system change. T learners in reading and writ the level of their own knowl and to follow the child's le: productive demonstrations c oped through a staff develop of instructional decision ma for instruction in a setting observation of ongoing lesso: level, structures are in place communication that both su Reading Recovery has prom nated set of innovations, Re stration of new possibilities i

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developing the ability to notice minute shifts in children's behavior and to quickly make inferences about the internal processing that the behaviors might signal. The observation is not silent. While they observe, teachers in the class engage in an extended conversation during which they are encouraged to think out loud, describe behavior, and try out their inferences and generalizations about instruction. They intimately participate in the lesson and the inherent instructional decisions without having to assume the responsibility for acting; thus they can concentrate on the development of their thinking as teachers. The idea is to describe what is going on in the lesson and to engage in ongoing analysis while the lesson proceeds. The leader guides the process by questioning and challenging group members to formulate hypotheses and back them up with evidence.

Afterwards, the group meets with the teachers who provided the two demonstration lessons. The purpose of this reflective discussion is to provide cases for group discussions. The model helps teachers build a system of understandings out of which they act. This system is generative in that it helps them learn more about teaching with each student they encounter. At every level in Reading Recovery, educators participate in behind-the-glass sessions, working to build their theories of how children learn and strengthening their observational and decision-making power.

SUMMARY

Reading Recovery goes beyond the piecemeal approaches of the past by providing a program designed to meet the complexity of human learning and of system change. The program for children immerses individual learners in reading and writing experiences and allows them to engage at the level of their own knowledge. Teachers must learn to analyze behavior and to follow the child's lead in order to help young learners attend to productive demonstrations of processes. This powerful teaching is developed through a staff development program that recognizes the complexity of instructional decision making. Teachers develop the theoretical base for instruction in a setting that is close to their daily work. From their observation of ongoing lessons, they develop analytic skills. At the system level, structures are in place to assure continuing quality and a network of communication that both supports and challenges. Research indicates that Reading Recovery has promise for reducing reading failure. As a coordinated set of innovations, Reading Recovery provides a powerful demonstration of new possibilities in meeting the needs of at-risk children.

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From the Cen Multicultural

Many of us are familiar with poet Lucille Clifton. Her most famous poem is "The child hero of six books, 1 son, neighbor, or grandson. likeable and loving child. We year older. We share his pain reminded of our feelings about Everett's new stepfather. We captured some essential moments in *Everett Anderson* (1970), *Everett Anderson's Nine Month Long*. Clifton's poetry for those who do not speak English because some of her poems (1975), include black vernacular. Clifton, who does not care whether her poetry gives voice to Everett's feelings, is African American. Unfortunately, the matter to some.

Consider, for instance, the opening of the National Council on the Arts. Clifton spoke of her elation at being named to the National Council on the Arts. Walt Whitman. Some of that. Clifton asked her why she was named. Clifton, the reporter could not

Reading Recovery

Overview: Reading Recovery is an intensive early intervention program for first grade children having difficulty with beginning reading. It was based on years of research in New Zealand. The program is designed to promote good reading by teaching reading strategies before a pattern of failure develops. The program includes procedures for teaching reading, a staff development program directed by a specifically prepared "teacher leader," and a set of administrative systems that work together for quality control. Currently, Reading Recovery programs can be found in 47 states in the U.S.

Reading Recovery is not a packaged program; it relies heavily on training teachers to deliver highly focused lessons in which students learn to monitor and correct their own reading and to use many kinds of information (background experience, knowledge of language, letter-sound correspondence) as they read.

To fully implement Reading Recovery, the district or school must have a person designated as teacher leader. The responsibilities of the teacher leader are to design and implement the teacher training at each site. To become a teacher leader requires a teacher to spend a full year being trained at one of the Reading Recovery Training sites--in the United States, Ohio State University is a designated training site. The teacher leader then trains Reading Recovery Teachers.

Features of the Program: In most cases, Reading Recovery teachers select the lowest achieving students in the first grade to provide intensive one-on-one tutoring for 30 minutes each day. This tutoring is in addition to regular classroom reading instruction. It includes both reading and writing activities as well as strategies to develop children's thinking and reasoning skills. When the Reading Recovery teacher considers the child has become a proficient independent reader, the treatment is discontinued. This normally takes around 16 weeks. The success of individual programs is often measured by the discontinuing rate.

Evidence of Success: Ohio State University collects and analyzes data from Reading Recovery sites nationwide. The program is successful with most of its students. In 1995-96, 83 percent of the students (59,266) in the program were "discontinued" from the program after 60 days. Students are "discontinued" when they are judged to be independent readers. Eighty-six percent of the children scored at or above average on reading tests at the end of the school year.

Costs: The primary costs are for the training required by the teacher leader (1 full academic year). Additional costs include the periodic in-service that is required.

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READING RECOVERY: AN EVALUATION OF BENEFITS AND COSTS

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Executive Summary

Reading Recovery is being widely adopted in North America:

"Reading Recovery sites operated in four Canadian provinces, 48 U.S. States, and the District of Columbia. Approximately 60,000 North American children were served by Reading Recovery educators during the 1993-94 school year. In California alone, more than 500 school districts served approximately 5000 children." (Schwartz & Klein, 1996)

Many believe Reading Recovery to be the best available program for preventing reading failure. Reading Recovery was developed in the 1970s by Dr. Marie Clay, a New Zealand educator, to deal with the reading failure occurring there. It was introduced in the United States through the Ohio State University in 1984 by Dr. Gay Su Pinnell and Dr. Charlotte Huck. Gay Sue Pinnell, Diane Deford, and Carol A. Lyons are directors of the National Reading Recovery Center at Ohio State in the U.S.

In Reading Recovery, program-trained teachers provide one-to-one tutoring in 30-minute daily sessions to the lowest 10 to 20% of a first-grade class who have the prerequisite skills for Reading Recovery. Reading Recovery advocates claim that the program brings the lowest performing children up to the average level of their local class by the end of first grade within 60 lessons, or 12 weeks. When students reach this goal they are "discontinued" from the Reading Recovery program, at which time the Reading Recovery teacher can take another student into the 30-minute slot. Each Reading Recovery-trained teacher, working a half-day with Reading Recovery, is expected to be able to tutor 8 students in one year, though actual figures from the national data set indicate that the average number of students per teacher is much lower—5.5, or 11 students for a full-time equivalent teacher, according to Hiebert (1994).

Because of Reading Recovery's increasing popularity, and its expense, more independent evaluators are raising questions and reviewing the research that is cited to support claims regarding its effectiveness. Following is a summary of the findings of these reviews and other studies evaluating the impact of Reading Recovery. These findings should be considered in deciding whether to adopt, expand, or terminate Reading Recovery programs.

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The Reading Recovery data reporting system is flawed.

The in-house Reading Recovery evaluation system results in considerable bias in the data collected through that system. Persons responsible for success collect the data on success. Without explanation, about half the data on children eligible for Reading Recovery are omitted from final analyses (Shanahan & Barr, 1995). In addition, the measures used to evaluate Reading Recovery (*Clay Diagnostic Measures*) emphasize tasks that align with the specific strategies taught in Reading Recovery (Center, Wheldall, & Freeman, 1992; Wasik & Slavin, 1993). For example, the children are taught to use context to predict words rather than sounding them out. The reading measure uses predictable text, rather than text that uses authentic, natural language patterns. Children who have learned the prediction strategies of Reading Recovery will score better reading predictable text than they will reading authentic text. Because of the close alignment of the measures with the strategies taught in Reading Recovery, the results of an evaluation using these measures are biased in favor of Reading Recovery.

The standard for successful completion of Reading Recovery is not equitable.

Reading Recovery's goal to bring the lowest pupils to the average level of their class, falls short of a more equitable *standard* level, such as the national average. The average level of performance of a class of children from low income areas is about the 20th percentile on national norm-referenced measures. ("Grade level" is the 50th percentile.) In inner-city schools where so many students do not learn to read, only a few students can be served with Reading Recovery. Some of the lowest children will be brought up to only the 20th percentile and many children performing below the 20th percentile will not be served. As a statewide intervention Reading Recovery would result in allocating the same resources to the goal of raising a few children in a low income school to the 20th percentile that it would allocate to a high income school raising children scoring below the 80th percentile to the 80th percentile. This inequity raises constitutional issues because it impacts minority children, who are overrepresented in low income schools. Average first-grade children are more likely to be nonreaders in low income schools.

Reading Recovery does not raise overall school achievement levels.

If a school's goal is to raise the overall level of reading performance, Reading Recovery is not the appropriate intervention to choose. Overall school achievement scores are not improved with the use of Reading Recovery (Hiebert, 1994). Both Reading Recovery advocates and critics agree on this point (Hiebert, 1994; Pinnell & Lyons, 1995)

Fewer students than claimed actually benefit from Reading Recovery.

Analyses reporting that 75 to 85% of the children in Reading Recovery are successful are misleading because (a) nearly half the data are systematically omitted from the analyses (Shanahan & Barr, 1995), and (b) successful does not mean the children are

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readers. Successful is defined as being able to read text level measures at the average level of the child's class. Various independent evaluations have accounted for the missing data (Battelle, 1995; Shanahan & Barr, 1995). Figures 1 and 2 present these findings in graphic form. In both figures the black areas represent the proportion of children who were served in Reading Recovery and the grey areas represent an estimate of the children who were eligible but were not served. Figure 1 shows the national Reading Recovery data that were gathered through the in-house data collection system. Figure 2 shows the Columbus, Ohio data that were gathered by an independent evaluator (Pollock, 1996) and reported as percentages of children served (shown in black).

Figure 1. National Reading Recovery Data

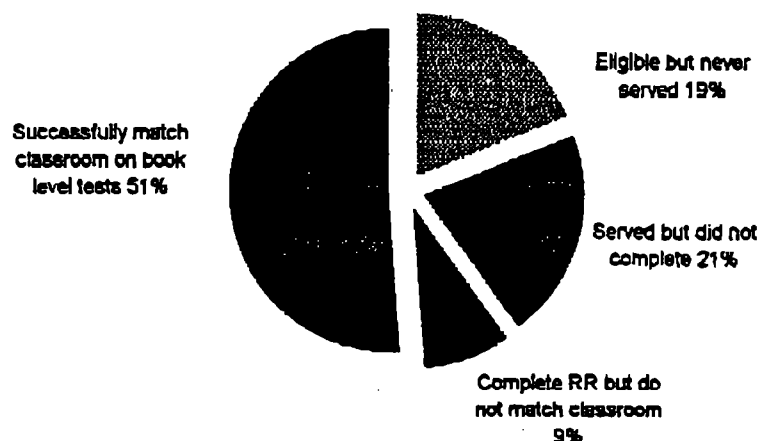
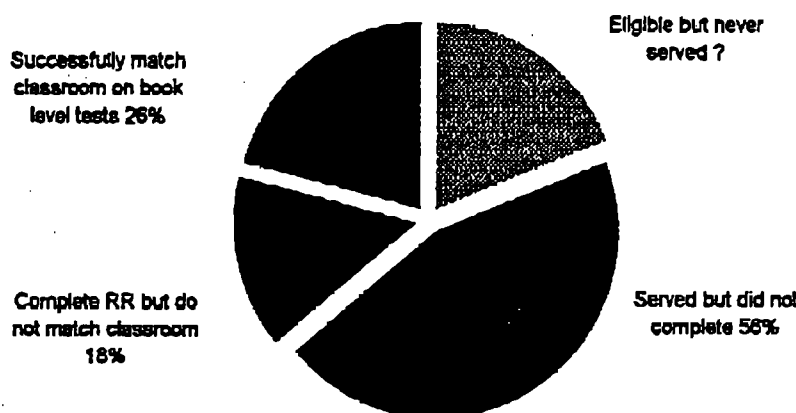


Figure 2. Outcomes In Columbus, Ohio 1995-96



Both evaluations omitted the number of children who are eligible but never served—often because they lacked prerequisite skills or were already identified for special education. Battelle (1995) is the only source that has reported this number (19%) in an evaluation of Ohio's Reading Recovery program. Battelle's figure is used in both figures

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(shown in grey). Children served but who do not complete Reading Recovery include children who are removed because they do not make adequate progress. These children are *not* counted in the calculation of Reading Recovery success rates. Excluding eligible children who are never served and served children who do not complete the program for various reasons inflates the success rate. In reality, the success rate describes how accurately the Reading Recovery teacher was able to predict which students would be able to match the classroom average on the Clay Diagnostic Measures upon completion of the program. Those the teacher predicted would not succeed, s/he should have removed from the program prior to completion.

Reading Recovery does not reduce the need for other compensatory reading services.

Reading Recovery does not eliminate the need for Title I. Pollack (1996) reports that in Columbus, Ohio, in the 1995-6 school year, only 14.7% of the children who completed the program reached national norms, and 81% of those completing the program still remained eligible for Title I services. When all eligible children are included in the calculation, only an estimated 6.5% reached national norms and 92% continued to be eligible for Title I after Reading Recovery was implemented. (Those who are never served or who do not complete Reading Recovery remain eligible for Title I services also.) Even among the smaller portion of children counted as successful over an eight-year period by Reading Recovery standards, 31% were still eligible for Title I services (Pollock, 1994).

Reading Recovery does not eliminate the need for special education. Six or 7% of the children who are served are referred to special education (Shanahan & Barr, 1995). Wake County Public School System (WCPSS) in North Carolina found that Reading Recovery students, "compared to a control group, were just as likely to be retained, placed in special education, or served in [Title] I a year later" (1995, p. ii). Reading Recovery does not serve the lowest performing children. The average entry level percentile score of children who complete Reading Recovery is 34.5 (Hiebert, 1994).

Children successful in Reading Recovery are often not successful later.

Other research has documented that children who complete Reading Recovery and return to the class do not continue to learn at the same rate as average children in the class, but seem to immediately begin falling behind again (DeFord, Pinnell, Lyons, and Place, 1990; Glynn, Crooks, Bethune, Ballard, and Smith, 1989; Shanahan & Barr, 1995). The learning rate of returned Reading Recovery children was slower than that of other low-achieving children (Glynn, Crooks, Bethune, Ballard, & Smith, 1989).

Research-based alternative interventions are more effective than Reading Recovery.

Independent evaluations have compared Reading Recovery with other common compensatory programs (Battelle, 1995; Fincher, 1991; WCPSS, 1995) and found no advantage for Reading Recovery on measures using authentic text (the natural text used in the reading comprehension passages of standardized measures). One frequently cited

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study found Reading Recovery superior to other interventions (Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1994). Pinnell et al. compared specific variations of Reading Recovery and found approximately equal results regardless of whether the teachers had less training or the instruction was delivered in groups of four. Rasinski (1995) found serious methodological flaws in the Pinnell et al. study. He adjusted the scores to hold instructional time equal and found that the effect of Reading Recovery was at best only equivalent to the other treatments on measures of authentic text (Gates-McGinitie). Fincher (1991) compared the performance of children in Reading Recovery with that of children in other compensatory programs in Canton City Schools, Ohio, over a five-year period and found that common Title I programs resulted in better performance on measures using authentic text and other standardized measures.

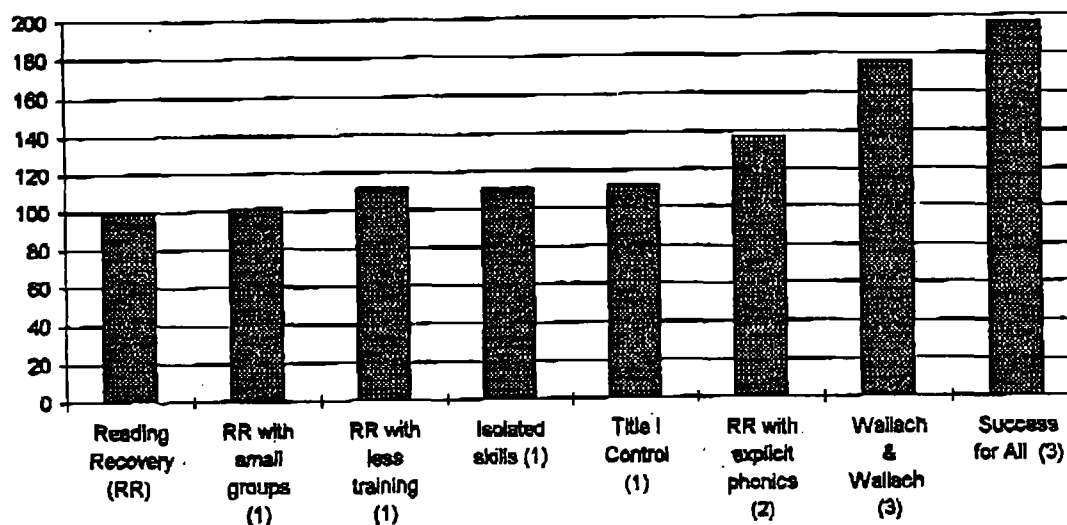
"Teaching Assistants with almost no training and minimal teaching materials with which to teach and working in less than desirable conditions, outperformed the Reading Recovery teachers when their students' overall achievement was compared. Also, Reading Recovery teachers, when their Reading Recovery students are compared with their Chapter I students, tend to get better results with the regular Chapter I program than with Reading Recovery. This has been the case every year since 1985-86, the year Reading Recovery was implemented in Canton." (Fincher, 1991)

Research shows that explicit instruction in phonemic awareness beginning in kindergarten followed by explicit systematic instruction in phonics combined with extensive practice reading decodable text are emerging as important factors in the effective treatment of reading disabilities. Iversen and Tunmer (1993) added a component of systematic phonics to Reading Recovery. Reading Recovery with systematic phonics was 37% more efficient. Wasik and Slavin (1993) compared the relative effect sizes achieved by five treatments for reading problems. Reading Recovery was not nearly as effective as two programs that provided explicit systematic phonics with extensive practice reading decodable text (the Success for All and Wallach and Wallach programs). Decodable text is quite different from the predictable text used for practice in Reading Recovery.

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Figure 3. Relative Effect Size of Various Compensatory Programs

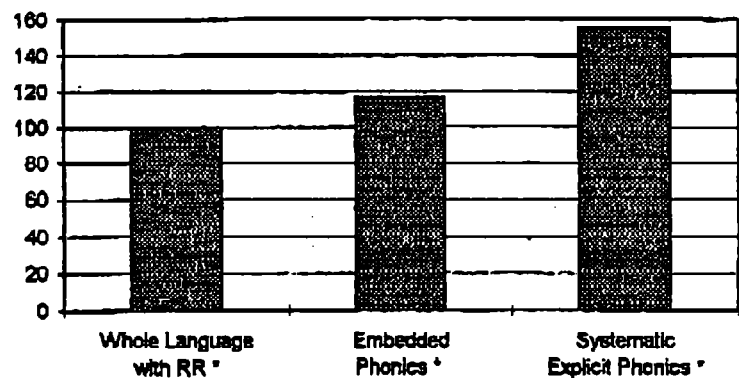
(1) Rasinski, 1995

(2) Iverson & Tunmer, 1993

(3) Wasik & Slavin, 1993

Very recently the research program of the National Institute of Child Health and Human Development (Foorman, Francis, Beeler, Winikates, and Fletcher, in press) has found that changing the regular classroom program from whole language to incorporate explicit instruction in phonemic awareness and systematic phonics with decodable text is more effective than tutorial programs in reducing the occurrence of reading disabilities. Foorman et al. (in press) compared (a) whole language combined with an unlicensed Reading Recovery model, (b) embedded phonics, a semi-systematic program, and (c) explicit phonemic awareness with systematic explicit phonics and decodable text. All these treatments were delivered in the regular classroom. The explicit systematic phonic approach was more than 1 ½ times as effective in preventing reading disabilities as whole language combined with the unlicensed Reading Recovery program (see Figure 4).

Figure 4. Relative Effect Size of Classwide Interventions



* Foorman, Francis, Boeler, Winikates, and Fletcher, in press

Reading Recovery is extremely expensive and does not save other costs.

Thirty hours of instruction for one child in Reading Recovery costs more than a full year of schooling for the child. Reading Recovery advocates argue that even when the highest cost estimates are used, the expense is cheap because the multi-year educational costs of special education and Title I are saved, as are the social costs of letting children fail to learn to read. However, best estimates indicate that approximately 90% of the children eligible for Reading Recovery services continue to need other compensatory services. Other alternative models are more effective. Many of these models are classwide and actually cost much less, affect more students, produce higher performance, and, most importantly, change school and classroom practices so that the need for costly after-the-fact interventions are minimized. For the cost of one year of Reading Recovery in a school, class sizes could be reduced and the whole school's early literacy program could be redesigned. By adopting research-supported best practices and whole-school change, schools could significantly increase the number of students who can read authentic grade level text. Installing a more effective school-wide program is a one-time-only investment while Reading Recovery requires the same level of investment year after year.

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READING RECOVERY: AN EVALUATION OF BENEFITS AND COSTS

Research Methodology

Does the Reading Recovery research design allow conclusions regarding program effectiveness?

Reading Recovery includes not only an instructional program but also its own evaluation system that aligns with the program. Most of the data cited regarding the effectiveness of Reading Recovery are gathered through the Reading Recovery evaluation system. This system uses a unique pre- posttest research design and the Clay Diagnostic measures to assess student performance, both designed by Marie Clay, the Reading Recovery program developer. Close alignment of the research design, the measures, and the program, along with data collection procedures that are controlled within the Reading Recovery implementation system creates an increased potential for bias in the results of an evaluation. Because most of the data available regarding the success of Reading Recovery come from its own evaluation system, the research design and the measures used in this system are discussed first.

The Reading Recovery Research Design

The Reading Recovery research design is not adequate for concluding that Reading Recovery is a superior intervention. The research design specifies that comparison groups be selected at random from the Reading Recovery students' respective classrooms. The measures are administered to these children who then represent the average for that particular first grade class. Two types of data are used to compare the performance of the Reading Recovery children with that of the comparison group. First, the achievement of the comparison group is used to establish a band of achievement. The "band" is a half standard deviation above and below the mean in each of the areas taught to the Reading Recovery students and measured by the Clay Diagnostic measures. If a Reading Recovery student's scores end up within this band, then the child is considered successful and is "discontinued" (Fincher, 1991). Secondly, the data are analyzed to compare the pre- post-gains made by the Reading Recovery children with the comparison group to see if the children in Reading Recovery gained at a faster than normal rate while in Reading Recovery.

This design is similar to that used in curriculum-based measurement (CBM), which is widely used for special education decision-making. However, there are two important differences: (a) in CBM the measures sample the class's curriculum to determine when a child is ready to be returned to the classroom; in Reading Recovery the measures sample the pull-out curriculum, and (b) in CBM conclusions are made regarding individual students so local norms are appropriate; in Reading Recovery local norms are used to evaluate the effectiveness of Reading Recovery for a whole group of students. Local norms are not appropriate for program evaluation without reference to national norms,

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because local norms are highly variable, and there is no way to know whether an alternative program may have been more effective without an equivalent comparison group.

The Measures

The Clay Diagnostic measures are used in the Reading Recovery evaluation system. Results obtained with these measures are somewhat misleading for two reasons: (a) content bias, and (b) unequal intervals between levels.

Content bias. As Wasik and Slavin (1993) and Center, Wheldall, and Freeman (1992) point out, the Clay Diagnostic measures sample the specific skills taught in the Reading Recovery program. *"There is an articulation between the Reading Recovery program and the measures used to evaluate the program, suggesting that what is taught is what is measured"* (Wasik & Slavin, 1993, p. 187). This is particularly true in the lower levels of the program, where assessments emphasize less authentic reading tasks and skills that are unique to Reading Recovery. The comparison children may have no experience with the kinds of tasks evaluated by these measures, while Reading Recovery children have extensive experience. Comparisons on these measures are likely to exaggerate the amount of learning for Reading Recovery children.

The primary evaluation tool in the Clay Diagnostic measures is the book-level measure, which is used to determine where a child places in the 20 levels of the instructional program booklets. It is the only measure in the battery that requires the children to read connected text. Though the text is connected, it is not authentic text. It is "predictable" text, where pictures and repetitive sentence patterns prompt the reader. Predictability is strongest at the lowest level and is gradually reduced as children progress into the higher levels. At the final 20th level the text is least predictable, but it still has predictable features limiting its authenticity. Children generally do not reach the 20th level before they are discontinued, since they only need to reach the class average to be returned to their classroom.

The national Reading Recovery data indicate that the average level at completion of Reading Recovery is only level 10 (Shanahan & Barr, 1995). At level 10, the texts are still very predictable so the children can read words without looking closely at them. The children rely more on the contextual clues, the illustrations and the repeated sentence patterns in the text. Children who use these contextual strategies to read are more likely to be successful in predictable text than in authentic text. Consequently, children from Reading Recovery may not read authentic text very well at all when they are returned to the classroom as "successful."

Stanovich and Stanovich (1995) report that many studies have found that authentic text is not very predictable:

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"It is often incorrectly assumed that predicting upcoming words in sentences is a relatively easy and highly accurate activity. Actually, many different empirical studies have indicated that naturalistic text is not that predictable. Alford (1980) found that for a set of moderately long expository passages of text, subjects needed an average of more than four guesses to correctly anticipate upcoming words in the passage (the method of scoring actually makes this a considerable underestimate). Across a variety of subject populations and texts, a reader's probability of predicting the next word in a passage is usually between .20 and .35 (Aborn, Rubenstein, & Sterling, 1959; Gough, 1983; Miller & Coleman, 1967; Perfetti, Goldman, & Hogaboam, 1979; Rubenstein & Aborn, 1958). Indeed, as Gough (1983) has shown, the figure is highest for function words, and is often quite low for the very words in the passage that carry the most information content." (p. 90)

If authentic text is not very predictable, then children who read well in predictable text may not necessarily read well in authentic text. The strategies they have learned for reading may not generalize to real reading. These are important research questions that will be discussed in the review of empirical findings below.

Unequal intervals. Center, Wheldall, and Freeman (1992) point out that not only are the book-level measures biased to show positive results for the prediction strategies taught in Reading Recovery, but they are also biased to show greater growth on pre-post comparisons for lower performing children:

"Data reported by Glynn et al. (1989) indicated that the relationship between the amount of instruction and reading performance was not linear with respect to text level. Over a given time period, the average increase in text level was greater for the lower level texts than for the higher level texts (Iversen & Tunmer, in press)." (Center, Wheldall, & Freeman, 1992, p. 271)

Because the intervals between levels are smaller at the lower levels, greater gains for poorer readers in Reading Recovery may be spurious (Center, Wheldall, & Freeman, 1992). A lower-performing Reading Recovery child learns much less to move from level 1 to level 2 than an average performing child must learn to move from level 11 to 12. Even though these intervals are not equal, a Reading Recovery evaluation would interpret these as equal gains.

Data Collection Procedures

The data collection process is not objective or independent. Those who collect and collate Reading Recovery success data have high stakes invested in the success of Reading Recovery. Reading Recovery teachers collect and collate success data for the children they teach. The supervisor uses the success data collected by the teacher to evaluate the same teacher. The supervisors then collate the data from the teachers they supervise to submit to their respective university training centers who use the data to

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evaluate the supervisors' performance. The national Reading Recovery directors at Ohio State University have collated the data from all the university training centers in reports to the National Diffusion Network, which has validated Reading Recovery as an effective research-based program based on these data.

Two aspects of the data collection procedures result in misleading calculations of success rates:

1. Children that the Reading Recovery teacher judges as not likely to be successful are not taken into the program. This judgment is based on entry level assessment, on a child's performance in the pre-program phase of "roaming around the known," or on other unspecified indicators. These excluded children are not counted among the children "served" by Reading Recovery, and, therefore, are not included in the calculation of the success rate.

2. Among children served some do not complete all 60 lessons. These children are also not counted in the success rate calculation. Sometimes these children are removed from Reading Recovery on the grounds that the program is not appropriate for them. Six to 7% are referred to special education (Shanahan & Barr, 1995). The others are generally referred to the Title I program. Some children fail to complete the program because the year ends before they are finished and Reading Recovery is only for first-time first graders. (Retained first graders are not eligible.)

The needs of these children must either remain unserved or must be served by other compensatory programs. By repeatedly reducing the number of children counted in the total, the success rates reported for Reading Recovery are inflated.

Implications for This Review

Because of the high levels of publicity that have been given the in-house evaluations of Reading Recovery and the built-in biases contained in the in-house evaluation system, the following review emphasizes the findings of independent evaluations. Two types of independent evaluations are available: (a) independent reviews of the data gathered through the Reading Recovery evaluation system, and (b) the results obtained on independent measures of children's ability to read authentic text. Even the independent reviews rely heavily on the data collected through the Reading Recovery in-house evaluation system simply because the other data are extremely limited. Hiebert (1994) and Shanahan and Barr (1995), for example, did not collect their own data on Reading Recovery but critiqued the analyses and conclusions made from data collected by other researchers, for the most part, data from the Reading Recovery evaluation system.

Very little data have been gathered comparing Reading Recovery with alternative programs or a control group. Most of these comparative studies have also been conducted by the Reading Recovery leaders, Pinnell, Huck, Lyons, and others who direct the Reading Recovery program nationally from Ohio State University. Independent

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evaluators include Battelle (1995) for the Ohio Department of Education, the Wake County Public School System in North Carolina (1995), Pollock (1996) for the Columbus Ohio Public Schools, and Fincher (1991) for the Canton Ohio Public Schools. These evaluators may have no stake in Reading Recovery but often include the data collected by the in-house system in their evaluations. The independence of the evaluators makes these analyses important.

Recent Independent Evaluations of the Reading Recovery Research Design

The North Central Regional Educational Laboratory (NCREL), a federally supported educational laboratory responsible for interpreting educational research for the midwestern states, hired two scholars to review all the existing empirical research regarding the effectiveness of Reading Recovery. NCREL selected Rebecca Barr and Timothy Shanahan because they had articulated two opposing viewpoints regarding Reading Recovery. Barr is a noted advocate for Reading Recovery, having served on various boards for the Reading Recovery effort and as sponsor for her university's Reading Recovery training program. On the other hand, Shanahan is a noted critic of Reading Recovery, having written the first published critique of Reading Recovery research (1987).

By considering the perspectives of both sides, Shanahan and Barr's 1995 review *Reading Recovery: An Independent Evaluation of the Effects of an Early Instructional Intervention for At Risk Learners*, provides perhaps the most thorough analysis available of the data collected through the Reading Recovery evaluation system described above. Their basic finding was:

"...that Reading Recovery leads to learning....It is less effective and more costly than has been claimed, and does not lead to systematic changes in classroom instruction, making it difficult to maintain learning gains. This is discouraging given program claims and its great expense" (p.1).

In addition to finding the reports of success misleading, Shanahan and Barr (1995) found unorthodox research procedures. For example, most of the Reading Recovery system data was located in unpublished technical reports produced by Reading Recovery leaders, Pinnell, Huck and others, at Ohio State University and had not undergone the peer review that is necessary to publish a study in scientific journals. A recent example of an unpublished technical report is an evaluation of Reading Recovery in Arkansas distributed by the Southern Regional Education Board (1996). This evaluation presents conclusions formed from data collected through the in-house Reading Recovery system and was not reviewed by an independent party.

All the studies Shanahan and Barr located suffered methodological problems: *"We found no studies of Reading Recovery that did not suffer from serious methodological or reporting flaws—published or not."* (1995, p. 961) Shanahan and Barr identified three types of problems in the Reading Recovery pre-post design, which would lead to exaggerated success rates:

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[The reported learning gain] most certainly is an overestimate of typical amounts of learning from Reading Recovery for several reasons: (a) test score improvements not linked to learning are likely to occur when students with extreme scores are selected for participation; (b) normal development and learning gains typical of young children can be due to other sources of growth and education; and (c) there is systematic omission of children who are not having success in Reading Recovery. (p. 969)

The first two problems would be removed if equivalent groups of children were used as experimental controls. The systematic omission of data is a more serious problem because among those omitted are children the Reading Recovery teachers identify as ones who are not progressing well. Children who are not successful are intentionally dropped before completing the entire program. The reports then do not reflect how well Reading Recovery serves the entire population it claims to serve, nor do they provide information regarding overall class effects or school effects. Consequently, the success rates cannot be used to evaluate the effectiveness of Reading Recovery.

Probably the most serious flaw in Reading Recovery research has to do with who is included in the experimental sample. In some analyses, only discontinued students were examined, making the program appear more effective than it really is. In most of the studies, students were omitted from analysis because of serious learning problems, poor school attendance, or other similar difficulties. These omissions were often made without mention. It is impossible to provide a valid estimate of the effects of Reading Recovery unless all children who start the program are included in the eventual analysis.... Unfortunately, even two of the more sophisticated studies (Center, Wheldall, Freeman, Outhred, & McNaught, 1995; Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1994) that we analysed have lost as much as half of their data, without any empirical estimate or control of the effects of these missing data. (p. 991-2)

"The Ohio State programs have routinely collected information on those who are dropped for various reasons, but these data have not been taken account of in their studies or technical reports, nor have they been available to the public. Depending on the proportion of participants omitted in this fashion, this creates a substantial bias in favor of Reading Recovery gains, and there is no sound way to adjust the scores that are reported on this basis." (Shanahan & Barr, 1995, p. 966)

For these reasons, Shanahan and Barr (1995) found it impossible to use standard research procedures:

"Overall, our consideration of the existing research and evaluation studies of Reading Recovery is largely qualitative. It would be difficult or impossible to conduct a thorough empirical examination of this work using procedures such as

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meta-analysis because there are so few studies, and those that exist usually provide insufficient information to make such analysis appropriate. (1995, p. 961)

Equity

Is the standard for successful completion of Reading Recovery equitable?

The standard for successful completion is not equitable. Reading Recovery systematically results in lower expectations for children in lower achieving schools by bringing a child to only the average level of the other first-grade children in the child's class or school and not to a uniform national standard. The average level of performance of children in low income areas is approximately the 20th percentile, while the average level of children in higher income areas may be around the 80th percentile. To bring each child to the average level of the first-grade children in the child's local school leads to inequity. Children reading at only the 20th percentile in first grade are generally nonreaders and are likely to remain unsuccessful in school, while children reading at the 80th percentile in first grade are likely to be readers.

The relative notion of reading disability is problematic in America's poorest schools. In these schools accomplishing an instructional setting [class or school] average can mean returning children to the classroom with reading levels in the bottom 15 to 25% of the national distribution—a level of performance that, even if maintained, makes it likely that the child will not complete school successfully. (Shanahan & Barr, 1995, p. 995)

As a statewide intervention, Reading Recovery would not be able to make readers out of all the lowest performing children. First, Reading Recovery does not make children readers. "Success" in Reading Recovery rarely means the children read. Second, low income schools with heavy concentrations of nonreaders need a school-wide intervention, not a tutorial that works with 10 to 20% of the children. Reading Recovery is least effective in the lowest performing schools because of the high proportion of students who are reading below the 25th percentile. In this case Reading Recovery can serve only a small percentage of students who are significantly behind. A large number of children who need services are left without assistance:

When there are such large proportions of low-achieving students, it can be more difficult to be successful with Reading Recovery (Smith, 1994). (Shanahan & Barr, 1995, p. 995)

Because a higher proportion of minority children live in low income areas and minority children are legally protected from educational inequality by the equal protection clause of the U.S. Constitution, **Reading Recovery could potentially violate constitutional law by holding lower expectations for minority children.** At least one site seems to have recognized this as a potential problem:

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In New York City Reading Recovery programs, children are not discontinued until they reach national rather than local averages. (Shanahan & Barr, 1995, p. 995)

Results

Will Reading Recovery raise overall school achievement levels?

If a school's goal is to raise the overall level of reading performance, Reading Recovery is not the appropriate intervention to choose. Both Reading Recovery advocates and critics agree on this point. Hiebert (1994) found that Reading Recovery had no positive effects on overall school achievement:

Despite the implementation of a program with 78,000 students from 1984-1993 in the United States, data from the three primary Reading Recovery sites and from the longitudinal study (DeFord et al., 1990) produce an unconvincing scenario of the effects of Reading Recovery on an age cohort. (p. 23)

In a response to Hiebert, Reading Recovery promoters, Pinnell and Lyons (1995) agreed that they do not expect Reading Recovery to have an effect on overall achievement:

"Implementation of the program ... in a given school does not necessarily mean an increase in mean scores but an increase of actual numbers of children at average levels [Reading Recovery] will not have lifted the scores of the entire age cohort! It never claimed to do this. Changes in mean scores for the total group may or may not increase; the objective of [Reading Recovery] is to have a larger group of children in the middle range." (p. 1)

Who actually benefits from Reading Recovery?

Reading Recovery advocates claim a very high success rate with problem children:

"Approximately 75-85 percent of the lowest 20 percent of children served by Reading Recovery achieved reading and writing scores in the average range of their class and received no additional supplemental instruction (Pinnell, Lyons, & DeFord, 1988; DeFord, Estice, Fried, Lyons, & Pinnell, 1993; Swartz, Shook, & Hoffman, 1993)." (Swartz & Klein, 1996).

The independent evaluations find these claims to be exaggerated. First of all, Reading Recovery does not serve all of the lowest children. In a study of Ohio children, the mean national percentile score of children entering Reading Recovery from 1986 to 1991 was not below the 20th percentile, but was 34.5 on the comprehension subscale of the Metropolitan Achievement Test (Hiebert, 1994). Hiebert interpreted this to mean that

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the children selected for Reading Recovery come from the 4th quintile (20th to 40th percentile) rather than the bottom quintile (0 to 20th percentile) as claimed. This higher entry level can be explained in three possible ways: (a) Children are not accepted if they do not meet entry criteria, (b) children who do not make progress are dropped from the program, and (b) a uniform percentage of children in each school are served, regardless of the overall level of performance of children in the school.

Children not meeting entry level requirements are not accepted. Reading Recovery requires that children meet certain criteria on the Clay Diagnostic Measures to enter the Reading Recovery program. In addition, children who are already identified as special education children are not accepted into the program.

Even with these tests and teachers' subjective observations, the potential of children beginning first grade is very difficult to judge. Reading Recovery includes a preprogram phase of "roaming the known" where the Reading Recovery teacher may conduct further informal analyses of the potential of children. During this time the Reading Recovery teacher may reject children who are judged unlikely to benefit from the program. Some of these rejected children are referred to special education. These children are not counted among "served children," because they are considered to have never officially begun Reading Recovery.

Reading Recovery does not report the number of low-performing children who are rejected before lesson 1 because they are not expected to benefit from the program. However, Battelle (1995) included the number of eligible children who were never served in an independent evaluation in Ohio. Eligible children who were never served included the number of rejected children as well as the number of children who never got a turn in Reading Recovery. Battelle's data indicate that together these children represent 19% of the children originally eligible for Reading Recovery.

Children not making progress are dropped. The Reading Recovery policy is to anticipate which children will not be successful in Reading Recovery and remove them from the program before completing the full program of 60 lessons. A child who will not benefit from Reading Recovery is to be replaced with a child whom the Reading Recovery teacher believes will benefit, by lesson 12 if possible.

Many of the children who do not seem to benefit are referred to special education. Shanahan and Barr (1995) noted that in Illinois, 7% of the children who began Reading Recovery were referred to special education and, therefore, did not complete the program; and in the Wake County Public School System, 6% were referred to special education. This is in addition to the special education children who were already identified and rejected prior to entry into Reading Recovery. Removing the lowest performing children who make little or no progress in the first several lessons increases the average performance of the remaining group of children. Those children who complete the Reading Recovery program are those children that the Reading Recovery teacher

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predicted would be able to match the classroom average on the Clay Diagnostic Measures upon completion of the program.

Reading Recovery can serve only a fraction of the children in first grade. The claim to serve the "lowest 20 percent" refers to the local school population, not the national population. When most of the children in a school are in the bottom quintile nationally, Reading Recovery could only serve the lowest 20% of that bottom quintile, leaving 80% of the bottom quintile unserved. On the other hand, when few children are in the bottom quintile, Reading Recovery will serve children performing at higher levels. Because of the greater availability of Title I funds in low income schools Reading Recovery is more common in those schools.

How successful is Reading Recovery?

Children who achieve at the average level of their first-grade class on the book-level measures developed for Reading Recovery are usually non-readers, so success in Reading Recovery rarely means the child is a reader. The average book-level score of a child successfully completing Reading Recovery is level 10 (Shanahan & Barr, 1995). Children scoring at level 10 are not reading authentic text, yet these children would be counted as Reading Recovery successes.

Moreover, the success rates with the children who complete Reading Recovery, as determined by the book-level measures, are exaggerated. Shanahan and Barr (1995) reviewed the national data collected through the Reading Recovery evaluation system (22,193 children) and reported to the National Diffusion Network (DeFord, Estice, Fried, Lyons, & Pinnell, 1993). The success rate was calculated as 84% in the report. However, using the same data and including the 26% who began but did not complete Reading Recovery in the calculation, Shanahan and Barr calculated the percentage of successful children from among all the children served to be only 62%:

The percentage discontinued [successful] that was reported for the 1991-2 sample, for example, is 84%. Yet, if we were to consider the total number of students served, including those with fewer than 60 lessons, only 62% of the total would be found to complete the program successfully. (p. 965)

Sixty-two percent is a high estimate because no data were included in the report to the National Diffusion Network regarding the size of the additional group of children who were eligible, but were never served (Shanahan and Barr, 1995). As noted earlier, Battelle's (1995) evaluation for the Ohio Department of Education found that this group represented 19% of the children found eligible for Reading Recovery. If the 19% who were never served are included, the success rate drops to 51%.

This figure for the national data (51%) seems a reasonable estimate because it is very close to Battelle's figure for Ohio (1995). Battelle found that only 53% of the children eligible for Reading Recovery scored at the classroom average on the book-

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level measures at the end of first grade. (19% were not served; 28% were served but did not meet program objectives.):

Slightly more than 200 students in 36 Ohio school districts were determined to be eligible to receive Reading Recovery services in 1990-91, but did not. Also about 300 of the nearly 875 students who received Reading Recovery services in 1990-91 did not discontinue [were not successful]. (p. 68, Battelle, 1995)

Many reports of Reading Recovery success use the in-house evaluation system and suffer the methodological problems pointed out by Shanahan and Barr (1995). For example, the Southwest Regional Education Board (1996) recently published a report of the Arkansas data gathered through the in-house evaluation system ("Getting Elementary Schools Ready for Children: Reading First"). No independent measures were used to evaluate children's reading performance. Only the Clay Diagnostic measures were used. The report claims an 86% success rate; however, this rate is calculated based on the smaller proportion of children who received a full program. Thirty-one percent of the children served did not receive a full program but these children were not included in the calculation of the success rate. The numbers of children who were eligible but not served was not reported, nor were the numbers of children referred to special education or otherwise dropped from Reading Recovery because of inadequate progress.

In contrast to the high success rates reported for Arkansas from the in-house evaluation system, Pollock (1996), an independent evaluator, found that only 14.7% of the children completing the program reached national norms on standardized measures in the 1995-6 evaluation of Columbus Ohio Public Schools. (This was a higher percentage than Pollock found in the previous years.) This means that only 6.5% of the children originally eligible for Reading Recovery read at grade level at the end of first grade in 1996. Eligible children represent 20% of the first grade class. To put this in perspective, out of a group of 100 children, only 1 child among the 20 eligible for Reading Recovery would read at grade level due to the Reading Recovery program. Whether other pull-out programs could do as well or better could only be determined with a comparison study.

Does Reading Recovery do away with the need for other compensatory services?

Reading Recovery advocates claim that Reading Recovery is so effective that Title I and special education programs are no longer needed, thus creating a savings greater than the expense of Reading Recovery (Dyer, 1992; Southern Regional Education Board, 1996). This argument assumes that by implementing Reading Recovery, children will not need assistance from any other compensatory programs.

The data indicate this assumption is false. As noted earlier, special education children are not accepted into the program and, furthermore, the program removes many children and refers them to special education.

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"It should be noted that Reading Recovery does not do away with early referrals for special education, as the program itself makes many such referrals"
(Shanahan & Barr, 1995, p.987).

Reading Recovery does not do away with the need for Title I services either. Children who successfully complete Reading Recovery often need additional assistance. Pollock (1996) reported that 81% of the children who completed Reading Recovery were still eligible for Title I services in Columbus in the 1995-6 school year. This means that among all children eligible for Title I before Reading Recovery, 92% were still eligible after Reading Recovery. In Columbus over an eight-year period, 31% of the children counted as successful by Reading Recovery standards were still eligible for Title I services (Pollock, 1994).

Are the effects of Reading Recovery sustained over time?

Advocates also claim that Reading Recovery enables children to establish a self-extending learning system that allows them to improve as readers after they are returned to the classroom. To support this claim, advocates cite any evidence of growth in reading among discontinued Reading Recovery children without comparing this growth with that of a control group. Evaluations with a control group find that children who return to the classroom as successfully "recovered" students immediately begin falling behind. Their learning rate is slower than that of other low-achieving children. For example, Glynn, Crooks, Bethune, Ballard, and Smith (1989) found that the learning rate of Reading Recovery children immediately slowed when the children were returned to the classroom and was much lower than that of other low-achieving children. Data from DeFord, Pinnell, Lyons, and Place (1990) also indicate that Reading Recovery children did not learn at a rate comparable to the average children in the class after being discontinued from Reading Recovery (Shanahan & Barr, 1995). Part of the problem may be that the children have difficulty transferring their strategies of prediction from the predictable text they read in Reading Recovery to the authentic text they might read in the regular classroom.

By third grade, even the effects found on the book-level measures have washed out. *"These results suggest that by third grade, the Reading Recovery instructed groups may not be significantly different from the comparison groups as indicated by measures of text reading"* (Shanahan & Barr, 1995, p.980). Hiebert (1994) found the same pattern of results at fourth grade:

Although Reading Recovery-tutored students perform better than Achievement Comparison students on an oral reading task, this difference disappears when the task is a standardized one, even one that has the limited passages of the Woodcock Reading Mastery Test—Revised. (p. 23)

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Is Reading Recovery more effective than common Title I programs?

Reading Recovery advocates claim that Reading Recovery is more effective than other reading programs:

"Studies have shown Reading Recovery to be more effective in achieving short-term and sustained progress in reading and writing than other intervention programs, both one-to-one tutorial and small group methods (Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1994; Gregory, Earl, & ODonoghue, 1993)." (Swartz & Klein, 1996).

The Reading Recovery evaluation system does not compare Reading Recovery with alternative interventions. Separate studies have found that measures using authentic text (standardized measures) generally show no advantage for Reading Recovery over other programs, even at the end of first grade. The Clay Diagnostic measures are generally the only measures that show positive effects for Reading Recovery. For example, Shanahan and Barr (1995) report: *"None of the [early intervention] programs, including Reading Recovery, had any impact on standardized test performance at the end of first grade"* (p. 977). Fincher (1991) compared the performance of children in Reading Recovery with that of children in other compensatory programs in Canton City Schools, Ohio, over a five-year period and found that *"teaching Assistants with almost no training and minimal teaching materials with which to teach and working in less than desirable conditions, outperformed the Reading Recovery teachers when their students' overall achievement was compared."* Fincher also found that when the same teachers teach Reading Recovery and Title I, the teachers get better results with the Title I program.

Wake County Public School System found that Reading Recovery students, *"compared to a control group, were just as likely to be retained, placed in special education, or served in [Title] I a year later"* (WCPSS, 1995, p. ii).

Battelle (1995) also compared Reading Recovery with other compensatory programs independent measures on independent measures. Battelle had a great deal of difficulty getting Ohio schools to administer and submit the results of the independent standardized measures. From the submitted data, Battelle found that at the end of the first year, Reading Recovery students scored only 3.4 percentile points higher than children receiving other common nonindividualized compensatory services in comparison schools. (These services varied considerably from pull-out programs to occasional assistance in the regular classroom.) Even though the small difference was statistically significant, it was not educationally significant according to Battelle.

One frequently cited study (Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1994) found Reading Recovery more effective than four alternative methods: (a) group delivered Reading Recovery, (b) Reading Recovery delivered by teachers with less training, (c) skills-based instruction without the Reading Recovery framework, and (d) a control. These were the four treatments compared:

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1. Reading and Writing was a small-group tutorial program taught by certified teachers trained in Reading Recovery.

2. Reading Success was an individualized tutoring program modeled on Reading Recovery. It was taught by substitute certified teachers who had only some Reading Recovery training.

3. Isolated Skills was individualized tutoring focusing on letters, sounds, words, and text-level strategies. Instruction was based on the classroom basal system. Substitute certified teachers received a 3-day intensive training program and were encouraged to use creativity to explore skills in different ways.

4. The control group was a Title I program using group instruction that focused on practicing skills and learning core words. Teachers received no special training.

Rasinski (1995) points out 3 important methodological flaws in the Pinnell et al. study (1994):

1. Using substitute teachers to teach two of the treatments versus the more experienced teachers who are currently working in the school for the other treatments could have influenced the results.

2. The instructional time varied across treatment conditions, with Reading Recovery children receiving significantly more instruction. Rasinski adjusted the posttest scores by the instructional time factor and found that 5 out of 6 mean scores for children in the comparison treatments were higher than the mean scores of the Reading Recovery group. This means that when the scores were adjusted to equalize instructional time, the other interventions obtained better results than Reading Recovery. (See Figure 3 in the Executive Summary.) Only the book-level measures showed consistently better results for Reading Recovery after this adjustment.

3. The comparison of individualized Reading Recovery with small group Reading Recovery did not equalize the teacher time. Two hours of instructional time for teaching 4 students in the individualized format was compared with only 1/2 hour for teaching 4 students in the small group format. Though the mean scores of both groups were essentially equal, the fact that small group Reading Recovery was four times as efficient as individualized Reading Recovery was overlooked in the report.

In light of Rasinski's criticisms, many conclusions that Pinnell et al. (1994) made cannot be accepted without further replication. These replications have not occurred.

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How does Reading Recovery compare with other research-based interventions?

None of the interventions compared in the Pinnell et al. study incorporated features of effective instruction to prevent reading disabilities that have recently been identified by the National Institute of Child Health and Human Development program (Center for the Future of Teaching and Learning, 1996). Explicit phonemic awareness instruction in kindergarten with systematic, explicit phonics and extensive practice reading decodable text has had the greatest success in preventing the occurrence of reading problems. Iversen and Tunmer (1993) found that when Reading Recovery was modified to be more systematic, it was 37% more effective. Subsequently, Torgesen, Wagner, Rashotte, and Alexander (in press) found that an explicit systematic approach combined with decodable text was more effective than instruction similar to Iversen and Tunmer's modified Reading Recovery treatment.

Wasik and Slavin (1993) compared the relative effect sizes achieved by five treatments for reading problems in five separate meta-analyses. Two programs had much larger effect sizes than Reading Recovery. Conclusions from such meta-analyses may not be as dependable because of possible differences in the control groups. However, the design of the two more effective programs is consistent with the findings of a significant body of other research, lending support to a conclusion that the two treatments identified as superior by Wasik and Slavin are indeed superior to Reading Recovery. Reading Recovery was not nearly as effective as two programs that provided explicit systematic phonics with extensive practice reading decodable text (the Success for All and Wallach and Wallach programs).

Foorman, Francis, Beeler, Winikates, and Fletcher (in press) found explicit phonemic awareness and phonics combined with decodable text much more effective with Title I children than a whole language program with an unlicensed Reading Recovery support program. The explicit systematic treatment was most effective when it was used in the regular classroom.

"In order to avoid reading failure, the focus should be on prevention, not intervention. It was the classroom curriculum effect, not the tutorial method effect that was significant. The tutorial effect was not particularly strong, given the weak association between growth in word reading and number of days in tutorial." (Foorman, Francis, Beerly, Winikates, & Fletcher, in press, p. 16)

These findings support Nicholson's recommendation: *If we ... teach letter-sound correspondences [in the regular classroom], we'll reduce the need for Reading Recovery.* (Nicholson cited in O'Hare, 1995, p. 22)

In fact, many of the instructional techniques used in Reading Recovery are inconsistent with the techniques supported by evidence from scientific intervention research. The findings of the NICHD research (Center for the Future of Teaching and Learning, 1996) emphasize the value of systematic instruction in phonological skills and

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the alphabetic principle. The key features of systematic instruction are the following: (a) the lessons are logically organized and planned, and (b) the lessons allow for extensive practice applying phonological skills in decodable text.

Reading Recovery does not provide systematic instruction in letter-sound relationships (the alphabetic principle). Reading Recovery's own document, *Reading Recovery Executive Summary, 1984-1995* describes the unsystematic nature of the instruction in letter-sound relationships:

"Our approach to phonics does not involve following some prescribed, predefined logical sequence for every student....Many children learn all they need about letter/sound relationships in the process of writing messages, other children are engaged in activities designed to extend their meager knowledge of words" (p. 8).

Reading Recovery does not use decodable text. Decodable text is composed of words that use the letter-sound correspondences the children have learned to that point and a limited number of sight words that have been systematically taught. This allows the children opportunity to practice the letter-sound relationships they have learned in the context of real reading. Reading Recovery uses predictable text which leads the children to use context clues contained in the pictures and provided by the repetitive sentence patterns instead of using sounds for the letters in the word. Predictable text does not give children the opportunity to practice their letter-sound knowledge in the context of real reading. Research shows that overuse of context to figure out unknown words, in fact, "hampers" reading acquisition (Lyon & Chhabra, 1996).

Costs

Is Reading Recovery cost-effective?

Reading Recovery advocates argue that even when high cost estimates are used, the expense is cheap compared to the multi-year educational costs of special education and Title I and the social costs of letting the child fail to learn to read. Dyer (1992) claimed that although the initial set-up of Reading Recovery is costly, the savings in retentions, Title I, and Special Education services for districts over the long term is substantial. In fact, Dyer even argued that the short-term annual cost of Reading Recovery is less expensive than first-grade retention.

Dyer's figures for savings (see Table I) assume that (a) Title I and special education are completely ineffective (Hiebert, 1994) and (b) Reading Recovery is always effective and children never make use of Title I or special education services. Both these assumptions are false. Furthermore, Dyer (1992) calculated that the cost per child was only \$2063. Dyer's figures omit many costs and assume that one full-time-equivalent teacher works with the recommended number of children and that the success rate is perfect with these children.

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Hiebert (1994) and Shanahan & Barr (1995) critiqued Dyer for using hypothetical information and not actual data from the Reading Recovery evaluation system regarding cost and effectiveness. Based on actual effectiveness documented in the Reading Recovery evaluation system, Hiebert and Shanahan and Barr concluded that the cost was much higher per successful child (\$4625-\$8333). Dyer's figures and the revisions of those cost estimates are summarized below (see Table 1). Neither Hiebert nor Shanahan and Barr obtained figures for all the costs involved, though they noted that these costs include more than teacher salaries. They include the staff development and support for the teacher, the materials the teacher uses, and the set-up of the Reading Recovery teaching area. Shanahan and Barr obtained only some of these additional costs from Reading Recovery sponsors.

A recent California audit (August 6, 1996) from the Joint Legislative Audit Committee found much higher figures for some of the costs than Shanahan and Barr reported from the Reading Recovery sponsors. *"The training for teacher leaders costs approximately \$18,300 plus the costs of conferences, travel, and the teacher's salary for the year that they are out of service from their district."* (p. 3) The audit also reported that San Bernardino Unified School District reported per pupil costs of \$7000, which included teacher salaries in the overall cost calculation but did *"not include the \$112,000 paid to the foundation at CSU San Bernardino for teacher training"* (pp. 3-4).

Table 1. Dyer's original case for cost effectiveness with Hiebert and Shanahan & Barr's response

	Dyer, 1992	Hiebert, 1994	Shanahan & Barr, 1995	California audit, 1996
COSTS				
Teacher salary	\$33,015	\$33,015	\$35,104 (1992-3 ave, AFT)	omitted
Benefits	omitted	omitted	\$8425 (26% in 1992, Bureau of Labor Statistics)	omitted
Initial Training per teacher	omitted	omitted	\$325*	\$2000*
Teacher Leader	omitted	omitted	\$2042*	\$4575*
Training room set-up	omitted	omitted	omitted	omitted
Yearly conference	omitted	omitted	omitted	omitted
Travel	omitted	omitted	omitted	omitted
On-going support	omitted	omitted	omitted	omitted
Substitutes during training				omitted
Instructional materials			\$350*	\$375*
Cost per teacher	\$33,015	\$33,015	\$46,246	
No. of children served	16 (the number recommended)	11 (actual number served)	8 (number discontinued)	
Cost per child	\$2063	\$3000	\$4625	

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Cost per successful child at end of grade 1		\$3488 (86% success)		
Cost per successful child at end of grade 4		\$8333 (36% success)		
SAVINGS per teacher				
Retentions	4 @ \$5208	Dyer's figures assume that all these programs are completely ineffective.		
Chapter 1 children	4 @ \$4715			
Special education placements	2 @ \$9906			

* depreciated over 4 years

The Wake County Public School System (WCPSS, 1996) gathered their own data and calculated a cost of \$9,211 per successful child:

The average Reading Recovery teacher serves seven students during a year, and, on average, three or four of those students read at a first-grade level by the end of the year. Annually, the cost per student for all students served in Reading Recovery in WCPSS during 1993-94 was approximately \$2,947.50 beyond the regular instructional program. Current evaluation data suggests that by the end of third grade only about two of the students served by a Reading Recovery teacher read at a third-grade level. Thus, the WCPSS has invested approximately \$9,211 for each student who is a long-term success.

Since the 1990-91 and 1991-92 comparison groups of students who did not receive Reading Recovery achieved a comparable success rate on standardized tests in third grade, and since Reading Recovery expenditures in WCPSS do not seem to have been offset by significant savings from a reduction of need for special education, retention, or Chapter 1 assistance, the program does not appear to be cost effective at this time.

Taken together, the data indicate that the cost for Reading Recovery (30 hours of instruction for one child) exceeds the national average per pupil expenditure for one full year of schooling.

"We found that Reading Recovery works, but not as well as its proponents claim; that its effects largely dissipate over time; and, that it costs about the equivalent of an additional year of schooling for the children who participate—even accounting for savings in other expenditures" (Personal communication from T. Shanahan to Assemblyman S. Baldwin, June 26, 1995).

The above cost estimates are in terms of cost per pupil. The cost per school is more useful for discussing how funds can be better allocated to meet the goal of making

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every child a reader. Assuming a K-5 elementary school population of 600 and a first-grade population of 100, a Reading Recovery program might work with 20 children a year. This requires nearly 4 Reading Recovery teachers or 2 full-time-equivalent teachers. (Each Reading Recovery teacher serves a national average of 5.5 children, Hiebert, 1994.) Of these 20 children, only 1 would be reading at grade level in authentic text by the end of the year (Pollock, 1996). The cost of Reading Recovery in this school would exceed \$125,000. (Two teachers cost approximately \$100,000 in today's dollars and training and implementation costs exceed \$25,000).

These Reading Recovery funds could be reallocated to achieve much greater effectiveness. Foorman et al. (in press) found that the expenditures of huge sums on tutorial programs very similar to Reading Recovery is significantly less cost-effective than implementing effective reading instruction in the classroom. Proper beginning reading instruction in kindergarten and early first grade is not only more effective and less costly but will substantially minimize the number of students needing individual attention.

To accomplish this using the same funds, one of the two FTE Reading Recovery positions (2 of 4 half-time Reading Recovery teachers) would be to used to reduce class size. For example, if there were 4 first-grade classes of 25, adding one more class would reduce the size to 20. The teacher in the remaining Reading Recovery position would be more effective using research-based instruction for children who have reading difficulty. The remaining \$25,000 could be invested in a school-wide training program to change classroom instruction to the more effective practices evaluated in the Foorman, et al. study (in press). Based on the data from Foorman et al., a school could expect overall achievement levels to increase more than 1 ½ times by this change alone. Retraining the classroom teachers could be easily accomplished with a one-time investment of \$25,000. Retooling a school to use explicit instruction in phonological skills with systematic phonics combined with decodable text is a much more cost-effective alternative. Not only would the lower 20% benefit, but the whole school would benefit from more effective instruction.

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Summary

- **The Reading Recovery data reporting system is flawed.**
- **The standard for successful completion of Reading Recovery is not equitable.**
- **Reading Recovery does not raise overall school achievement levels.**
- **Far fewer students than claimed actually benefit from Reading Recovery.**
- **Children who are not expected to be successful are removed from the program and from the calculation of the success rate.**
- **Reading Recovery does not reduce the need for other compensatory reading services.**
- **Research-based alternative interventions are more effective than Reading Recovery.**
- **Reading Recovery is extremely expensive and does not save other costs.**

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Reading Recovery

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Reading Recovery

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AMERICORPS for Math and Literacy



Getting Things Done

A collaborative project
of

The Reading Recovery Program at The Ohio State University
The Charles Dana Center for Mathematics and Science at The University of Texas
The Reading Recovery Program at California State University-San Bernardino
and
The Public Schools of Columbus, Ohio
Austin, Texas
and
Colton, California

The purpose of this project is to prepare an AmeriCorps whose service substantially contributes to enabling children to succeed in reading, writing, and math at an early age.

AmeriCorps for Math, Literacy and Science provides carefully conceived direct service to children who need extra support in reading, writing and math. The project also enhances the future of local community service providers by increasing their skills and providing a living wage, along with the opportunity to earn resources for their own future education.

WHO is involved? The Ohio State University, The University of Texas, and for the 95-96 project year, California State University-San Bernardino. All are universities in the Reading Recovery network, working in collaboration with selected school districts and community agencies to implement the program.

READING RECOVERY, developed in New Zealand and implemented in the United States by The Ohio State University, helps the lowest achieving first grade children make accelerated progress by developing effective reading strategies. They then become independent readers and writers. Reading Recovery gives at-risk children a chance to succeed before they enter a cycle of failure. The great majority of children served by Reading Recovery become independent readers able to function at their appropriate grade level. Over 150,000 children have benefited from Reading Recovery.

HOW do we build on success? To meet our goals, we draw upon the successful national program, Reading Recovery, combined with research-based approaches in mathematics education. A new model has been constructed to enable children, especially those from the poorest communities, to experience success in reading and mathematics at an early age, thereby positively influencing the course of their school lives and, thus, their later lives.

WHO are AmeriCorps members? Corps members are selected volunteers who have completed high school and wish to further their education. They represent a variety of backgrounds, ages, and educational levels. These adults will be a future resource for the communities they serve as productive citizens, civic contributors, and as parents. The program is designed to enhance their skills in all areas.

WHAT do AmeriCorps members do? Members work part time in local elementary schools providing direct service in literacy and math to kindergarten, first and second grade children, individually and in small groups. Additionally, they provide assistance to the teacher in the assessment of children's progress in reading and writing. Their schedules include service during the school day along with some after-school and weekend community service.

HOW are members trained? Corps members receive an intensive two-week training to start each program year. Training introduces them to their responsibilities and prepares them to implement the integrated reading, writing and math activities they will perform. Training is jointly provided by personnel from the Reading Recovery project and by nationally recognized experts in mathematics. Following the initial training Corps members receive regularly scheduled training sessions as well as on-site assistance and supervision from university personnel.

WHERE do they serve? The project serves in schools willing to enter into a collaborative arrangement to use the services of AmeriCorps members. Corps members are placed, in pairs, in kindergarten, first and second grade classrooms in the school. They may not be in the classroom all day however; their schedule depends on the opportunity to provide after-school and/or evening service.

WHAT are the benefits to participating schools?

- specially trained free service to at-risk children (up to 50% of children could receive extra help)
- introduction to a new integrated literacy and math program based on research and tested in real life settings
- a donation of books and materials for each AmeriCorps classroom to provide children's literature and facilitate guided reading
- a KEEP BOOK program that provides inexpensive books for primary grade children to take home
- a technological station, including computer for desktop publishing and modem communication, in each school
- professional development for classroom teachers who work with AmeriCorps members
- close collaboration with the Reading Recovery network

WHAT do the collaborating schools provide?

To be selected for participation, schools must agree that:

- the school will provide Reading Recovery
- five classroom teachers and one Reading Recovery teacher will volunteer to act as collaborators for the AmeriCorps participants
- administrator and staff will work together to develop parent programs.
- space will be available for a technological station with a telephone line to facilitate communication
- AmeriCorps members will be provided storage and meeting space
- the collaborating teachers will attend seminars to prepare them for the literacy and math program and to work with AmeriCorps members.
- collaborating teachers meet regularly with the project supervisor to monitor the program
- school personnel will facilitate data collection to assess the effectiveness of the program
- create a steering group made up of key staff members, the principal, and university personnel to support the AmeriCorps program in the school and in the district.

"National service is nothing less than the American way to change America... the concept of community and the idea of service are as old as our history."

President Clinton



Department of Educational
Theory and Practice
Reading Recovery™ Program
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Thank you for your inquiry about Reading Recovery, a developer/demonstrator project funded by the National Diffusion Network. We hope that the enclosed awareness materials will answer your questions about the program.

Reading Recovery was developed in New Zealand by Dr. Marie Clay. It is an early intervention program that enables the lowest 20% of first graders "at risk" of reading failure to develop effective strategies to read at average classroom levels. Once children are released from the program, they need no further remediation in reading.

Key Elements

Five key elements are essential to Reading Recovery, which operates within an entire educational system.

1. Program for Children

Children are selected through a battery of individually administered diagnostic tests. They receive a daily 30 minute lesson that incorporates a variety of reading and writing experiences designed to help them develop effective strategies for reading and writing. Each day, children move through a lesson sequence that involves the reading of familiar materials, the composing and writing of a story, and the introduction and reading of a new book.

Although Reading Recovery lessons follow a framework, every lesson is unique because the teacher closely monitors each student's progress and makes ongoing teaching decisions based on that student's current use of reading and writing strategies. Materials used in Reading Recovery lessons are many "little books" which provide support for readers using familiar language patterns within the framework of a predictable story. This pullout program lasts approximately 15-20 weeks and supplements regular classroom reading instruction.

2. Teacher Education Manual

Two levels of training are provided at The Ohio State University:

- a) The year-long teacher leader academic course work (available at universities listed at the end of the document) prepares qualified individuals to teach Reading Recovery teachers at a district site.

- b) The instructor of teacher leaders year-long academic course (available at OSU, the University of Illinois, or the University of Auckland, in Auckland, New Zealand) prepares qualified individuals to teach Reading Recovery teacher leaders. All teacher leaders and instructors of teacher leaders are involved in a year-long training program for which they receive university credit. Their coursework includes working with four students on a daily basis, learning the Reading Recovery procedures, and learning how to provide training, technical and clinical support for Reading Recovery teachers. In addition instructors of teacher leaders are prepared to establish a state university Reading Recovery instructional center.

Every week during the training year, two teachers individually work with their students behind a one-way mirror with the remaining teachers-in-training carrying on a discussion behind the glass. After the lessons, participants come together for a critique session. In this way, teachers are led to be careful observers of a student's reading and writing behaviors and they learn to build a coherent rationale for the decisions they make. These teaching decisions are the key to student's accelerative learning and release from the program. An academic year is necessary in order to understand the complexity of this process.

The coursework for teacher leaders and instructors of teacher leaders begins with learning about the procedures for Reading Recovery, but rapidly shifts to theoretical issues and research in language acquisition, cognition, literacy learning, and instruction.

3. Materials

All teachers and teacher leaders use a set of professional books and a set of approximately 600 "little books" for children. The "little books" are selected from many early reading series and from children's literature trade books. All materials are nonconsumable and can be used by the same teacher in subsequent years.

4. Monitoring and Continuing Education

Two follow-up programs ensure the continued quality of the implementation of the program.

Continuing Education After the completion of the training year, the teacher leader maintains continuing contact with teachers and continues to monitor student progress. Teachers meet several times each year for inservice sessions in order to continue to develop critical knowledge and refine their skills. Teacher leaders and instructors of teacher leaders attend two annual Ohio conferences: a three-day winter conference and a four-day teacher leader summer institute.

Monitoring Reading Recovery teachers are monitored and supported by teacher leaders; teacher leaders are monitored and supported by the university faculty/staff from which they received their course work.

Research and Evaluation A program of research and evaluation ensures the long range effectiveness of Reading Recovery. Teachers and teacher leaders keep accurate records of each student's progress and send this data for analysis to the National Data Evaluation Center which is housed at The Ohio State University. Each teacher leader uses the results of the OSU data analysis in writing a research report that documents the results of Implementing Reading Recovery at their site. The Ohio State University prepares national research results in an Executive Summary published yearly.

Adoption Requirements

Effective implementation of the Reading Recovery Program requires school systems and/or universities to release one or two experienced individuals to attend a one-year academic course of study. Audio and video tapes, books of professional readings and research, program evaluation assessments, and 600 "little books" which comprise the Reading Recovery booklist have been developed to successfully transport the program to other sites.

Once instructors of teacher leaders and/or teacher leaders have completed university course work, the Reading Recovery Program can be implemented at another site or university. In order to establish a regional staff development training center the school district and/or university must agree to:

1. Establish an area for one-to-one instruction that contains a one-way glass screen designed to meet specifications so that observers can assess the one-to-one instruction without disturbing the lesson.
2. Recruit and select 10-12 individuals to participate in a one-year Reading Recovery teacher or teacher leader instructional program to be held at the regional or university training center.
3. Arrange for the release of certified teacher leader(s) to teach and supervise the Reading Recovery Program at the regional site.
4. Arrange for Reading Recovery teachers-in-training to receive either 6 semester hours or 9 quarter hours of graduate credit from the university with whom a partnership has been established.
5. Arrange for a weekly two-and-one-half-hour class to be held after school hours at the regional center.

6. Make the necessary arrangements enabling Reading Recovery teachers to spend a portion (minimum of 2 hours) of each day teaching Reading Recovery children (services begin immediately during the training year).

Costs

Reading Recovery is a cost effective program because it is a one-time intervention that enables the poorest readers to become independent readers without need of further remediation. The major costs to the adopter occur in acquiring initial training for the teacher leader or instructor of teacher leaders .

During the first year of site implementation (when the teacher leader returns to the home site) school districts will incur the following costs of implementation: additional teaching staff when the classroom sharing model is adopted, support services (duplicating; mailing; phones; mileage), additional salary/release time for the teacher leader and tuition payments for the teacher enrolled in the Reading Recovery class (6 semester hours, 9 quarter hours) at the local university that formed a partnership with the Reading Recovery site.

Expenses during the second and subsequent years include providing teachers and teacher leaders with release time for continuing contact and teaching four students 30 minutes per day .

Additional expenses involve the installation of a one-way glass and sound system at each training site (approximately \$3,000). Each teacher also requires a set of books at an estimated cost of \$1,000. This is a one time purchase, and can be used by the same teacher in subsequent years. The site must also purchase professional readings for teacher leaders, audio/visual tapes and scan sheets for data collection and analysis.

Responsibilities of the Educational System

Effective implementation of Reading Recovery depends upon extensive support from all educational agencies within the school district. It is an intensive, demanding program that requires understanding and long term commitment from teachers, school and district administrators, and area universities. Marie Clay, developer of the Reading Recovery Program, cautions that "the intervention will not work unless it is kept on track and not watered down by misunderstandings."

To any district or consortia of districts that is considering Reading Recovery, we recommend that a team consisting of a prospective teacher leader, an administrator, and a university representative make a fact-finding visit to either the training center at The Ohio State University or another university training center listed on the attached page. Following is a partial list of requirements for the implementation of Reading Recovery..

- a. A prospective instructor of teacher leaders must hold a doctorate and obtain commitment from the university. A prospective teacher leader must have at least a masters degree and five years teaching experience, with at least three years at the primary level. Enthusiasm, demonstrated leadership ability, and professional commitment to the sponsoring school district are essential. The teacher leader in training spends one academic year at one of the national instructional centers (see attached page) while learning to become a Reading Recovery teacher, teacher leader, and program coordinator.
- b. Interested and innovative school and/or university administrators insure that the Reading Recovery Program becomes incorporated into the total educational program of the participating university and/or school districts. They also plan for the expansion of the program within the site.
- c. In Ohio, Reading Recovery teachers in training receive graduate credit from The Ohio State University. Since the teacher leader serves as an adjunct staff member of the university which is giving credit, a faculty member should accompany the team to determine how the course contents can be integrated into the university's procedures for offering graduate credit.

This team should then make arrangements to visit the training center at The Ohio State University to discuss the program and its implementation with Reading Recovery personnel. Visits should also coincide with the teacher leader training class in order to observe behind-the-glass lessons and talk with teacher leaders in training. Separate arrangements should be made to visit one of the area teacher instructional sites. Persons interested in scheduling an on-site visit may request a visitor information packet by calling the Reading Recovery Office at (614) 292-7807.

Thank you again for your inquiry. Should you wish additional information, please do not hesitate to call us.

Sincerely,

Carol Lyons, Ph.D.
Director
Reading Recovery/
National Diffusion Network

~~Andrea McGarrier, Ph.D.~~
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Reading Recovery: A Cost-Effectiveness and Educational-Outcomes Analysis

Philip C. Dyer

Today, schools are facing escalating battles to receive the financial resources necessary to educate at-risk children. At the same time, long-standing practices of retention and tracking are being questioned as detrimental to the academic progress of these children and to the school mission. Pullout programs such as Chapter 1 and Special Education are facing further scrutiny as well.

Since most school systems are fighting just to maintain the current operational budget, it may seem impractical to consider any instructional intervention that requires substantial initial expenditures, even if that intervention is instructionally effective. However, when considering whether they can afford to implement new programs, school districts should realistically weigh the short-term costs against the potential long-term cost savings.

This article examines an early instructional intervention called Reading Recovery, which provides one-to-one individualized instruction for first-grade students who need extra help in beginning reading. Although this intervention requires an initial and ongoing financial investment, the analysis described here finds that from a long-term perspective, Reading Recovery offers an educationally sound and cost-effective alternative to more commonly used approaches.

Description of Reading Recovery

Reading Recovery, developed by child psychologist Dr. Marie Clay, has been implemented for 20 years in New Zealand, and serves 19 percent of that country's first-grade children (those having difficulty learning to read). Nationwide, New Zealand has a referral rate

of only 1 percent for retention or Special Education because of reading difficulties beyond first grade (Clay 1990).

In 1984, with the help of Dr. Clay and her New Zealand colleague Barbara Watson, Reading Recovery was introduced in the United States. The Ohio State University, the Ohio Department of Education, and the Columbus Public Schools joined forces to implement Reading Recovery in Ohio. Results from the pilot study were very positive (Huck and Pinnell 1985).

The basic tenets of the Reading Recovery program are that reading is a strategic process that takes place in the reader's mind; that reading and writing are interconnected, reciprocal processes; that accelerated progress is possible; and that it is most productive to intervene early, before children become trapped in a cycle of reading failure (Clay 1985).

The program is directed at the bottom 20 percent of first graders: the lowest achieving children in reading and writing, without regard to intelligence, ethnic group, language achievements, school history, physical handicaps, or learning disabilities. It is a one-time intervention that comes at the earliest stage of the child's schooling. Its goal is to accelerate students and to help them develop into independent readers, reading with the average in their class, without further help. Reading Recovery requires one-to-one individualized instruction, but only for an average of 12 to 16 weeks. It is a supplemental pull-out program that does not replace the regular classroom reading and writing instruction.

The Reading Recovery teacher, who has been specifically trained in Reading Recovery techniques, typically works with four students

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individually per day for one-half hour each. In each lesson, the teacher directs the rereading of familiar "little" books, takes a "running record" of independent reading, works with the student on reading strategies as needed, supports the child in writing a message or a story, and reads a new "little" book with the child. In Reading Recovery instruction, there are no computers, no textbooks, no workbooks, and no drill sheets. Reading Recovery involves a *specialty trained teacher*, pencils and paper, and a lot of interesting, short books at different reading levels.

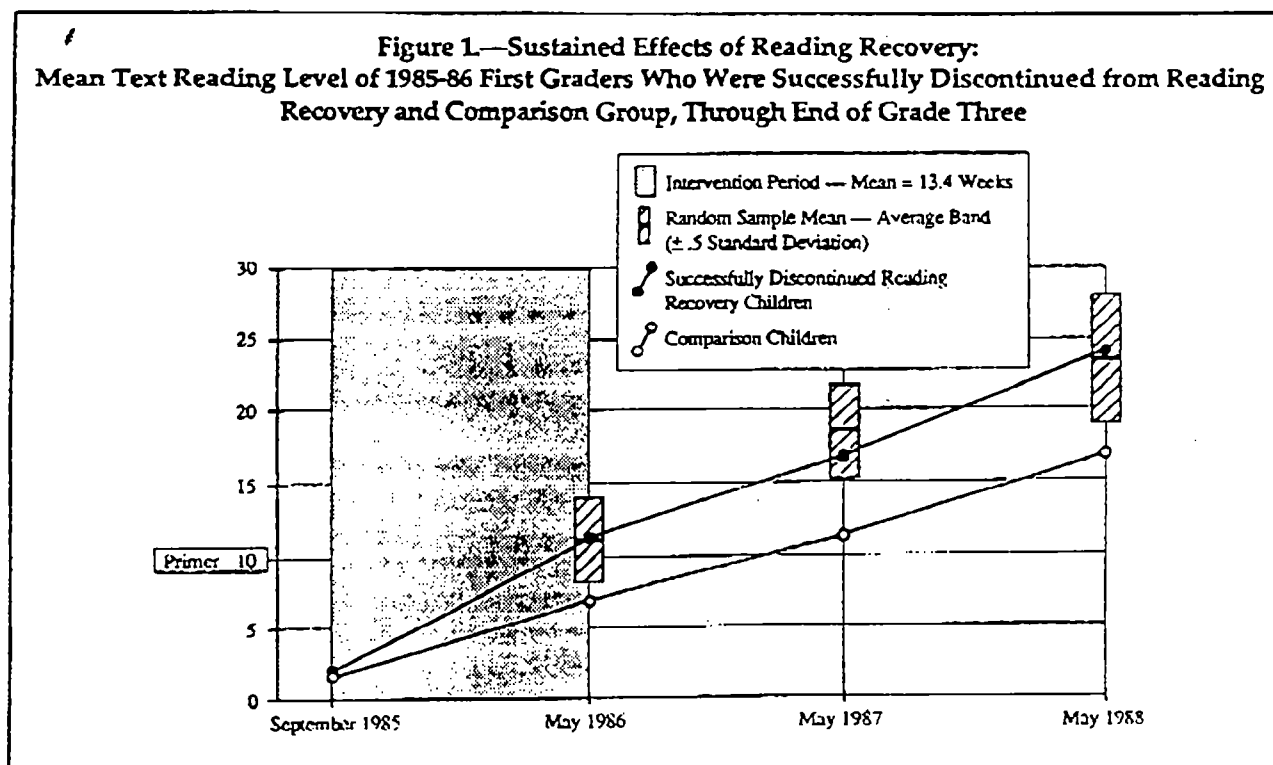
A detailed description of Reading Recovery lessons and implementation of the program at the school and school district levels may be found in the monograph *Reading Recovery: Early Intervention for At-Risk First Graders*, by Gay Su Pinnell, Carol Lyons, and Diane Deford (1988).

Reading Recovery Program Results

After five years of intense scrutiny by many researchers, Reading Recovery in the state of Ohio continues to show positive results. In 1985-86, 73.5 percent of the Reading Recovery children were discontinued from the program

(that is, they were reading at the average level for their class and had demonstrated the independent reading strategies to continue to make progress at this level without further intervention.) This rose to 82 percent in 1986-87 and 86 percent in 1987-88. After a slight drop in 1988-89 to 83 percent, Reading Recovery regained its upward momentum with an 87 percent discontinuing rate in 1989-90, and an 88 percent discontinuing rate in 1990-91 (Ohio Reading Recovery Project 1991).

As shown in Figure 1, a longitudinal study conducted in the Columbus Public Schools found that a high proportion of children served by Reading Recovery demonstrated sustained progress through third grade *without further intervention* (Pinnell, DeFord, and Lyons 1988). In 1989, the MacArthur Foundation awarded the Reading Recovery faculty at the Ohio State University a grant to compare Reading Recovery to four other reading interventions, each of which contained some elements similar to those used in Reading Recovery. This study, known as the Early Literacy Research Project, found that Reading Recovery was significantly more effective than the four other approaches, and that the program's effectiveness required not only the one-to-one individualized instruc-



Source: Pinnell, Deford, and Lyons. 1988. *Reading Recovery: Early Intervention for At-Risk First Graders*.

tion it provided, but also use of its diagnostic and instructional strategies and in-depth teacher training (Pinnell et al. 1991).

In regard to its educational effectiveness, it is important to note that in 1987 Reading Recovery was evaluated and validated as an educationally effective early intervention program by the National Diffusion Network (NDN) of the U.S. Department of Education (Pinnell, DeFord, and Lyons 1988, 69).

Costs and Educational Outcomes of Reading Recovery and Alternative Interventions

Grade Retention —

The common practice of student in-grade retention used in most school systems is coming under scrutiny. Over 2.4 million students are retained in grade annually in the United States, with a national cost of almost \$10 billion (Sheppard and Smith 1990). Given that research indicates that this practice has little or no long-term positive effect and that it may actually have a serious negative effect on whether or not a student graduates from high school, it seems incredible that we are willing to spend so much money on failure!

In Massachusetts alone, over \$120 million is spent annually on retention. In this state, it is also clear that if the student is either male or a minority, the likelihood of being retained increases dramatically (French and Nellhaus 1990).

Chapter 1 Programs —

The U. S. Department of Education reports that Chapter 1 serves one out of every nine children enrolled in U. S. elementary and secondary schools (Birman et al. 1987, 1). Federal contributions to the program account for 21 percent of the Department of Education's 1992 budget, or almost \$6.1 billion (*Education Week* 1991). According to the Department of Education report, children in typical Chapter 1 programs receive remedial reading instruction in pull-out groups of five children for an average of 35 minutes each day, five days a week (Birman et al. 1987, 68).

An evaluation study by the U.S. Department of Education, *The Effectiveness of Chapter 1 Services*, found that

Students receiving Chapter 1 services experience larger increases in their standardized achievement test scores than comparable students who do not. However, their gains do not move them substantially toward the achievement levels of more advantaged students (Kennedy, Birman, and Demaline 1986, 17).

A more recent evaluation of Chapter 1 programs (Allington and McGill-Franzen 1990) found that most programs tend to be limited, skill-and-drill-type remedial reading programs, and that their current structure results in actual loss of total reading instruction time for the participating students. This is often coupled with low expectations for these students (Rowen et al. 1990). As a consequence, children typically remain in the Chapter 1 remedial reading program for an average of five years or until it is no longer available at their grade level. There is only a 2 percentage point difference between the proportion of Chapter 1 children in the first grade (12 percent) and those in the sixth grade (10 percent) (Kennedy, Birman, and Demaline 1986, 19).

All children in a low-income-area school that is designated to receive Chapter 1 funding are eligible for the Chapter 1 program if they fall below certain cut-off criteria, such as the 30th or 35th percentile on a standardized reading achievement test that has been established by the school district (Birman et al. 1987). Children eligible for Reading Recovery usually fall within Chapter 1 guidelines; therefore, schools can use federal Chapter 1 funds to implement Reading Recovery programs.

Special Education Programs —

Because of the difficulties they experience learning to read and write, some children may be classified as "learning disabled" and receive Special Education services. Recent reports by the U. S. Department of Education state that the number of children classified as "learning disabled" more than doubled during the last dozen years. In 1988-89, the number of children classified as "learning disabled" had climbed to almost 2,000,000, which was about 49 percent of all children receiving Special Education services (U.S. Department of Education 1990).

In Massachusetts, between 1974 and 1990, the total public school enrollment decreased by 30 percent while students in Special Education

increased by 77 percent (Massachusetts State Department of Education 1991, 10).

Like Chapter 1 instructional programs, the Special Education programs provided for children who are classified as "learning disabled" have come under increasing scrutiny. Clay (1987) described the difficulty of trying to separate children who have true organic learning disabilities from those whose reading difficulties stem from "external influences" such as emotional problems or disadvantaged early environments. Although educators have no reliable way to distinguish between these children, the federal and state funding requirements for Special Education programs make it necessary for schools to expend extensive resources attempting to identify and label children as "learning disabled" before they can be given special assistance in reading.

A recent study by Lyons (1989, 6) found that many children classified as "learning disabled" really were not *disabled* at all, but were only having *initial* difficulty learning to read. The study found that when placed in Reading Recovery programs, a high proportion of these children (73.3 percent) developed balanced reading strategies and were reading at the average level of their classmates in an average of less than 13 weeks of Reading Recovery instruction.

Lyons and other researchers have found that children classified as "learning disabled" are often placed in Special Education reading programs that use a limited set of reading strategies and a slower pace. For example, Allington and McGill-Franzen concluded from their research that "too often these interventions provide no educational advantage to the children who participate in them, even though the added costs are often substantial" (1990, 8).

Thus, when Reading Recovery programs serve to reduce the number of children who are *incorrectly* and *unnecessarily* diagnosed as "learning disabled" and who are then placed in costly and ineffective programs, substantial savings in educational dollars and improvements in student learning are achieved.

The current categorical method used to fund Special Education programs complicates the issue. Classifying a child as "learning disabled" or otherwise in need of Special Education services enables the district to receive additional funds from federal and often state sources. But

when a school district provides effective early intervention such as Reading Recovery, thereby decreasing the numbers of students classified as "learning disabled," the local district stands to forfeit a certain amount of outside funding.

It is clear, however, that avoiding incorrect Special Education placement and unnecessary special treatment not only benefits the child educationally but also saves money, whether at the national, state, or local level.

Cost Factors: Reading Recovery Compared with Other Approaches

Although information about the typical educational experiences and learning outcomes of students in alternative instructional programs can be a valuable resource to school district officials who are considering implementing new approaches, cost is also an obvious concern. This concern is often raised in regard to Reading Recovery.

Costs of Reading Recovery—

In spite of the impressive educational results of Reading Recovery programs, some school districts hesitate to initiate the program because of its obvious financial costs. Implementation does require time, money, and commitment.

A major startup cost of initiating a Reading Recovery program in a school district is initial staff training. The training requires that at least one teacher leader, selected by the school district (or a group of neighboring districts), attend a Reading Recovery training center at one of more than a dozen universities across the country for one academic year. During this year, the teacher studies extensively and attends professional classes in the basic concepts, learning theory, and professional practice of Reading Recovery instruction, as well as serving a rigorous internship to gain hands-on teaching experience as both a Reading Recovery teacher and a teacher leader.

The teacher leader then returns to the district to conduct training for teachers in the district or group of districts, and to assist teachers-in-training throughout the initial school year and future years. A teacher leader can train up to 16 teachers per year, so smaller districts can share the cost of the initial training of one teacher leader.

Another possibility is for one school district with a trained Reading Recovery teacher leader to contract with neighboring school districts to train their teachers in Reading Recovery. For example, in 1990-91, two teacher leaders in the Wareham School District trained six of the district's own teachers in Reading Recovery as well as 22 teachers from neighboring school districts. This year Wareham is training 26 Reading Recovery teachers from 16 neighboring school districts.

It is important to note that during their Reading Recovery training period, which extends for an entire school year, teachers are actually teaching Reading Recovery children.

The largest ongoing cost of Reading Recovery is the one-to-one instruction provided for the children served in the program. Children in Reading Recovery receive daily 30-minute lessons, so that each teacher spending half a day in Reading Recovery can work with about four first-grade children per day. However, since most children are successfully discontinued from the program in 12 to 16 weeks, the one-to-one Reading Recovery instruction is short term, allowing the teacher to work with eight to 10 first-grade children over the course of the year. The other half of a Reading Recovery teacher's day is determined by the instructional program needs of the school.

Costs Related to Alternative Approaches—

An analysis of the relative costs of Reading Recovery versus the costs of first-grade retention, typical Chapter 1 remedial instruction, or Special Education for children classified as "learning disabled" should consider both the annual *and* the cumulative amounts of time that a single child would be likely to spend in each of the programs. Examination of the time commitments on a per-child basis for each of these interventions shows dramatic variation.

Retaining a student in first grade means adding another full year of schooling in first grade for that child, a total of 1,080 hours (six hours a day x 180 days), at the annual per-pupil expenditure in the school district.

If a child is assigned to Chapter 1, then the special reading instruction pull-out time typically allocated for this intervention is 105 hours per year (35 minutes per day x 180 days). A child who is placed in Chapter 1 receives help over an average of five years. Therefore,

the total cost of this intervention in instructional time is about 525 hours. Chapter 1 teachers typically teach remedial reading to groups of about five students, serving a total of about 35 students for the school year (Birman et al. 1987). The major financial cost of this intervention is the salaries of the Chapter 1 teachers who provide that instruction.

A child who is placed in a Special Education resource pull-out program for learning disabled students spends an average of 1.4 hours per day, or 252 hours each year, in this program (Moore et al. 1988). The child typically receives services in the program for six years in the elementary grades — a total of 1,512 hours — with some students continuing in the program throughout their school careers (Moore et al. 1988; Ribadeneira 1990). The major financial cost of this intervention can be estimated as the salaries of the teachers who provide Special Education instruction for that child.

Reading Recovery has the smallest time commitment, involving only 40 hours if the child spends 30 minutes per day in the program for 16 weeks. After the initial teacher training costs of the program have been met, the basic financial cost of the program is the salary of the Reading Recovery teacher who provides this relatively short-term individual instruction.

Cost Savings of Reading Recovery

Experiences of School Districts —

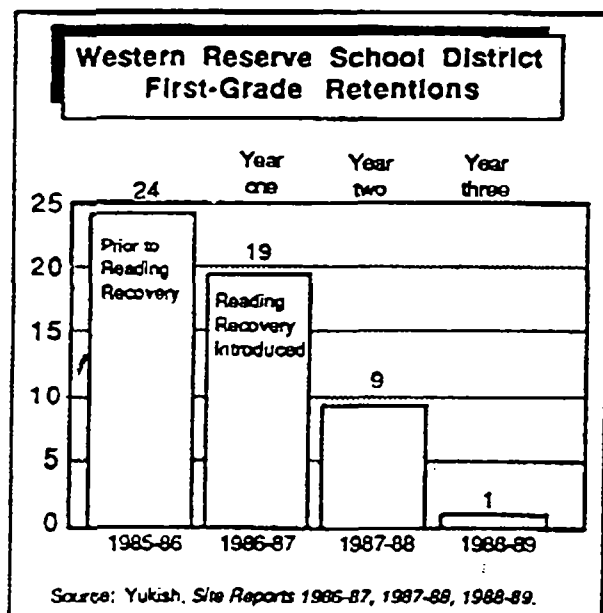
The experiences of school districts that have implemented Reading Recovery have shown that such districts can expect to reduce the need for the other three instructional interventions substantially, not only benefitting the Reading Recovery children academically, but also producing long-term cost savings. A few examples illustrate the typical results of Reading Recovery implementation.

Prior to the introduction of Reading Recovery, the Upper Arlington School District in Ohio retained in first grade an average of 10 students each year. In the five years since Reading Recovery began, the district has retained a total of 17 students, a reduction of 33 retentions during the five-year period (Lyons and Beaver in press).

Other school districts have experienced similar reductions in first-grade retention rates after implementing Reading Recovery. For

example, in the first year of Reading Recovery, Wareham School District in Massachusetts reduced its retentions from 14 children to zero. During the previous five years, grade-one retentions had averaged 12 children per year (Zimmaro 1991).

Western Reserve School District in Wexham, Ohio, initiated Reading Recovery in five first grades in two schools in 1986-87, using three Reading Recovery teachers half-time. In the year prior to implementing the Reading Recovery Program, the district retained 24 students in first grade. In the Reading Recovery staff training year, 19 students were retained. During the first program year, nine students were retained. In the second program year, the retentions dropped to one student, a remarkable change in three years (Yukish 1989).



Using current national averages and disregarding inflation, we can estimate the possible cost savings implied in the Western Reserve School District's experience. The district avoided 43 potential student retentions in the program's first three years of operation. Using the 1990-91 national average per pupil expenditure of \$5,208 (National Education Association *Estimates of School Statistics* 1991, 25), we can estimate that such a program could achieve a cost savings through first-grade retention reduction of \$223,944. The cost of the three Reading Recovery teachers for the three years, each spending half of their day with Reading

Recovery children and paid at the 1990-91 national average salary of \$33,015, would be \$148,568 (National Education Association 1991, 19). Thus, a net savings of \$75,376 would be achieved in first-grade retentions alone.

Savings from avoiding 43 retentions x \$5,208 per student	\$223,944
Cost of 3 Reading Recovery teachers (working half the day in Reading Recovery) for 3 years	(\$148,568)
NET SAVINGS	\$75,376

School districts implementing Reading Recovery can also expect to reduce the number of children placed in Chapter 1 remedial reading programs or Special Education pull-out programs. For example, the Wareham School District's Hammond East and West Schools reduced the number of Special Education placements in grades K-1 from 31 in 1989-90 to 16 in 1990-91, the first year the Reading Recovery program was implemented. This is a drop of 15 placements, or 48 percent.

Estimated Cost Savings —

Taking into account the potential reductions in student retentions and special placements that would result from the implementation of Reading Recovery in a typical school district, comparative program cost-benefit analyses can be made using national averages. Figure 2 on page 17 compares Reading Recovery with three alternative interventions by comparing the instructional time and teacher salary costs on a per-pupil basis using national averages.

Viewed from the *short-term* perspective of annual costs, Reading Recovery is less expensive than first-grade retention, but more expensive than typical Chapter 1 services or Special Education services. However, the *short-term* investment in Reading Recovery has significant *long-term* payoffs.

For example, since Chapter 1 remedial reading instruction continues for an average of five years, the long-term cost of the teachers' salaries is \$4,715 per student served, compared with \$2,063 per student served for Reading

Recovery teachers' salaries. *Long-term* teacher salary costs associated with serving a child classified as "learning disabled" in Special Education (participation averaging six years in the elementary school) will be in excess of \$9,906, as compared to the one-time cost of \$2,063 for Reading Recovery for that child.

A Cost-Benefit Model —

A helpful way to look at the cost benefits of Reading recovery in comparison with the other three interventions is to construct a model of the cost and the long-term benefits that, based on current experience and data, could reasonably be expected from one Reading Recovery teacher.

Based on the actual experiences of school districts and accumulated research evidence, we can *conservatively* expect that the year's activities of one teacher, working half of each day in Reading Recovery and serving a total of eight first-grade children, would enable the school district to *at least*:

- avoid two children being retained in first grade.
- avoid the need to serve two children in the Chapter 1 program, who would probably have remained in the program for five years.
- avoid the misclassification of one child as "learning disabled," who would probably have remained in Special Education during six years of elementary school.

Figure 3 (page 18) shows the costs and benefits related to this model when current national teacher salary averages and other related data are applied. This simple, straightforward analysis makes no attempt to consider the effects of future inflation or other related factors. Its only purpose is to compare, in a very general way, the magnitude of the long-term savings that are possible through investment in early intervention programs such as Reading Recovery that have been proven by research to be educationally effective.

In Figure 3, the salary cost of one teacher devoting one-half day to Reading Recovery instruction for a year equals \$16,508, which is one-half the national average of classroom teacher salaries in 1990-91. The *long-term* cost benefits that could be derived from this investment in early intervention would be \$29,752, for a net savings of \$13,244.

These cost benefits could be expected to occur over time as students who would otherwise be retained in first grade or placed in remedial pull-out programs remain in regular classrooms with their classmates.

Indirect Benefits

Other benefits to schools implementing Reading Recovery are harder to quantify but are just as important. One aspect is time savings. When a child is placed in a Special Education program, tests and meetings are required to establish the child's eligibility for special treatment and to develop and monitor individualized education plans. Beyond the meeting time in which a variety of school staff and the child's parents are involved, specialists must test the child to assess progress, spending their staff time and the child's instructional time. Since Reading Recovery provides early intervention for the 20 percent of first-grade students having the most difficulty learning to read, no such elaborate testing and diagnostic procedures are needed.

Moreover, each time a child leaves the classroom for extra help, some school staff time and effort are spent in getting the child there and back, thereby taking away from class time. Further, the child loses time preparing for the transition, walking to the new location, and settling in after he or she returns from the alternate learning setting. One of the most frequent concerns of primary grade teachers is that they have so little time to work with the whole class. Although Reading Recovery is a pull-out program, its short-term nature (averaging 12 to 16 weeks) prevents repeated, disruptive pull-outs over the long term.

Perhaps the most important benefit is preventing the psychological trauma of retaining a child in grade or labeling the child as "learning disabled" and then placing him or her in Special Education. Both alternatives involve labeling and stigmatizing children, which can damage their self-concepts, reduce learning expectancy, and retard learning.

Conclusions

Schools today face difficult decisions about the most effective way to use scarce resources for the good of children. Research indicates

Figure 2.—Reading Recovery Savings: Comparison of Teacher Time and Salary Costs per Pupil, with Grade Retention, Chapter 1, and Special Education in the Elementary Grades (in 1990-91 dollars)

Intervention	Annual Cost	Average Years in Program	Total Program Time	Total Cost Per Student
Retention (1st grade) ¹	\$5,208 (all costs)	1 year	1,080 hours	\$5,208 (all costs)
Chapter One ²	\$943	5 years	525 hours	\$4,715*
Special Education ³ ("Learning Disabled")	\$1,651	6 years	1,512 hours	\$9,906*
Reading Recovery ⁴	\$2,063	1/2 year	40 hours	\$2,063

*Cost in 1990-91 dollars; inflation and salary increases are not included.

¹Cost for one child retained in first grade who received *all school services* (food, transportation, etc.) for one additional year, assumed to be the annual per pupil expenditure nationwide for current operations of \$5,208, in 1990-91, as reported in *Estimates of School Statistics: 1990-91*, National Education Association 1991. The time for this intervention was estimated assuming a 6-hour school day x a 180-day school year.

²Annual *teacher salary cost* of instruction for one student in Chapter 1 pull-out program. Calculated by dividing the national average of teacher salaries for 1990-91 (\$33,015) reported in NEA *Estimates of School Statistics, 1990-91* by the average number of Chapter 1 students taught by each Chapter 1 teacher per year. The average number of students taught per teacher was calculated from data in the U.S. Department of Education report *The Current Operation of the Chapter 1 Program* (1987), and assuming a 6-hour teacher day with 7 classes of 5 students each, equaling a teaching load of 35 students. The study also was the source of data used to calculate the time for this intervention: an average Chapter 1 pull-out resource session of 35 minutes per day x 180 days per year, x 5 years, which is the average length of time students receive Chapter 1 services in elementary school.

³Annual *teacher salary cost* of instruction for one student classified as "learning disabled" taught in pull-out resource room program for one year. Calculated by dividing the national average of teacher salaries for 1990-91 (\$33,015) by the average total number of students classified "learning disabled" taught by each teacher in a resource room pull-out program (a teaching load of 20 students per day), as reported in the U.S. Department of Education study *Patterns in Special Education Service Delivery and Cost* (Moore et al. 1988). The time for this intervention was also calculated from data in the study, which reports the typical student classified as "learning disabled" spends 7 hours per week in resource pull-out programs. Given a 36-week school year, this is 252 hours per year, or 1,512 hours over the course of 6 years of elementary school.

NOTE: These costs only include teacher salaries. Costs do *not* include items such as the *annual cost of assessment* of students, which was reported in the study *Patterns of Special Education Services Delivery and Cost* to be \$1,273 per Special Education student in 1985-86. Estimates also do not include time and salary costs for Special Education students beyond sixth grade.

⁴Annual *teacher salary cost* of Reading Recovery instruction for one student calculated by taking half the national average of salaries for teachers for 1990-91 (\$33,015 divided by 2 = \$16,508) and dividing this number by the average number of students (8) taught by one Reading Recovery teacher teaching Reading Recovery half of each day for one year. The time for this intervention was calculated using a tutoring session of 30 minutes each day, for a 16-week period.

Figure 3.—Potential Long-Term Reading Recovery Cost-Benefit for One Reading Recovery Teacher Working with Eight Students During One Year (in 1990-91 Dollars)

• Expected benefits from one Reading Recovery teacher working one year:	
Avoid two grade-one retentions, @ \$5,208 each	\$10,416
Avoid need to serve two students in Chapter 1 programs (each child served for five years) @ \$4,715 each	9,430
Avoid misclassification of one Special Education student in "learning disabled" resource program (child served for six years during elementary school)	<u>9,906</u>
Total cost savings	\$29,752
• Less cost of one Reading Recovery teacher (half year's full-time salary)	<u>(16,508)</u>
• Net savings per Reading Recovery teacher	\$13,244

that Reading Recovery is an educationally sound and cost-effective early intervention program for helping children who are at risk of early reading failure. Reading Recovery can not only help schools save money, but can also significantly reduce a school district's reliance on the use of such questionable educational practices as categorizing, labeling, and retaining children in grade.

In industry, if a company could produce a better product for less money in less time, that change would be initiated immediately. American students, teachers, parents, and taxpayers deserve no less. With the research evidence that Reading Recovery is not only educationally effective, but also cost-effective, this early intervention deserves careful consideration by all those responsible for the education of children. □

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Research and Education Reform

Roles for the Office of Educational Research and Improvement

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STUDENT ACHIEVEMENT

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initiated program began in 1979 with remedial students in grades 6-9; it has since been expanded to include all grades from kindergarten through high school. The premise of the program is that all students with intellectual potential at or near the normal range will benefit from instruction in higher level thinking skills.

The IMPACT program provides curriculum materials and training. The first section of the materials is designed to assist curriculum planners in analyzing existing courses for embedded instruction on thinking skills: classifying, seeing cause-and-effect relationships, making generalizations, forming predictions, and making assumptions. The second section of the program materials is designed to help teachers fill in identified gaps in thinking skills instruction. These materials contain lesson plans for classifying and categorizing information, ordering and setting priorities for information, formulating effective questions, and various reasoning exercises (Winocur, 1987).

Training is available at two levels. At the first level, teachers participate in a 3-day in-service workshop in which they are provided with strategies for introducing and guiding the process of critical thinking within the context of various subject areas. Special instruction is provided in effective use of Project IMPACT curriculum materials. The second level of training is designed to prepare graduates of the first level of training to act as trainers and disseminators in their local school districts.

Testing and Evaluation

The original evaluation study was conducted in 1983 and involved four school districts. All student subjects were in the seventh, eighth, or ninth grades and were enrolled in remedial reading or mathematics classes. The students selected to participate in both the experimental and control groups were those who failed to pass their district proficiency test and scored at or below the 37th percentile in reading comprehension on the Comprehensive Test of Basic Skills. The 426 students in a remedial IMPACT classes were taught by IMPACT-trained teachers; the 352 students in remedial control classes were taught by regular teachers. Standardized tests of basic skills and the Cornell Critical Thinking Test were used as measures of students' gains. Pretests were administered in September and posttests in February; all testing was conducted by classroom teachers. The results show that students in the Project IMPACT classes significantly outperformed students in control classes in thinking skills, mathematics, and reading at all three grade levels. According to the analysis, the magnitude of the gains for IMPACT students was 1 standard deviation on both the Comprehensive Test of Basic Skills and the Cornell Critical Thinking Test, compared with an average gain of 0.1 standard deviations for students in control classes (Winocur, 1983).

Results obtained in a later study by the same investigator showed that 83 students in seventh grade classes taught with IMPACT significantly improved their reading comprehension between the pretest and the posttest (as measured by the Comprehensive Test of Basic Skills): the mean performance of these students increased from the 40th percentile to the 51st percentile of the norm group, which included a nationally representative student (Winocur, 1987).

Project IMPACT offers an approach that can be embedded into most curricula and used as part of most teaching methods. As a result, the program appears to have widespread utility. Since 1983 the National Diffusion Network has helped disseminate this program. According to IMPACT staff, there have been approximately 6,500 adoptions across all grades.

Reading Recovery

Program Description

Reading Recovery is an early intervention program designed to assist the lowest 20 percent of readers in the first grade, as determined by a special battery of diagnostic tests developed by Marie Clay (1985). The goal of this field-initiated program is to teach these children reading skills that are comparable to those of the average students in their class. Current data show that 86 percent of the children in Reading Recovery have successfully met that goal within 12 to 20 weeks.

The Reading Recovery program is designed to be supplementary to regular reading instruction in the classroom. A child in the program leaves the classroom to work one-to-one with a specially trained teacher for 30 minutes every day. Within a lesson, reading and writing activities are integrated, based on the idea that development in one skill area supports advancement in the other. Program materials include several hundred small books graded at 20 levels of difficulty. The easier levels of these books contain illustrations on every page and are written in predictable language patterns compatible with children's ability to understand.

The approach is to encourage children to read by building on the knowledge and skills they already have. In the early stages of the program, a teacher works very closely with a child, examining each word and each sentence in a small story for recognition, pronunciation, and meaning. Throughout the story reading, the child and the teacher discuss what the characters might do next. As the child progresses through the lessons, he or she is supported by the teacher in the development of strategies that good readers appear to acquire naturally, such as summarizing, clarifying, and predicting. Teachers stress meaning cues and comprehension in both reading and writing activities. Children are considered ready to leave the program when they have

demonstrated the ability to use these strategies on their own and when they have reached the average reading level of their class.

A critical component of the Reading Recovery program is teacher preparation. Teacher leaders go through a year-long program at a university training site and then return to their local regions to provide a full year of training for other teachers. During training the teachers learn how to prepare lesson plans and administer the program, how to create diagnostic summary reports, and how to assess student progress. They also practice working with a child behind a one-way glass while being observed by the other teachers in the program. As a teacher works with a child, the observers comment and discuss the process. Teachers also keep records on every aspect of the process. Throughout the training year, teachers work with students in their schools using the Reading Recovery methods.

Research and Development

Maria Clay, who developed Reading Recovery in New Zealand in the 1970s, spent several years reviewing theories of reading and studying the reading behaviors of young children. As a result of her field-initiated work, she found that children use phonological awareness, syntax cues, and their knowledge of subject matter when extracting meaning from text. Her approach to teaching reading immerses learners in high-interest, authentic literary tasks instead of drills and exercises; and teachers coach students in using all three strategies for extracting meaning.

Reading Recovery also incorporates a number of principles from Vygotsky's work on learning through social interaction and from Piaget's work in the genetic or historical reconstructive method. Essentially, these developmental theories suggest that instruction be provided as guided reinvention—a process that offers a structure for a teacher to share activity with a child in a way that the growth of the child is maximized. As the child gains competence, new levels of knowledge are jointly explored. Reading Recovery adopts these principles in its interactive lessons and in the adjustments made from lesson to lesson on the basis of the progress of the child. When a child successfully completes the program, he or she has internalized the skills necessary to continue to learn to read alone. According to Clay and Cazden (1990:207):

The end point of early instruction has been reached when children have a self improving system: they learn more about reading every time they read, independent of instruction. When they read texts of appropriate difficulty for their present skills, they use a set of mental operations, strategies in their heads, that are just adequate for more difficult bits of the text. In this process they engage in reading work, deliberate efforts to solve new problems with familiar information and procedures. They are

working with theories of the world and theories about written language, testing them and changing them as they engage in reading and writing activities.

The first field studies of the Reading Recovery program were initiated in 1978; they were designed to answer questions about the program's impact on students as well as the influence of various school characteristics on the effectiveness of the program. Early successes in New Zealand led to interest from researchers in the United States. In 1983 Pinnell and Huck transferred the program to Ohio State, where several additional field tests were conducted. Between 1984 and 1986, \$1.5 million was invested in the program's development by state and local funding sources in Ohio.

Testing and Evaluation

In the first full year of implementation in Ohio (1985-1986), urban school students in the lowest 20 percent of their first grade classes, as determined by Clay's diagnostic test battery, were randomly assigned either to Reading Recovery (133 students) or to a control group that received a commonly used remedial reading curriculum (51 students). After 15.7 weeks the results appeared impressive: Reading Recovery students performed significantly better than control students, and 73 percent of the children reached average levels of achievement in reading for their respective first grade classes. In addition, the developers found that Reading Recovery students made an average normal curve equivalent gain on the Comprehensive Test of Basic Skills of 8.6 for the school year, compared with -0.2 for students in the control group. At the end of the first grade, Reading Recovery students (the 73 percent who had successfully completed the program) were reading and writing at or above the average level of their classmates; when entering the third grade, they were reading at a 3.1 grade level.

Because Reading Recovery is labor intensive and thus very expensive, developers have been exploring ways to reduce the amount of time a teacher spends with each child. In a recent study supported by the MacArthur Foundation, Pinnell et al. (1991) compared four reading instruction methods with one another and with a control group. The four methods included (1) regular Reading Recovery, (2) Reading Recovery with teachers who received a shortened training course, (3) a one-to-one practice model (Direct Instruction Skills Plan), and (4) group lessons by a Reading Recovery Teacher. The sample included 324 students in 10 school districts. According to Pinnell et al. (1991:1):

Regular Reading Recovery was the only group for which the mean treatment effect was significant on all four measures [of reading ability] at the conclusion of the field experiment and was also the only treatment indicat-

ing lasting effects. Results of this study indicate that one-to-one instruction is a necessary but not sufficient factor in Reading Recovery's success. Quantitative results and the qualitative analysis of videotapes indicate that Reading Recovery training is a powerful influence on teachers and makes a difference in student success.

Over the past decade Reading Recovery has spread to 33 states and two sites in Canada. In 1991 there were 84 teacher leaders, 1,906 teachers, and 12,902 children involved in the program. According to the developers, approximately 86 percent of those students completed the program successfully in 12-20 weeks, demonstrating reading skills at the average level for their class.

A critical element in the success of this program is the central quality control over the program provided by the staff at Ohio State University. Not only is the staff responsible for ensuring effective training, they also analyze the results for every student enrolled in Reading Recovery. Based on the results to date, the program continues to be effective from entry to the third grade. OERI's National Diffusion Network certified Reading Recovery as an effective program in 1987 (see Chapter 3) and has helped disseminate it since that time. A key goal for the future is to develop Reading Recovery as a group instructional program to reduce operating costs.

Reciprocal Teaching

Program Description

Reciprocal Teaching is a 10-year, field-initiated program of basic research funded by the National Institute of Child Health and Human Development to test the theory that the skills that define "comprehension monitoring" are central in strategic reading. The comprehension monitoring activities selected for study include summarizing (self-review), questioning, clarifying, and predicting. The approach is to instruct students in the use of these skills by encouraging them to participate in guided activity before they are asked to perform independently (see Brown and Palincsar, 1989; Palincsar and Brown, 1984). "In these teaching situations the novice carries out simple aspects of the task while observing and learning from an expert, who serves as a model for higher level involvement" (Palincsar and Brown, 1984:123). Initially, research on Reciprocal Teaching focused on reading and listening; more recently, it has been extended to include mathematics (Campioni, et al., 1988).

In Reciprocal Teaching of comprehension, a teacher and a student take turns leading a discussion concerning sections of the text: the task includes clarifying complex sections, asking questions, making predictions, and gen-

erating summaries. Initially the teacher models the activities, and the students are encouraged to work at whatever level they can; the teacher then provides guidance at the appropriate level for each student. In the beginning, students have a great deal of difficulty with the process of becoming a leader. However, as the Reciprocal Teaching progresses, with the teacher providing directed feedback and guidance, the students become much more competent and comfortable.

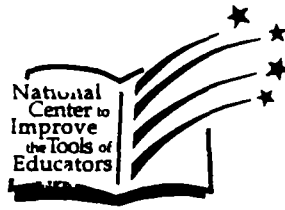
Testing and Evaluation

The first two experiments of reciprocal reading were conducted with seventh grade students who could read but were at least 2 years behind on standardized scores of reading comprehension (Palincsar and Brown, 1984). In the first study, some students received the Reciprocal Teaching approach from the program developers, and other students were assigned to one of three comparison groups. Program developers worked with students in pairs in the Reciprocal Teaching group, giving them an overview of the lesson, having them read a passage silently, asking one to take the role of teacher, and as the lesson progressed, providing corrective and supportive feedback. Students were told that the strategies they were learning were general and would help them understand as they read. Each day students took three unassisted assessments (before, during, and after training) in which they read a passage and answered ten questions.

The results provide impressive support for the efficacy of Reciprocal Teaching. Average performance in the comparison groups did not improve and remained at around 40 percent comprehension. In the Reciprocal Teaching treatment, students became more like the adult model: they began to use their own words, and main idea summaries became more and more frequent. All six students in the program reached a stable level within 12 days of instruction, and five of the six were operating at a level of 70-80 percent comprehension. Moreover, five of the six students improved their classroom comprehension on other tasks. These improvements were still in place 8 weeks after the Reciprocal Teaching program.

In the second study, regular classroom teachers provided Reciprocal Teaching to three seventh grade and one eighth grade reading class (ranging in size from four to seven students). The student selection criteria and the materials and procedures for Reciprocal Teaching were the same as those used in the first experiment. After 15 days of Reciprocal Teaching, students were demonstrating comprehension of 75-80 percent on daily assessments—up from 40-50 percent at the beginning of the intervention. By the 25th day, many were at 100 percent of comprehension and these levels were maintained on the 8-week posttest. As with the first experiment, there was also evidence that the comprehension skills transferred to other subjects

Reading Recovery

**NCITE Research Brief****Topic: Reading Recovery****Source**

Shanahan, T., and Barr, R. (1995). Reading recovery: An independent evaluation of the effects of an early instructional intervention for at-risk learners. Reading Research Quarterly, 30 (4), 958-996.

- Focus on Reading Recovery (RR) within U.S. schools.
- Reviewed various versions of Clay's manual on RR (1979, 1985, 1993a, 1993b); all technical reports on RR published by team at Ohio State University; ERIC; reference lists included in each document; "in press" materials (Reading Research Quarterly).
- Data combined across studies or effect sizes calculated to estimate magnitude of impact when possible to analyze data directly; qualitative analysis conducted when nature of original source materials required.
- Included all published evaluations of RR and unpublished studies that included sufficient basic information (means, standard deviations for pre- and posttests); did not automatically reject unpublished sources.
- Few empirical evaluations of RR—insufficient in number and scope to permit analysis needed by policymakers (p. 961).
- Found no studies of RR that did not suffer from serious methodological or reporting flaws, published or not.
- Overall, consideration of existing research and evaluation studies of RR largely qualitative (p. 961).

What is Reading Recovery?

- Developed by Marie Clay for New Zealand schools in 1976.
- Introduced to U.S. in 1979 publication of Clay's book, The Early Detection of Reading Difficulties.
- Two new volumes, An Observation Survey of Early Literacy Achievement (1993) and Reading Recovery. A Guidebook for Teachers in Training (1993) replaced 1979 book.

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- "Reading Recovery is an instructional intervention for teaching reading to young children" (p. 961) and an "intensive one-to-one intervention program" (Pinnell, DeFord, & Lyons, 1988, p. 2).
- "A basic premise of RR is that children are failing with literacy because they are not learning to read and write, and not because something else is wrong with them" (p. 962).
- Clay (1979) states: "The difficulties of the young child might be more easily overcome if he had practised error behaviours less often, had less to unlearn and relearn, and still had reasonable confidence in his own ability" (p. 5).
- Later reading problems can be avoided by intervening early; therefore, "RR is initiated after the children start to fail, but not long after" (p. 962).
- At time RR developed, reading remediation was routinely delayed until child had completed 3 years of reading instruction.
- RR focuses on the learning of at-risk children, defined in most U.S. programs as "children in the lowest 20% reading achievement groups in their first-grade classrooms" (p.962).
- Because of relative performance standard, implementation of RR varies significantly (Ohio--few children with extreme difficulty learning to read; Illinois--districts with high concentrations of poor children).

Extent of Adoption

- Ohio State University initially established Reading Recovery in six public schools in Columbus, Ohio.
- Expanded to more than a thousand schools involving tens of thousands of children.
- By 1992, 38 states and the District of Columbia had at least one center for training Reading Recovery teachers.

Instructional Procedures

- Children receive individual diagnosis of their reading needs
- Instruction provided on a one-teacher-to-one-student basis
- Lessons are daily for 30 minutes per student
- Not a stand-alone program but supplements regular classroom reading instruction
- No prescribed, step-by-step kits or sets of consumable materials
- Children taken through a collection of short books from levels 1 to 20 in U.S. and read within 30-minute lesson plan.
- Lesson includes child rereading previously read books; writing and reading their own sentences; reading a new book
- Emphasis on teaching children to be independent
- Usually implemented for 12-14 weeks of accelerated instruction
- Individual instruction emphasized because "crucial to observe precisely what children have been able to learn (not what they

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have been unable to do), to discover what reading behaviors they should now be taught from an analysis of performance in reading texts, to shift the child's reading behaviour from less adequate to more adequate responding" (Clay, 1979, p. 8).

Teacher Training

- 3 years of teaching experience, including primary grades
- Staff development is spread over a year of part-time study.
- Training is delivered during two hour inservice sessions at one or two weekly intervals over period of a year.
- Typically, a RR teacher tutors in program for half a day and teaches in the regular classroom the rest of the time.
- The most common approach is to hire two teachers to teach a single first-grade class, one teaching RR in the morning and the regular classroom in the afternoon, and the other with the opposite schedule. This allows eight children to enter the RR program at one time. As children discontinue, others take their place, so that in a year, more than eight students may actually receive RR.

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Is Reading Recovery Effective?

* Does RR result in more learning than would be expected if the intervention did not take place at all?

• Pre- and Posttest Comparisons. Based on results of five different studies and technical reports (Huck & Pinnell, 1986; Iversen & Tunmer, 1993; Lyons, Pinnell, Short, & Young, 1986; Pinnell, Huck, & DeFord, 1986; Pinnell, Lyons, Young, & DeFord, 1987), with results pooled across studies to determine average gains on various measures of diagnostic battery of informal tests Clay developed, it appears:

1. The average RR child who successfully completes the program makes dramatic progress during first grade.
2. The average child who completed the RR program learned 15.71 letter names, improved performance on word reading tests by 13.25 preprimer words, improved on concepts of print test by 8.73 print awareness features, wrote 31.44 more words; represented 24.86 more phonemes accurately in dictations; and moved through 9.0 levels of text material.

Limitations of Results:

1. Test score improvements likely to occur when students with extreme scores are selected for participation (regression to the mean).
2. Normal development and learning gains typical of young children can be due to other sources of growth and education.
3. The studies systematically omitted children who were not having success in RR. Specifically, the selection procedures used by RR "most certainly bias the results" (p. 968). Students who were served by RR for fewer than a specified number of lessons (30 for Ohio pilot study and 60 for others) were not included in the evaluation reports. Therefore, the results do not include all students receiving RR. It is estimated that between 25 to 30% of students were not included in the results because of poor attendance or who did not progress successfully in RR.
4. "Depending on the proportion of participants omitted in this fashion, this creates a substantial bias in favor of Reading Recovery gains, and there is no sound way to adjust scores..." (p. 966).

• Of 22,193 children described in National Diffusion Network report who were served by RR in 1991-92, 5,880 failed for one reason or another, and 2,583 received 60 or more lessons but were not judged to be "successfully discontinued." Therefore, 38% were "not discontinued" from program; 62% successfully completed the program and "discontinued." (DeFord, Estice, Fried, Lyons, & Pinnell, 1993)

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- A substantial number of the 5,880 incompletions reported for 1991-92 probably entered the program in the spring and did not complete 60 lessons. This group comprised 22% of total sample in Illinois report and 29% of Wake County Public School System.

*** Does Reading Recovery lead to more learning than other programs?**

- Pre- and Posttest Comparisons. Based on results of two studies that provide comparable pre- and posttest scores for children in the regular classroom (Huck & Pinnell, 1986; Lyons, Pinnell, Short, & Young, 1986), it appears that:

1. Reading Recovery children made greater gains during first grade than did their classmates.
2. RR children learned to identify 11.01 more letters, 2.42 more primer words, and 2.63 more print concepts, increased the number of words they wrote by 2.75 more words, learned to represent 8.43 more phonemes accurately in dictations, and moved through slightly fewer levels of text material (.25) than did other first graders at their schools.

Limitations of Results: Again, these results appear to be "an overestimation of these students' gains, given the regression to the mean problem and the omission of unspecified numbers of low-success Reading Recovery students from the original samples" (p. 969). (see same limitations as noted above). Nonetheless, "it seems safe to conclude that Reading Recovery students approximate, and sometimes exceed, the gains made by average students. Reading Recovery seeming helped potentially low-achieving students to learn as much as or more than students in the regular school program, helping them to close the gap that was originally identified" (p. 969-970).

*** How do students in Reading Recovery compare to other low-achieving students?**

- Pre- and Posttest Comparisons. Based on results of three studies that provided comparable pre- and posttest scores for children in RR or an "alternative compensatory" program (Huck & Pinnell, 1986; Iversen & Tunmer, 1993; Pinnell, Huck, & DeFord, 1986), it appears that:

1. "Comparison of gains made by the initially low-achieving groups suggest that the impact of RR is substantially slighter than was found in the classroom comparisons" (p. 971).

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2. RR children learned to identify 4.6 more letters and 5.89 more primer words, increased the number of individual words they wrote by 11.33, learned to represent 9.62 more phonemes accurately in their dictations, and moved through 3.88 more levels of text materials than did the other low-achieving first graders at their schools.
3. "It seems significant that RR children did relatively better (when compared with their performance differences with the average group) than the other low achievers on word and text reading and phoneme representation. It is clear that RR leads to somewhat greater learning than might be expected without it" (p. 972).

Limitations of Results. "It is important to remember that even these modest gains were probably inflated to some extent by regression to the mean and the dropping of Reading Recovery children from the program" (p. 973).

Summary of Results of Studies Involving Pre- and Posttest Comparisons

"From all of this it seems reasonable to conclude that children who receive Reading Recovery instructional make sizable gains in reading achievement during the first-grade year. These gains compare favorably with those of higher achieving first graders who receive only regular classroom instruction, or such instruction along with compensatory support. The relative gains that Reading Recovery children make during first grade appear to be significant and meaningful; however, they are inflated to a great extent by an evaluation policy that allows students to be dropped from Reading Recovery analysis for reasons of low success, and by regression to the mean effects that influence the results of most of the studies" (p. 973).

* Is Reading Recovery as effective as other tutorial programs, such as Programmed Tutorial Reading, Wallach Tutorial Program, Prevention of LD--New York, and Success for All?
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Based on the results from four first-grade tutorial studies, including RR, and a fifth program, Success for All, involving classroom intervention as well as tutorial support, RR and Success for All were particularly successful in enhancing reading comprehension.

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*** Is Reading Recovery as effective when compared directly program interventions such as Reading Success, Direct Instruction Skills Plan (DISP), and Reading-Writing Group?**

1. In these comparisons, Reading Success used RR format and materials but teachers received only a 2-week training program; DISP teachers were encouraged to develop their own direct tutorial instruction in specific reading skills; the Reading-Writing Group used previously trained RR teachers and adapted the RR model to small-group instruction.
2. Based on the study by Pinnell, Lyons, DeFord, Bryk, and Seltzer (1994), RR showed "particularly strong effects in February, followed by Reading Success, on dictation and text reading tasks" (p. 976).
3. "The results for the Reading-Writing Group were moderately strong only on the text reading task, while the results for the DISP program were not different than those of the control group" (p. 976).
4. "The results in May on the standardized test were insignificant for RR as well as the three comparison programs. By October, the effects that had been obtained had diminished for all groups except for the RR students, whose gains remained statistically significant on text reading" (p. 976).

Limitations of Results: RR teachers were experienced and often exemplary teachers with at least one year's practice in RR; the comparison group teachers were hired from pools of substitute teachers; RR students received more instructional time than comparison groups.

*** Do modifications of the components of Reading Recovery enhance its effectiveness? (Iversen and Tunmer, 1993)**

Iversen and Tunmer (1993) compared the standard RR program with a modified version that included explicit code instruction which focus on letter-phoneme patterns, including letters in isolation, and word spelling patterns sharing common pronunciations. In RR, phonemic awareness and letter-sound correspondences are developed in the context of each child's writing. They also compared the standard and modified RR programs with a group-based reading support program as a control condition and two comparison groups composed of average-achieving first graders. Iversen and Tunmer (1993) found:

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1. The two RR samples differed significantly from the group-based intervention on the Diagnostic Survey and metacognitive measure, but did not differ from each other.
2. Both RR groups also performed as well as or better than the average-achieving comparison groups. The main difference between the two RR groups was the number of lessons to discontinuation. The standard RR group exceeded that of the modified RR group by 37% (57 versus 42 lessons).

Summary of Results of Studies Involving Comparing RR with Other High-Quality Intervention Programs

1. In general, RR compares well to other high-quality intervention programs. Some interventions, particularly Success for All that combines classroom and tutorial approaches in a comprehensive fashion, are equally effective. However, Success for All has not yet demonstrated an ability to maintain such gains under conditions of wide implementation (p. 978).
2. It is important to understand that RR requires the (a) careful selection of highly skilled and motivated teachers, and (b) an approach to professional development that significantly enhances the outcomes of the program, including its tutorial format.
3. There is evidence to suggest that the program may be made more efficient by including more explicit and systematic focus on phonological recoding.

* Do Reading Recovery Students Maintain Their Learning Gains?
--

1. RR appears to differ from other remedial programs in its expectations concerning the stability of gains. A major assumption of RR is that a low-achieving child will "become an average progress child" (Clay, 1985, p. 52).
2. The relative advantage of RR groups seems to be maintained over that of comparison groups, as indicated by raw mean differences. However, when the increasing variation of the samples are considered, the differences are no longer significant. "After the period of intervention, both RR and comparison groups seem to progress at about the same rate, as indicated by group mean gains. These results indicate that once children are brought up to the average range, their progress is somewhat less than the average of their class" (p. 982).

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increase per-pupil educational costs for that child by about 80% during the year of enrollment. Of course, these students might receive other types of special services, too, in addition to RR..." (p. 986).

5. "Our analysis suggests that *after* the savings from lower retention rates and special education costs are considered, the per student annual expenditure for RR is in the region of \$3,200, with great variation evident in district expenditures due to difference in teacher salaries and benefits; however, we suspect that the emphasis on experienced teachers probably raises the actual per-student costs to about \$4,000" (p. 990).

6. "Modification of the RR approach to include more direct instruction in the area of phoneme awareness and spelling knowledge (Iversen & Tunmer, 1993) may reduce the time needed" (p. 990).

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Reading Recovery

*** Does Reading Recovery Have A Systemic Effect on School Programs?**

- Does the impact of RR reach beyond the effects on individual children and teachers to influence other aspects of schooling?
1. "The evidence reviewed is limited in scope. It does not, however, support the conclusion that having the RR program in a school leads in any direct way to improvements of classroom instruction and school restructuring. The complexity of the process is revealed in descriptive studies" (p. 984).
 2. "More generally, a program such as RR that focuses mainly on the learning of individual children, although effective as a tutorial program, has serious shortcomings conceptually and practically when viewed as a professional development or school restructuring program...Accordingly, the RR program in its current form cannot take the place of a comprehensive school or district plan for serving the needs of all its students or as a program for professional development" (p. 984).

*** What is the Cost of Reading Recovery?**

1. Like other tutorial programs, RR is necessarily expensive. RR requires the assignment of at least one full-time teacher (actually, two half-time teachers who share the full-time duties) who is likely to work with about 16 students per year.
2. Calculating the actual direct costs of RR proved difficult, because precise costs differed by locale because teacher salaries differ, and this is the major program expenditure.
3. "In sum, a conservative estimate of the total average expenditure per full-time RR teacher would be \$46,246. Assuming that, on average, about 10 students per year will be worked with, the per-pupil expenditure is \$4,625 (\$2,890 if the number of students is 16; however, if this is done, then the achievement figures that have been used earlier are substantial overestimates of the actual success of the program). These estimates are on the low side, and do not include various expenses such as yearly conference participation of Teacher Leaders, most travel expenditures, or ongoing support costs charged by the regional centers for working with teachers each year (additional expenditures per child).
4. The average per-pupil cost in the U.S. in 1993 was \$5,938, which means that the cost of having a child in RR should be expected to

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**30 Years of NICHD Research:
What We Now Know About How Children Learn to Read**

Center for the Future of Teaching and Learning
<http://www.ksagroup.com/thecenter/>

A Note About the NICHD Research Program

The National Institute of Child Health and Human Development (NICHD) educational research program, initiated 1965, began to focus more on reading difficulties as it became clear how extensive the reading problem was in the general population. The 1985 Health Research Extension Act resulted in a new charge to the NICHD to improve the quality of reading research by conducting long-term, prospective, longitudinal, and multidisciplinary research. Reid Lyon led the new charge by closely coordinating the work of over 100 researchers in medicine, psychology, and education in approximately 14 different research centers. (Numbers vary from year to year.)

A major problem with reading research in the past was that findings often did not replicate. One researcher would get one result, another researcher would get the opposite result. Lyon and colleagues identified that the key problem in obtaining replicability was that researchers were studying different samples of children. Lyon established detailed sampling requirements for the research and increased scientific rigor in other areas. Consequently, the NICHD research program has produced a growing body of highly replicable findings in the area of early reading acquisition and reading difficulties that have been reported in over 2,000 refereed journal articles since 1965.

How the NICHD Research Program is Different

To appreciate fully the significance of the NICHD findings it helps to understand the level of scientific rigor used to guide the formation of conclusions from the research. Reid Lyon coordinates the parallel investigation of similar questions across several centers. Under Lyon's leadership, the researchers determine that the questions have been answered only when the findings replicate across researchers and settings. Findings with a high degree of replicability are finally considered incontrovertible findings and then form the basis for additional research questions. Funding is awarded the research centers through a competitive peer review process. A panel of researchers who are not competing for the research funds award the funds after evaluating competing proposals according to specific criteria. Each research study within the NICHD network must follow the most rigorous scientific procedures.

True scientific model. The NICHD studies do not embrace any *a priori* theory, but test all theories against one another at different points in time. In a true scientific paradigm, theories are tested by doing everything to try to prove the theory incorrect. This contrasts with the usual nature of research in education, where untested hypotheses are often presented as proved theories before any testing has occurred.

Long-term duration. The average length of a study has been 8 years, ranging in length from 3 years to 31 years. In these longitudinal studies, the growth of children from

preschool through adulthood has been evaluated. Currently, several large-scale, 5-year longitudinal treatment intervention studies are underway. This longer-term design allows evaluation of the effects of different instructional variables on later reading performance.

Sampling procedures. The sampling procedures ensure that all subgroups in the population (all ethnic groups, a full range of IQ levels, and so on) are included in sufficient numbers to provide a window to the population as a whole and provide information regarding the relationship of reading disabilities to other variability in individuals such as IQ. To evaluate the relationship between IQ and reading disabilities, for example, the research subjects must proportionately sample different IQ bands. Most studies involve around 200 subjects representing variation within specified dimensions. Children who do not speak English have been excluded from the NICHD research samples to this point. After basic reading instruction issues have been resolved for teaching children with some knowledge of English, including bilingual children, the research questions will turn to treatment for children who do not know English and are beginning to learn it as a second language.

Researcher bias. Researcher bias is reduced by the sheer number of people involved in the NICHD program. For example, at only one NICHD-funded research center, the one at Yale University, the following researchers are involved: Jack Fletcher, David Francis, Rafael Kloorman, John Gore, John Halahan, Robert Constable, Leonard Katz, Barbara Foorman, Bonita Blachman, Dorothy Aram, Alvin Liberman, Ken Pugh, Michael Studdert-Kennedy, Donald Shankweiler, Karla Stuebing, Keith Stanovich, Linda Siegel, and Louisa Moats. In addition, researchers at the different NICHD centers communicate frequently regarding their findings, checking each other's data and testing alternative explanations with additional studies.

Contrast with other educational research. The NICHD research program differs from much of the earlier research in its scientific rigor. Table 1 helps illustrate the contrast by summarizing several studies that reported conclusions that conflict with those of the NICHD. The studies in Table 1 are laudable for attempting to evaluate competing theories and were sometimes even two years in duration, quite long as educational studies go. Yet the studies are still too short in duration to evaluate the effects of the different treatments on the children's actual ability to read with joy and understanding. In nearly all of the studies in Table 1 the children never progressed far enough in their reading to use a measure of independent reading comprehension to evaluate their learning. The important question of how different approaches to beginning reading instruction ultimately impact authentic reading remains unanswered in these studies.

Many of the measures used to evaluate the children's learning had no established validity as predictors of reading comprehension. For example, children who used multiple cueing systems or who said they valued understanding more than getting the words right, were given higher scores in many of the studies in Table 1. Whether or not this performance would correlate with later reading performance was not established at the time of the research.

With the NICHD research we now know that the values given the responses on these measures should have been reversed. What was considered desirable performance on miscue analyses actually indicates a poor comprehender, rather than a good comprehender. Children who are poor readers make greater use of two of the three cueing systems, syntax and semantics (context), than good readers. Good readers make greater use of the graphophonic cueing system, as indicated by the fact that they read fluently and accurately

without rereading. Readers who get words right are better comprehenders than readers who guess using context to figure out words. Most likely the children who scored highest on these measures would become the poorest readers, based on NICHD studies of good and poor readers.

Even when the skills measured do predict better reading later, such as knowing the names of the letters, teaching children these skills does not necessarily guarantee that these children will be better readers later on. Though many of the studies in Table 1 were over two years duration, the time frame was still too short to see the nature of the impact of the instruction on reading comprehension.

Table 1. Research supporting conclusions that conflict with the NICHD research findings.

Date	Researchers	Population sampled	N in whole language group	N in skills-based group	Duration	Reading comprehension measure included?
1985	Ribowsky	2 K classes in parochial school	26	27	1 yr	No
1989	Kasten, Clark, & Nations	2 Preschool & 2 K classes	54	66	1 yr	No
1990	Stice & Bertrand	At-risk 1st & 2nd graders in 10 classes	25 (5 from each class)	25 (5 from each class)	2 yrs	The SAT was administered, but no significant difference found.
1991	Freppon	4 1 st grade classes, wealthy, white	12	12	4 mths	No
1993	McIntyre	1st grade, varied	1 (also 1 in Reading Recovery)	1	2 yrs	No
1994	McIntyre & Freppon	low SES groups	3	3	2 yrs	No
1995	Dahl & Freppon	4 classes	12 focal Ss 21 on some measures	7 focal Ss 12 on some measures	8 mths	No

*N= number of subjects (Ss) in each treatment group.

In contrast, the NICHD longitudinal treatment studies now in progress are five years in duration and have already used reading comprehension measures to evaluate instructional variables in the second year of the studies. In addition, the sample sizes are much larger in the NICHD research studies. For example, the kindergarten study by Foorman and her colleagues (in press) involved 260 kindergarten children. Their first- and second-grade study in eight Title I schools involved 375 subjects. Their special education study of children in the lower 25% involved 113 children with reading disabilities. The study of children in the lower 10% at the Florida Treatment Center involved 180 children (Torgesen et al., in press). The larger samples in the NICHD research included a full range of IQ levels, ethnic groups, and included lower income children. As Table 1 shows, the largest study reporting contradictory conclusions included only 100 subjects. Most of the studies involved much smaller samples.

Developing a New Understanding of Reading Difficulties

The use of the general term "learning disabilities" in research practice seems to have hindered our ultimate understanding of the causes, developmental courses, and outcomes of the specific types of difficulties subsumed within the LD category. Lyon (1995a) and Stanovich (1993) argue that the term learning disability is too broad to be of any scientific or clinical value. Instead, the general term learning disability, for research purposes, should be replaced with a specific definition of each type of learning disability (e.g., a learning disability in basic reading skills, a learning disability in mathematics calculation, a learning disability in written expression, and so on).

Much of the recent NICHD research has focused on identifying the nature of reading disabilities and the causes. Using modern neuroimaging technology, medical researchers have identified a unique signature on the brain scans of persons with reading problems. These unique brain scans seem to reflect an inability to work with phonemes in the language. This lack of phonemic awareness seems to be a major obstacle to reading acquisition. Children who are not phonemically aware are not able to segment words and syllables into phonemes. Consequently, they do not develop the ability to decode single words accurately and fluently, an inability that is the distinguishing characteristic of persons with reading difficulties.

About 40% of the population have reading problems severe enough to hinder their enjoyment of reading. These problems are generally not developmental and do not diminish over time, but persist into adulthood without appropriate intervention. Because the percentage is so large, an arbitrary cutoff point of 20% was selected for the purpose of labelling children as disabled in basic reading skills. The difference between a child who has a learning disability in reading and a child who is simply a poor reader is only a difference in the severity of the problem.

The most reliable indicator of a reading problem is an inability to decode single words. Lyon (1994, 1995a) suggests that the best way to determine if this inability is "unexpected" is to compare the performance of a child with that of other children his or her age and / or compare reading ability to academic performance in other domains (e.g., listening comprehension, verbal expression, mathematics, written expression). The definition suggests that traditional methods for identifying a reading disability, such as looking for an IQ-achievement discrepancy, are not as reliable (Lyon, 1994; Lyon, 1995a).

Phonological processing is the primary ability area where children with reading difficulties differ from other children. It does not seem to matter whether the children have an IQ-achievement discrepancy in reading or not. Phonological processing encompasses at least three different components. Each component and a sample assessment are described in Table 2.

Table 2. Three important components of phonological processing and sample assessments.

Component Skill	Assessment
Phonological awareness	E.g., say cat without the /t/ sound.
Phonological recoding in lexical access (Rapid naming)	Name objects, letters, colors quickly.
Phonological recoding in working memory	Repeat sentences, words, or digits accurately.

Of these three major phonological processing skills, phonological awareness appears to be the most prevalent linguistic deficit in disabled readers.

Research on Treatment for Reading Difficulties

What is Developmentally Appropriate?

Treatment intervention research has shown that appropriate early direct instruction seems to be the best medicine for reading problems. Reading is not developmental or natural, but is learned. Reading disabilities reflect a persistent deficit, rather than a developmental lag in linguistic (phonological) skills and basic reading skills. Children who fall behind at an early age (K and grade 1) fall further and further behind over time. Longitudinal studies show that of the children who are diagnosed as reading disabled in third grade, 74% remain disabled in ninth grade (Fletcher, et al., 1994; Shaywitz, Escobar, Shaywitz, Fletcher, & Makuch, 1992; Stanovich, 1986; Stanovich & Siegel, 1994). Adults with reading problems exhibit the same characteristics that are exhibited by children with reading problems.

These findings contradict the prevalent notion that children will begin to learn to read when they are "ready." *The concept "developmentally appropriate" should not suggest delaying intervention, but using appropriate instructional strategies at an early age—especially in kindergarten.* Although we now have the ability to identify children who are at-risk for reading failure, and we now understand some of the instructional conditions that must be considered for teaching, the majority of reading disabilities are not identified until the third grade.

Early Identification and Treatment

The best predictor in K or 1st grade of a future reading disability in grade 3 is a combination of performance on measures of phonemic awareness, rapid naming of letters, numbers, and objects, and print awareness. Phonemic awareness is the ability to segment words and syllables into constituent sound units, or phonemes. Converging evidence from all the research centers show that deficits in phonemic awareness reflect the core deficit in reading disabilities. These deficits are characterized by difficulties in segmenting syllables and words into constituent sound units called phonemes—in short, there is a difficulty in turning spelling into sounds.

Lack of phonemic awareness seems to be a major obstacle for learning to read (Vellutino & Scanlon, 1987a; Wagner & Torgeson, 1987). This is true for any language, even Chinese. About 2 in 5 children have some level of difficulty with phonemic awareness. For about 1 in 5 children phonemic awareness does not develop or improve

over time. These children never catch up but fall further and further behind in reading and in all academic subjects (Fletcher, et al., 1994; Shaywitz, Escobar, Shaywitz, Fletcher, & Makuch, 1992; Stanovich, 1986; Stanovich & Siegel, 1994).

Instruction using the following types of phonemic awareness tasks has had a positive effect on reading acquisition and spelling for nonreaders: rhyming, auditorily discriminating sounds that are different, blending spoken sounds into words, word-to-word matching, isolating sounds in words, counting phonemes, segmenting spoken words into sounds, deleting sounds from words (Ball & Blachman, 1991; Byrne & Fielding-Barnsley, 1990; Cunningham, 1990; Foorman, Francis, Beeler, Winikates, & Fletcher, in press; Lie, 1991; Lundberg, Frost, & Petersen, 1988; Vellutino & Scanlon, 1987b; Yopp, 1988).

Explicit instruction in how segmentation and blending are involved in the reading process was superior to instruction that did not explicitly teach the children to apply phonemic awareness to reading (Cunningham, 1990). Kindergarten children with explicit instruction in phonemic awareness did better than a group of first graders who had no instruction, indicating that this crucial preskill for reading can be taught at least by age 5 and is not developmental (Cunningham, 1990).

In a study by Ball and Blachman (1991), 7 weeks of explicit instruction in phonemic awareness combined with explicit instruction in sound-spelling correspondences for kindergarten children was more powerful than instruction in sound-spelling correspondences alone and more powerful than language activities in improving reading skills.

In a study by Foorman, Francis, Beery, Winikates, & Fletcher (in press), 260 children were randomly assigned to a revised kindergarten curriculum (n=80) and a standard curriculum (n=160) consisting of developmentally appropriate practices described by the state of Texas' essential elements for kindergarten. The revised curriculum sought to prevent reading disabilities by teaching phonemic awareness for 15 minutes a day using the Lundberg, Frost, and Petersen (1988) curriculum from Sweden and Denmark. Children in the revised curriculum made significant gains in phonemic awareness over the year. Foorman et al. found that the greatest gains occurred when the explicit instruction moved into teaching the sound-spelling relationships concurrently with the instruction in phonemic awareness.

Explicit, Systematic Instruction in Sound-spelling Correspondences

Phonemic awareness alone is not sufficient. Explicit, systematic instruction in common sound-spelling correspondences is also necessary for many children (Adams, 1988; Ball & Blachman, 1991; Byrne & Fielding-Barnsley, 1990; Foorman et al., in press; Mann, 1993; Rack, Snowling, & Olson, 1992; Snowling, 1991; Spector, 1995; Stanovich, 1986; Torgesen et al., in press; Vellutino, 1991; Vellutino & Scanlon, 1987a). Foorman, Francis, Novy, & Liberman (1991) found that more intensive instruction in sound-spelling relationships during reading (45 minutes per day) was more effective than less daily instruction in sound-spelling relationships (sound-spelling instruction occurring only during spelling and not during reading).

Instruction in specific sound-spelling relationships was more effective than a strategy for using analogous word parts on transfer to new words and on standardized reading measures (Lovett, Borden, DeLuca, Lacerenza, Benson, & Brackstone, 1994). Torgesen et al. (in press) also found that explicitly teaching the sound-spelling relationships

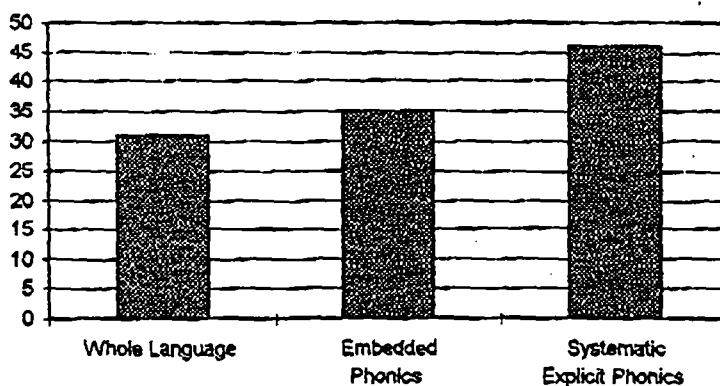
was superior to teaching explicitly using word families and word analogies and superior to an implicit approach.

Foorman, Francis, Beerly, Winikates, and Fletcher (in press) found that explicit, systematic instruction in sound-spelling relationships in the classroom was more effective in reducing reading disabilities than a print-rich environment characterized by interesting stories, even with children who had benefited from phonemic awareness instruction in kindergarten.

"[Explicit, systematic instruction in sound-spelling relationships] brought economically disadvantaged, low-achieving first and second graders close to the national average in reading on the Woodcock-Johnson-R, whereas whole language instruction placed these [Title] I students near the 25th percentile. Children scoring below the 25th percentile are often identified as reading disabled under traditional diagnostic criteria. These results suggest that [explicit, systematic instruction] in sound-spelling patterns in first and second grade classrooms can prevent reading difficulties in a population of children at-risk of reading failure." (Foorman et al., in press)

Figure 1 graphically displays the effects on reading comprehension for the three treatments Foorman et al. compared. The whole language treatment offered children a print-rich environment with interesting stories. The embedded phonics treatment included a more structured approach to phonics in a print-rich environment. The systematic, explicit phonic approach included phonemic awareness instruction, explicit instruction in sound-spelling relationships, and extensive practice in decodable text. Details of the explicit, systematic approach are described in the next section.

Figure 1. Percentile scores on Woodcock-Johnson Broad measure of Reading Comprehension



Foorman, Francis, Boeler, Winikates, and Fletcher, in press

Foorman et al. (in press) also found that changing instruction from whole language to explicit, systematic phonics at the classroom level was more effective in reducing the occurrence of reading problems than any of three types of one-on-one tutorial programs that were evaluated. Foorman and her colleagues concluded that in order to avoid reading failure, the focus should be on prevention, not intervention.

"It was the classroom curriculum effect, not the tutorial method effect that was significant. The tutorial effect was not particularly strong, given the weak association between growth in word reading and number of days in tutorial. But at least the tutorial may have kept children from falling further behind in reading. These curriculum effects have important implications for urban school districts with large numbers of students at risk for reading failure. The morbidity of reading failure and subsequent placement in special education can possibly be reduced with explicit, systematic phonics in the alphabetic code during first grade." (p. 16)

Prediction From Context is not a Useful Strategy for Word Recognition

Research quite clearly shows that overemphasizing prediction from context for word recognition can be counterproductive, possibly delaying reading acquisition. Stanovich and Stanovich (1995) recently summarized the research findings regarding the predictability of authentic text:

"An emphasis on the role of contextual guessing actually represents a classic case of mistaken analogy in science and has been recognized as such for over a decade.... It is often incorrectly assumed that predicting upcoming words in sentences is a relatively easy and highly accurate activity. Actually, many different empirical studies have indicated that naturalistic text is not that predictable. Alford (1980) found that for a set of moderately long expository passages of text, subjects needed an average of more than four guesses to correctly anticipate upcoming words in the passage (the method of scoring actually makes this a considerable underestimate). Across a variety of subject populations and texts, a reader's probability of predicting the next word in a passage is usually between .20 and .35 (Aborn, Rubenstein, & Sterling, 1959; Gough, 1983; Miller & Coleman, 1967; Perfetti, Goldman, & Hogaboam, 1979; Rubenstein & Aborn, 1958). Indeed, as Gough (1983) has shown, the figure is highest for function words, and is often quite low for the very words in the passage that carry the most information content." (p. 90)

Stanovich and Stanovich (1995) also summarize the findings regarding the role of context in reading acquisition. Of the three cueing systems frequently mentioned in reading (semantic, syntactic, and graphophonemic cues), the semantic and syntactic cueing systems seem to play a minor role. Recent eye movement research indicates that good readers do not sample the text and predict to recognize words efficiently, but rather see every single letter on the page.

"The key error of the whole language movement is the assumption that contextual dependency is always associated with good reading. In fact, the word recognition skills of the good reader are so rapid, automatic, and efficient that the skilled reader need not rely on contextual information. In fact, it is poor readers who guess from context—out of necessity because their decoding skills are so weak." (p. 92)

In the NICHD intervention studies (Foorman et al., in press; Torgesen et al., in press) teaching children to use context and prediction as strategies for word recognition resulted in greater numbers of reading disabilities than instruction that taught children to use their sound-spelling knowledge as the primary strategy for word recognition.

Major Implications for Early Reading Instruction

Below are the key principles of effective reading instruction identified in the research along with concrete examples of what these principles mean. These examples are taken directly from the research studies. The research findings indicate that to prevent reading problems classroom teachers should do the following:

1. Begin teaching phonemic awareness directly at an early age (kindergarten).

Children who are able to recognize individual sounds in words are phonemically aware. Phonemic awareness can be taught with listening and oral reproduction tasks similar to those listed below. When concurrent instruction in sound-spelling relationships occurs, growth in the development of phonemic awareness seems to accelerate. Teachers should initiate instruction in phonemic awareness before beginning instruction in sound-spelling relationships and continue phonemic awareness activities while teaching the sound-spelling relationships.

Examples of phonemic awareness tasks

- Phoneme deletion: What word would be left if the /k/ sound were taken away from *cat*?
- Word to word matching: Do *pen* and *pipe* begin with the same sound?
- Blending: What word would we have if you put these sounds together: /s/, /a/, /t/?
- Sound isolation: What is the first sound in *rose*?
- Phoneme segmentation: What sounds do you hear in the word *hot*?
- Phoneme counting: How many sounds do you hear in the word *cake*?
- Deleting phonemes: What sound do you hear in *meat* that is missing in *ear*?
- Odd word out: What word starts with a different sound: *bag*, *nine*, *beach*, *bike*?
- Sound to word matching: Is there a /k/ in *bike*?

Stanovich, 1994

There is little correlation between developmental stages and phonemic awareness. Every school child is ready for some phonemic instruction. In fact, if the children who fall behind do not begin receiving explicit teacher-initiated instruction, they are very likely to continue falling further and further behind. Phonemic awareness and other important reading skills are learned and do not develop naturally. The earliest direct interventions have been initiated in kindergarten with very positive results. How preschoolers respond to instruction is a question currently under investigation.

2. Teach each sound-spelling correspondence explicitly.

Not all phonic instructional methods are equally effective. Telling the children explicitly what single sound a given letter or letter combination makes is more effective in preventing reading problems than encouraging the child to figure out the sounds for the letters by giving clues. Many children have difficulty figuring out the individual sound-spelling correspondences if they hear them only in the context of words and word parts. Phonemes must be separated from words for instruction.

Explicit instruction means that a phoneme is isolated for the children. For example, the teacher shows the children the letter *m* and says, "This letter says /mmm/." In this way a new phoneme is introduced. A new phoneme and other phonemes the children have learned should be briefly practiced each day, not in the context of words, but in isolation.

These practice sessions need only be about 5 minutes long. The rest of the lesson involves using these same phonemes in the context of words and stories that are composed of only the letter-phoneme relationships the children know at that point.

3. Teach frequent, highly regular sound-spelling relationships systematically.

Only a few sound-spelling relationships are necessary to read. The most effective instructional programs teach children to read successfully with only 40 to 50 sound-spelling relationships. (Writing can require a few more, about 70 sound-spelling relationships.) The chart below is not taken from any particular program but represents the 48 most regular letter-phoneme relationships. (The given sounds for each of the letters and letter groups are either the most frequent sound or occur at least 75% of the time.)

The 48 most regular sound-letter relationships

a	as in fat	g	as in goat	v	
m		l		e	
t		h		u-e	as in use
s		u		p	
i	as in sit	c	as in cat	w	"woo" as in well
f		b		j	
a-e	as in cake	n		i-e	as in pipe
d		k		y	"yee" as in yuk
r		o-e	as in pole	z	
ch	as in chip	ou	as in cloud	kn	as in know
ea	beat	oy	toy	oa	boat
ee	need	ph	phone	oi	boil
er	fern	qu	quick	ai	maid
ay	hay	sh	shop	ar	car
igh	high	th	thank	au	haul
ew	shrewd	ir	first	aw	lawn

To teach systematically means to coordinate the introduction of the sound-spellings with the material the children are asked to read. The words and stories the children read are composed of only the sound-spelling relationships the children have learned, so all the children must be taught using the same sequence. The order of the introduction of sound-spelling relationships should be planned to allow reading material composed of meaningful words and stories as soon as possible. For example, if the first three sound-spelling relationships the children learn are a, b, c, the only real word the children could read would be *cab*. However, if the first three sound-spelling relationships were m,a,s, the children could read *am*, *Sam*, *mass*, *ma'am*.

4. Show children exactly how to sound out words.

After children have learned two or three sound-spelling correspondences, begin teaching them how to blend the sounds into words. Show them how to move sequentially from left to right through spellings as they "sound out," or say the sound for each spelling. Practice blending words composed of only the sound-spelling relationships the children have learned every day.

5. Use connected, decodable text for children to practice the sound-spelling relationships they learn.

The findings of the NICHD research emphasize that children need extensive practice applying their knowledge of sound-spelling relationships to the task of reading as they are learning them. This integration of phonics and reading can only occur with the use of decodable text. **Decodable text is composed of words that use the sound-spelling correspondences the children have learned to that point and a limited number of sight words that have been systematically taught.** As the children learn more sound-spelling correspondences, the texts become more sophisticated in meaning, but initially they are very limited. Only decodable text provides children the opportunity to practice their new knowledge of sound-letter relationships in the context of connected reading.

Texts that are less decodable do not allow the integration of the phonological knowledge the children gain with actual reading. For example, the first sentence children read in a meaning-based program that added an unintegrated phonic component was: "The dog is up." The sound-letter relationships the children had learned up to this point were: d, m, s, r, and t. This is how much of the sentence the children could read by applying what they had learned in the phonic component: "--- d-- -- --". In this case, it is impossible for the children to use their phonics knowledge to read.

Here is a different example: "Sam sees a big fist." The sounds the children have learned to this point are: a, s, m, b, t, ee, f, g, and i. This is how much of the sentence the children can read using the sound-spelling relationships they have learned:

"Sam sees a big fist." This sentence is 100% decodable. Here the children can apply the sound-spelling relationships they have learned to their reading of this sentence, so the phonics component is integrated into the child's real reading. Only decodable text provides children a context for using their new knowledge of sound-spelling relationships in the context of real reading.

Text that is less decodable requires the children to use prediction or context to figure out words. Much research has evaluated the effectiveness of prediction as a strategy for word recognition. Though prediction is valuable in comprehension for predicting the next *event* or predicting an *outcome*, the research indicates that it is not useful in word recognition. The following passage is a sample of authentic text (from Jack London). The parts of the text that are omitted are the parts that a child was unable to decode accurately. The child was able to decode approximately 80% of the text. If prediction is a useful strategy, a good reader should be able to read this easily with understanding:

He had never seen dogs fight as these w__ish c__ f__t, and his first ex_____
t____t him an unf____able l____n. It is true, it was a vi____ex_____, else he
would not have lived to pr____it by it. Curly was the v_____. They were camped
near the log store, where she, in her friend__ way, made ad____ to a husky dog the
size of a full-_____ wolf, th____ not half so large as he. ____ere was no w____ing,
only a leap in like a flash, a met____ clip of teeth, a leap out equal__ swift, and
Curly's face was ripped open from eye to jaw.

It was the wolf manner of fight____, to st____ and leap away; but there was more to
it than this. Th__ or forty huskies ran __o the spot and not com____d that s____t
circle. But did not com____d that s____t in_____, not the e____ way with
which they were licking their chops. Curly rushed her ant_____, who struck again
and leaped aside. He met her next rush with his chest, in a p____ fash__ that

tum__ed her off her feet. She never re__ed them. This was __at the
on__ing huskies had w__for.

The use of predictable text, rather than this authentic text, might allow children to use prediction to figure out a passage. However, this strategy would not transfer to real reading, as the above passage demonstrates. Predictable text gives children false success. While this false success may be motivating for many children, ultimately they will not be successful readers if they rely on text predictability to read.

6. Use interesting stories to develop language comprehension.

The use of interesting, authentic stories to develop language comprehension is not ruled out by this research. Only the use of these stories as *reading material* for nonreaders is ruled out. Any controlled connected text, whether it is controlled for decodability or for vocabulary, will not be able to provide entire coherent stories in the early stages of reading acquisition. During this early stage of reading acquisition, the children can still benefit from stories that the teacher reads to them. These teacher-read stories can play an important role in building the children's oral language comprehension, which ultimately affects their reading comprehension. These story-based activities should be structured to build comprehension skills, not decoding skills.

Balance, but don't mix. The sixth feature, using real stories to develop comprehension, should be balanced with the decoding instruction described in the first five features. The comprehension instruction and the decoding instruction are separate from each other while children are learning to decode, but both types of instructional activities should occur. In other words, comprehension and decoding instruction should be balanced.

A common misconception regarding the balance that is called for by the research is that the teacher should teach sound-spelling relationships in the context of real stories. This mixture of decoding and comprehension instruction in the same instructional activity is clearly less effective, even when the decoding instruction is fairly structured. The inferiority of single instructional activities with mixed goals (embedded phonics) has been demonstrated in several studies (Foorman et al., in press; Foorman, Francis, Novy, & Liberman, 1991; Torgesen et al., in press).

During the early stages of reading acquisition, children's oral language comprehension level is much higher than their reading comprehension level. The text material used to build children's comprehension should be geared to their oral language comprehension level. The material used to build their decoding should be geared to their decoding skills, with attention to meaning. Though decodable text can be meaningful and engaging, it will not build children's comprehension skills nor teach them new vocabulary to the extent that might be needed. Comprehension strategies and new vocabulary should be taught using orally presented stories and texts that are more sophisticated than the early decodable text the children read. The teacher should read this text to the children and discuss the meaning with them. After the children become fluent decoders, they can apply these comprehension strategies to their own reading.

Other Important Research Questions and Findings

The scope of the NICHD research program is much broader than identifying effective methods for treating reading difficulties. Some of these research questions and the findings are briefly described below.

Research Question: What individual variables affect reading acquisition?

Finding: Bilingualism does not interact with reading acquisition. If children know some English, they learn to read in the same way that other children learn. There is no evidence that some children with reading difficulties need a different approach. The greater the severity of the problem, the more explicit, systematic, and carefully planned the instruction needs to be along the parameters defined above. So far the only variable found that interacts with reading acquisition is ethnic group. Significantly more African-American children have lower levels of phonemic awareness and respond significantly better to direct instruction in phonemic awareness than other ethnic groups. Researchers are still testing the replicability of this finding.

Research Question: Are there medical reasons to explain why 20 to 40% of the population do not naturally develop phonemic awareness?

Finding: Yes, sophisticated modern brain research using neuroimaging and other technologies show a unique brain signature for many, but not all, children without phonemic awareness. This neuroimaging research is being conducted at several NICHD sites, thus providing the opportunity for replication.

Research Question: Are reading disabilities inherited?

Finding: Twin studies have found strong evidence for genetic etiology of reading disabilities, with deficits in phonemic awareness reflecting the greatest degree of heritability. There is also behavioral genetic evidence for degrees of heritability for letter processing.

Research Question: How does ADD relate to learning disabilities?

Finding: Disorders of attention and reading disabilities often coexist, but the two disorders appear distinct and separable with respect to the effects of attention-deficit disorder (ADD) on cognitive tasks. For example, it has been found that ADD children perform poorly on rote verbal learning and memory tasks, but relatively well on naming and phonemic awareness tasks. The converse appears to be the case for children with reading disabilities.

Research Question: Are more boys than girls reading disabled?

Finding: Despite the widely held belief that boys are more likely to have reading disabilities than girls, research has shown that as many girls as boys have difficulties learning to read. More boys are identified by teachers in school because of their tendency to be more rowdy and active than girls.

Future Directions

The NICHD research program has made a great deal of progress in the investigation of reading difficulties. These findings are potentially of great benefit to most children. However, the work is not done and not all the issues are resolved. There are still children with reading disabilities in the most successful interventions described above. Future research will investigate effective treatments for teaching children who have no knowledge of English to read English. The on-going longitudinal intervention studies sponsored by the NICHD will be bringing important new knowledge to the field in the continuing effort to make every child a reader at an early age.

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A New Definition of Dyslexia

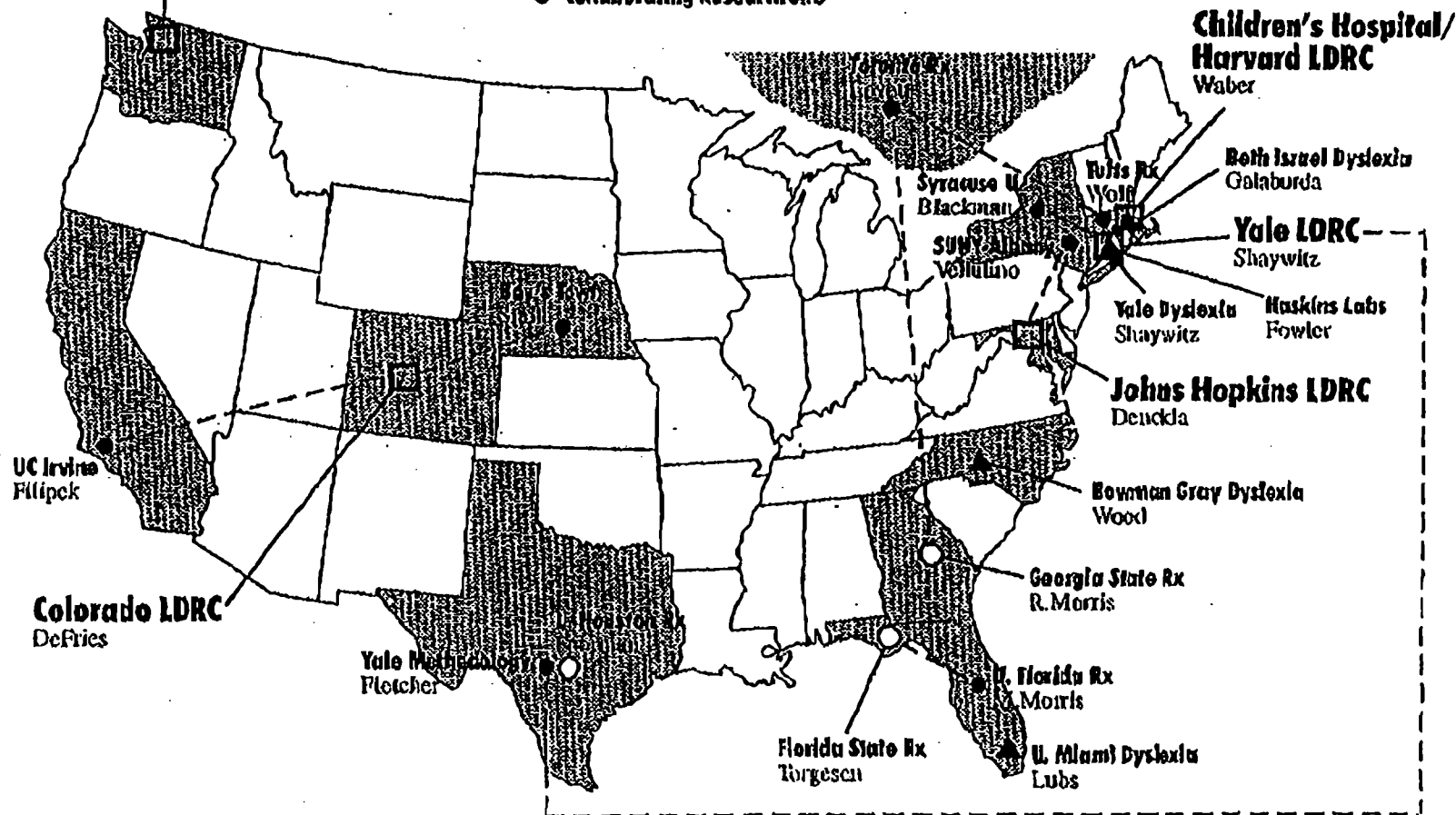
Scientists from NICHD and other scientists as well as leaders from the National Center for Learning Disabilities and the Orton Dyslexia Society Research Committee collaborated to develop an improved definition of disabilities in basic reading skills based on the most recent research in the field. Characterizing the definition as a "working" definition reflects the need to alter the definition in light of continuing advances in research and clinical knowledge. The working definition is as follows:

Dyslexia is one of several distinct learning disabilities. It is a specific language-based disorder of constitutional origin characterized by difficulties in single word decoding, usually reflecting insufficient phonological processing. These difficulties in single word decoding are often unexpected in relation to age and other cognitive and academic abilities; they are not the result of generalized developmental disability or sensory impairment. Dyslexia is manifest by variable difficulty with different forms of language, often including, in addition to problems with reading, a conspicuous problem with acquiring proficiency in writing and spelling (The Orton Dyslexia Society Research Committee, April, 1994).

NICHD LD Research Network

University of Washington LDRC
Beuteger

- Learning Disability Research Center
- ▲ Dyslexia Program Project
- NICHD Treatment/Intervention Project
- Collaborating Research Site



The NICHD Research Sites

Location	Director(s)	Affiliates
University of Colorado	John DeFreis	University of Denver, University of California, Irvine, Harvard University,
Bowman-Gray School of Medicine, North Carolina	Frank Wood	
Haskins Laboratories	Carol Fowler	
Yale University	Bennett and Sally Shaywitz	Keith Stanovich's team at the Ontario Institute for Studies in Education
University of Miami	Herbert Lubs	
Beth Israel Hospital / Harvard University.	Albert Galburda	
University of Houston	Jack Fletcher	
University of Washington, Seattle	Virginia Berninger	
Harvard University / The Children's Hospital-Boston,	Deborah Waber	
Johns Hopkins University	Martha Denckla	Vellutino and Scanlon's team at the State University of New York
Florida State University	Joseph Torgeson	
University of Houston	Barbara Foorman	
Georgia State University	Robin Morris	Maureen Lovett's team at the University of Toronto; Maryanne Wolfe's at Tufts University in Boston

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COMMUNITIES

Without Abandonment



Christopher Ruess is the principal of a Roman Catholic high school in southeast Baltimore and is struggling to keep his school in tune with changing times for urban Catholic education. See Story, Page 29. Catholics are also doing battle with an identity crisis as more lay professionals fill jobs previously held by priests and nuns. See Story, Page 32.

Dallas Board Is Buffeted by Racial Unrest

Tension Has Deep Roots, But New Causes Emerge

By Caroline Hendrie
Dallas

When African-American activists began their latest protest at a school board meeting here this month, Ernest Peña decided he'd had enough. Voicing a sentiment shared by other local Latino activists, he remarked from the back of the auditor that the protesters were no better than the Ku Klux Klan.

Aaron Michaels, a leader in the Dallas chapter of the New Black Panther Party, wasn't going to take that sitting down. Wheeling and confronting Mr. Peña, Mr. Michaels demanded that the Hispanic parent repeat his remark, reportedly uttering an obscenity along the way.

As board President Bill Kaever pounded the gavel and school police converged, the men and their allies tangled in the aisle. A school custodian allegedly involved in the scuffle was led away in handcuffs and later charged with assaulting a security guard.

Like skirmishes among sports fans in the stands, the confrontation Feb. 11 was an extension of the main event. In this city, race has long been an unpublished

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Effectiveness of Clinton Reading Plan Questioned

By Kathleen Kennedy Manzo
and Joetta L. Sack
Washington

At first glance, educators say, it is a grand plan: Mobilize a "citizen army" of college students, parents, senior citizens, and other do-gooders, and march them into schools around the nation to help all chil-

The Clinton Agenda: a closer look

dren read by the end of 3rd grade. And few disagree that President Clinton's 12 Reads Challenge, which he promoted in his State of the Union Address and again highlighted at a visit to an elementary school here last week, is a bold attempt to address one of the critical problems in an education. With 40 percent of the nation's 4th graders overall—and much higher proportions of minority and disadvantaged students—reading below the basic

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To Snare the Best, Fairfax Revamps Teacher Hiring

By Jeanne Ponessa
Springfield, Va.

If the Fairfax County school district's central hiring office had a "What's In and What's Out" list for 1997, it would look something like this:

Out: Rows of file cabinets stuffed with applications. Subjective interviews. Sixty-one-day delays before getting back to anxious job applicants.

In: Résumé-scanning database. Stan-

"What Matters Most"
strategies for effective teaching

dardized, research-backed interviews. Forty-eight-hour response time.

Administrators here say that their old hiring process—now out—was not only cumbersome but also cost them some good prospective teachers. "We had too many file cabinets," recalled Brad Draeger, the district's assistant superintendent for human

resources, "and schools were frustrated because they felt we were losing candidates."

So the 143,000-student district revamped its hiring system. Now, not only is it streamlined than before, it's also designed to pinpoint the best teachers for the system.

When large bureaucracies can't confirm vacancies and process applications fast enough, good teachers often slip through the cracks, according to "What Matters Most: Teaching for America's Future," last fall's

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INSIDE

Strike Averted

Hawaii teachers' union and state officials agree to raise salaries 17 percent over the next 2½ years.

Across the Nation, Page 3

Union Targeted

A lawsuit charges the Washington Education Association with multiple campaign-finance violations.

State Capitals, Page 16

Districts Are Following No One Map In Ferrying Youngsters After School

By Linda Jacobson

Last fall, when the Denver school system redesigned its bus routes, officials decided that they could no longer afford to accommodate special requests for after-school transportation.

The end of court-ordered busing to desegregate the district meant that neighborhood attendance boundaries for the city's elementary schools would be reinstated.

That meant children would be dropped off only at stops near their homes.

The policy change angered parents, and some even transferred their children to neighboring school districts, said Richard Frye, a spokesman for the Denver district. "We just got blasted."

The situation in Denver is not uncommon. In many communities, school officials are struggling to balance financial

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Effectiveness, Feasibility of Clinton Reading Plan Questioned

Continued from Page 1

act by a national assessment, the challenge is huge.

But as excited as educators are by the plan to launch a national crusade to stamp out the reading problems of U.S. children, many are questioning the initiative's odds for success.

Nor are they the only skeptics. Republican lawmakers, while acknowledging that the

The Clinton Agenda: a closer look

reading crisis is all too real, have nonetheless dismissed the president's plan as a duplication of existing programs. So far, the GOP has identified 14 federal programs, numerous private-sector ones that already promote literacy.

Finally, the plan has some people wondering where the elementary schools fit in and, perhaps more important, why all of these programs are necessary when the schools' foremost mission is to children how to read.

"If children at the end of 3rd grade can't read, then we have to examine what went wrong before we start talking about new programs and more money," Rep. Bill Goodling, R-Pa., the chairman of the House Education and the Workforce Committee, said at a recent press conference.

"What we are discovering isn't that we don't have enough programs," said Mr. Goodling, a former and principal, "but the problem is many of those programs don't work."

A Sophisticated Task

Almost universally, educators and policymakers note the sheer

scope of the proposal—\$2.75 billion to recruit and train 30,000 reading specialists and 1 million volunteers.

"It is analogous to President Kennedy's pledge to put a man on the moon," Robert E. Slavin, a leading reading researcher at Johns Hopkins University in Baltimore and a creator of the Success for All reading program, said last week. That proposal excited a nation to attain what many thought was unattainable, and President Clinton's plan has the potential to do the same for bringing students' reading skills up to par, Mr. Slavin said.

Although Mr. Clinton's proposal would boost community involvement in education and infuse new life into existing tutoring programs, researchers and reading experts doubt that America Reads can offer the comprehensive approach that is necessary.

"You really have to be cautious about using volunteers. If those children are not learning to read easily, I don't know how untrained people can be expected to do it better," said Judith R. Birsh, an adjunct assistant professor and master-teacher trainer at Teachers College, Columbia University.

Ms. Birsh is joined by others who say that the task of teaching reading is a sophisticated one and best attempted by those with an understanding of language and how children learn to read.

Also coloring the issue is the ongoing debate over whether phonics or whole language is the best method of teaching reading, although most researchers say a combined approach works best.

Some say the money would be better spent on better training for teachers in beginning-reading



An AmeriCorps volunteer, one of 11,000 involved in President Clinton's new America Reads Challenge, tutors a student. AmeriCorps plans to mobilize volunteers and to set up local programs.

strategies. (See story, this page.) They also suggest directing more resources toward teacher professional development in reading instruction or toward existing federal programs that address reading deficiencies, such as Title I.

But Carol Hampton Rasco, a senior adviser to Secretary of Education Richard W. Riley, said that the program would be closely tied to children's regular classes and that the tutors would serve as "learning partners" who would read with children, rather than provide instruction. Classroom teachers would refer children to the tutors, said Ms. Rasco, who will oversee America Reads.

Bella Rosenberg, the assistant to the president of the American Federation of Teachers, said that too many existing federal literacy programs don't serve their purpose, and that many don't address children's problems at all.

America Reads, Ms. Rosenberg said, is just what is needed to put children with less severe problems "over the hump."

AmeriCorps at the Core

Even though Mr. Clinton first proposed the program last August as part of his re-election campaign, the details are still being hashed out. They will be written into legislation that the adminis-

tration will send to Congress in the next few months, Ms. Rasco said.

Democrats, who are in the minority on Capitol Hill, are confident that they can mobilize enough public support to get a bill passed. "I find it hard to believe that Congress is not going to want to put some resources into a goal that has such bipartisan support," said Harris L. Wofford Jr., the director of AmeriCorps and a former U.S. senator.

AmeriCorps, the federal program that offers young people college-tuition aid in return for community service, plans to mobilize volunteers this summer and set up

Teacher Training Seen Key to Improving Reading in Early Grades

By Kathleen Kennedy Marzio and Joetta L. Sack

of the research on reading proficiency agrees that a student's success throughout his or her school career hinges on learning to read well in the early grades. Yet, most elementary education teachers have little formal training in the structure of the language and in how children learn to read.

Experts say that expanding tutoring efforts in grades K-3, as President Clinton proposes, may be of little benefit unless efforts are also focused on improving teacher preparation and classroom instruction.

"It makes no sense to have kids sit six hours in school and not be taught effectively, then to think that reading after school with a tutor is going to make everything right," said Robert E. Slavin, a researcher at Johns Hopkins University in Baltimore and the creator of Success for All, a national early-intervention program to help elementary students in reading. "You just can't solve the problem of reading while leaving alone the instruction taking place in the classroom."

Republicans have taken aim at President Clinton's plan—the America Reads Challenge—arguing that the focus should be on

improving the skills of teachers instead of volunteers.

"With the federal government already spending \$7 billion on remedial education and \$4 billion on Head Start, why doesn't the literacy proposal re-evaluate ineffective classroom-based reading initiatives in these existing programs?" Rep. Bill Goodling, R-Pa., the chairman of the House Education and the Workforce Committee, wrote in a letter to Mr. Clinton this month.

Although many educators are enthusiastic about the president's idea of creating a corps of 1 million tutors and 30,000 reading specialists to help all students learn to read by the end of 3rd grade, they say that the initiative fails to address the inadequate training of classroom teachers in performing this most critical of tasks.

"Teaching reading is complicated. Teachers need to understand multiple layers of language... where the gaps are with a student and how to plan lessons to reflect those gaps," said Judith R. Birsh, a master-teacher trainer at Teachers College, Columbia University, who last week blasted a furor on the inadequacy of teacher training in reading. "I think that we have to re-examine the training of teachers with a greater emphasis on reading," she said.

Part of the deficiency is blamed on the on-

going tug-of-war over how best to teach reading. The drastic shift in many states several years ago toward what is known as the whole-language approach to reading was reflected in teacher education programs. That approach downplays the teaching of "decoding" skills—the essence of the phonics method—and aims to engage students in reading through the use of high-quality children's literature. The recent momentum toward balancing the use of literature with skills-based teaching methods, however, has left many young teachers without the appropriate experience.

Many teachers have no background in the balanced approach, Mr. Slavin said. "In a sense, there is an enormous retooling job to be done to bring teachers of beginning reading up to the current conception" of how to teach reading.

Minimal State Requirements

Requirements for earning teaching credentials vary from state to state, but most mandate that early-education majors take only one or two courses in reading foundations or instruction, according to Penelope M. Earley, the senior director of the Washington-based American Association of Colleges for Teacher Education.

In many districts, reading specialists have

helped fill in the gaps in the expertise of teachers. Specialists are generally required to have taken advanced courses in reading instruction, evaluation, and research. But, partly due to budget cuts, those positions have steadily declined nationwide over the past decade, according to Richard M. Long, the International Reading Association's Washington representative.

The IRA, a professional organization of language arts educators based in Newark, Del., is supporting the Clinton plan because of the thousands of new positions it would create for reading specialists. But extra money is still needed to improve professional development for elementary school teachers, the group's leaders say.

"Teachers need extensive training in the reading process," said Alan E. Farstrup, the group's executive director. "We are very concerned that the basic state-licensing programs may not be requiring enough experience and coursework in the area of reading."

But teachers' union officials say that finding qualified specialists to fill the part-time positions envisioned by the Clinton plan may be a challenge in many communities. "By even a loose definition of a reading specialist, the supply is lacking," said Bella Rosenberg, the assistant to the president of the American Federation of Teachers.

local programs, Mr. Wofford said. At the core of the initiative are 11,000 AmeriCorps members who will be targeted to recruit and coordinate local volunteers.

Administration officials expect to attract another 100,000 volunteers from college work-study programs. Leaders of Campus Compact, the arm of the Denver-based Education Commission of the States that promotes community service in higher education, relayed more than 500 college presidents to set aside part of their federal work-study money for America Reads.

More than \$1.5 billion in new funding would provide after-school reading specialists to train and supervise tutors. They would provide individualized instruction in after-school, weekend, and summer programs for about 3 million children in kindergarten through 3rd grade who want and need extra help.

An additional \$300 million in challenge grants would be awarded over five years to programs that involve parents in their children's reading development.

The plan also calls for the expansion of Head Start, Title I, and Even Start, federal programs that disadvantaged children to strengthen the teaching of reading in schools.

Moreover, Secretary Riley promised in his State of American Education Address last week to "work with religious leaders from across the country to rally tens of thousands of volunteers to this national effort."

What Works?

Observers agree that recruiting 1 million volunteers, difficult though it may be, is not the most daunting task. The troops can be rallied through the expansion of existing programs and from AmeriCorps, college campuses, and local communities, they maintain. Preparing those volunteers is another matter.

"The use of tutors is fantastic as long as they get the training. That is where they will succeed or fail," said Miriam Y. Westheimer, the executive director of HIPPY USA, the Home Instruction Program for Parents and Youngsters, a New York City-based early-childhood enrichment program.

But on which training methods work and which don't is unclear. A 1993 study by Mr. Slavin and Barbara A. Wasik, also a Johns Hopkins researcher, found that programs deploying certified teachers showed greater improvements in student reading achievement than those using paraprofessionals.

Ongoing training and supervision are the vital elements, said Marcia A. Invernizzi, who runs the Book Buddies program with colleague Connie Juel.

The Charlottesville, Va.-based program uses doctoral students who serve as paid, part-time supervisors to school-based volunteers. The supervisors provide initial training, lesson plans, instructional materials, and continuing guidance to ensure that tutors are meeting students' needs.

"The supervisor is critical. Volunteers don't have a clue what to do," Ms. Invernizzi said. "Many

think that if you read *Grimm's Fairy Tales* to them, the children will learn to read."

States would be responsible for evaluating the programs that receive money through America Reads and for determining which ones are effective.

Experts caution that even though many programs report positive outcomes for participating students, there are few reliable data to prove these claims. Evaluating which programs will offer the best investments could be tricky, they say.

"There isn't much information about one-on-one tutoring, and certainly there is very little research about effective tutoring and less-effective tutoring," said Gerald E. Sroufe, the director of government and professional liaison for the American Educational Research Association, based here. "We believe this program is moving in the right direction, but there has got to be a good deal more research and development for these programs."

More Than Training

The challenges do not end with training, however. Although some of the participants in the America Reads program will be paid, most will not—in a situation likely to create variations in the time and effort people are willing to commit to the project. Reading experts also say it is impossible to hold volunteers accountable for the improvement of their students.

"A lot of kids this program is aimed at, especially those in the lower 25 percent, are extremely disadvantaged. They have no book experience; they don't know their alphabet," Ms. Wasik said. "It seems very difficult to believe that those kinds of disadvantages can be ameliorated by a tutor who comes in twice a week."

Even teachers in the Success for All, an early-intervention reading program, who are trained and certified, have difficulty assisting such children, she said.

Some educators are also concerned that volunteers will not be equipped to deal with children who have learning disabilities.

"We want to make sure the people coming into schools are well-qualified," Sally M. McConnell, the government relations director of the National Association of Elementary School Principals, said.

Dale Lestina, the chief lobbyist for the National Education Association, worries that volunteers will be unable to identify a disability, making it essential that tutors work closely with classroom teachers.

The National Academy of Sciences is hoping to address the research deficit. A committee of the academy is conducting a study of reading programs around the country in the hope of isolating the elements that make programs effective. One part of the study will focus on volunteer tutoring programs, said M. Susan Burns, the director of the study.

Sponsored by the Department of Education and the National Institutes of Child Health and Human Development, the study is expected out late this year. But if Mr. Clinton's initiative proceeds as

swiftly as he would like, the data are unlikely to provide guidance in the early stages.

Planning such a far-reaching program in the absence of more abundant research has left many experts full of doubts.

"I wish it had been called the America Tutors initiative," Mr. Slavin of Johns Hopkins said. "But if you are creating the expectation that all children are going to learn to read through the use of tutors, it's just not going to happen."

On the Web

For Web links and past articles on President Clinton's education plans, click on **This Week's Links** at <http://www.edweek.org>.

Teaching a Nation to Read

Sampling of Privately Operated Literacy Programs



HIPPY (Home Instruction Program for Parents and Youngsters) USA
Teachers College, Columbia University

Box 113
525 W. 120th St.
New York, N.Y. 10027
(212) 678-8500
Assists parents in providing home instruction to preschool children.
Founded: 1984
Participants: 15,000 families nationwide
Budget: About \$1,300 per child

National Center for Family Literacy

Watertown Plaza, Suite 200
226 W. Main St.
Louisville, Ky. 40202-4261
(502) 584-1133
Promotes family literacy through a combination of early-childhood and adult-education programs as a way to combat literacy and poverty.
Founded: 1989
Participants: 50,000 families nationwide
Budget: \$6 million

Parents as Teachers

10176 Corporate Square Drive,
Suite 230
St. Louis, Mo. 63132
(314) 432-4300
Early-childhood and family education program assists parents in choosing and using appropriate books for children from birth to age 5.
Founded: 1981
Participants: More than 250,000 families nationwide
Budget: Averaged \$650 per child

Reading is Fundamental

900 Maryland Ave. S.W., Suite 600
Washington, D.C. 20024
(202) 287-3220

Network of local projects that provides books, stories, and other resources for children and families to assist young readers.
Founded: 1968

Participants: 220,000 volunteers; 3.8 million children nationwide
Budget: Not available

Reading Recovery

Ohio State University
200 Ranssayer Hall
29 W. Woodruff Ave.
Columbus, Ohio 43210

(614) 292-7807

Provides certified reading teachers to guide children achieving 1st grade through reading and writing activities outside the classroom.
Founded: 1970s

Participants: 15,000 teachers and 31,000 1st graders in 49 states
Budget: N.A.

Success for All

Johns Hopkins University
3505 N. Charles St.
Baltimore, Md. 21218-2498
(410) 516-8886

Certified teachers integrate tutoring program for lower-achieving 1st and 2nd graders with structured classroom curriculum to improve reading skills.
Founded: 1987

Participants: 473 schools in 31 states
Budget: N.A.

Federal Literacy-Related Programs

Targeted Literacy Programs

1997 Appropriation

Adult Education State Grants, local adult education classes

\$343.3 million

Adult Education National Programs, evaluation and technical assistance

\$5.0 million

Even Start, family-centered education projects and literacy training for parents

\$102.0 million

Inexpensive Book Distribution (Reading is Fundamental), book distribution to encourage children to read

\$10.3 million

Literacy Programs for Prisoners, programs for the incarcerated and institutionalized

\$4.7 million

National Institute for Literacy, studies of business, postsecondary education, and workforce

\$4.8 million

National Writing Project, improving the teaching of writing

\$3.1 million

Other Literacy Programs, including literacy training for health care workers and literacy training for the elderly

\$3.1 million

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Programs With Broader Purposes

1997 Appropriation

Title I, assistance to states, local educational agencies for remedial education programs for disadvantaged children

\$7.2 billion

Individuals with Disabilities Education Act, special education and related services for children identified as disabled

\$3.1 billion

Bilingual Education, support services and professional development

\$183.7 million

Immigrant Education, education-related programs for new immigrants

\$164.6 million

Educational Research and Development

\$72.8 million

AmeriCorps, National Alliance for Education, and other programs

\$402.5 million

Other Literacy Programs, including literacy training for health care workers and literacy training for the elderly

\$3.1 million

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READING RECOVERY

February 7, 1997

The First Lady
Hillary Rodham Clinton
The White House
Washington, D. C. 20500

Dear Mrs. Clinton:

I had just completed this letter when Dean Campbell came down to share with us the wonderful news that you would be attending our Early Literacy for All Children conference for elementary educational leaders here in Little Rock on March 11, 1997!!! WE ARE SO EXCITED!!

We are so proud of all of you in so many ways. During the past two years, I have written several letters to you to try to express my anguish about the extreme cruelty all of you have suffered. I always decided that my letters might have served more as therapy for me than as comfort for you, so I never mailed them. I have, however, cried on the telephone to Millie, who always comforted me. I guess it's her background and experience as a pastor's wife that makes her so effective with this.

We also are very encouraged that, as stated by the newspaper, "education is the No. 1 priority" of this administration. That is the issue that all of you work with so productively.

In Mr. Clinton's State of the Union address, he talked about the White House conference that you and he would be convening to discuss early learning, the brain and how educators can best use the startling new findings in these areas. I know that renowned educators and researchers from throughout the nation will be invited to participate in this very important conference, but I am offering to serve and assist you in any way possible to help make this a meaningful forum. In our Reading Recovery training program here at UALR, a major focus of our study is how children think and learn and the brain's role in that learning.

I am enclosing for you copies of recent publications and materials that are quite supportive of what we're doing here in Arkansas and UALR to effect best literacy practices in Arkansas schools:

** Paths to Success - Getting Elementary Schools Ready for Children: Reading First.*
Southern Regional Education Board. July 1996.

This monograph by SREB is devoted exclusively to describing the Arkansas Reading Recovery, Early Literacy and Comprehensive Literacy Support models, including tables of statistics showing annual and longitudinal studies of the effectiveness of these programs in Arkansas.

Hillary Rodham Clinton
Page 2
February 7, 1997

* *The Title I Program in Arkansas: Realizing the Promise*. Final Report and Executive Summary. The Winthrop Rockefeller Foundation. August 1996

These reports were the results of a comprehensive study of the strengths and weaknesses of the implementation of Title I programs in Arkansas. Our hope (and that of the foundation) is that this study will garner more state Title I support for early intervention programs, including Reading Recovery. There are several references to some of our effective Reading Recovery and Early Literacy programs in Arkansas schools.

* *Arkansas is Successfully Closing the Disparity Gap*. UALR. 1996.

We wrote this paper and a small research study as we realized that when low achieving children were afforded appropriate learning experiences, they could read and write as well as their previously higher achieving classmates.

We are grateful that the response to our Reading Recovery, Early Literacy and Comprehensive Literacy Support Programs has been so positive and pervasive, not only in Arkansas but throughout the country. We had approximately 160 educators from Arkansas and 16 other states to attend our two Early Literacy Institutes held here in Little Rock last summer. We are already swamped with requests for participation this summer. The bottom line, we trust, is that more children will learn to read and write as the result of our efforts.

Thank you, again, for your dedication to and your belief in providing quality educational opportunities for all of our children. Please call on me when I can help you do this. It does take a village!

We are truly excited about your sharing time with us on March 11! If there is any information, materials, etc. that we can provide for you prior to your visit, please advise:

office telephone (501) 569-3405
home telephone (501) 225-8988

office FAX (501)-8694
home FAX (501)-9374

Sincerely yours,



Anne Allen, Ph. D.
Reading Recovery Trainer

Enc.

Arkansas is Successfully Closing the Disparity Gap

The gap between the scholastic "haves" and the scholastic "have nots" has been growing. The scholastic "haves" are coming to school infinitely more equipped to be successful because of experience with books, home computers, CD rom, literacy rich environments and life experiences designed to provide the young child with access to information and learning. The scholastic "haves" have a depth of understanding of stories, writing, editing, keyboarding, spelling and comprehension. In the mean time the scholastic "have nots" arrive at school ready to learn, full of potential but lacking the prior experiences with literacy and information to demonstrate their skill in the same ways as the scholastic "haves". As the scholastic "haves" are comfortable with information and its management, the scholastic "have nots", while fully capable of reaching the same levels of achievement, are lacking access to the experiences and tools which can show their potential. The "haves" are feasting on success while the "have nots" are nibbling and barely achieving.

Unfortunately, this disparity gap is reflected in the socio-economic and racial differences in Arkansas schools. Home and community advantages set the stage. Like lunch boxes, designer jeans and backpacks, the disparity gap arrives at the schoolhouse doorstep whether it is wanted or not. Take for example the school where in the course of an academic year, 10% of the students get a home computer with CD rom, internet, encyclopedia and graphics. The immediate impact on the disparity gap is evident as this 10% accelerates. While others may be moving at a steady pace, the distance between the "haves" and "have nots" grows exponentially. This growing disparity gap is not created by the school but often the school has done little more than label children failures (under many titles and names) and watch as the gap between rich and poor, black and white grows wider and wider.

How are Schools Closing the Gap?

Unfortunately the disparity gap does not close up by itself. Fortunately, the gap is more efficiently and effectively closed in the early grades, before students with solid potential enter a chain of failure habits. Success in addressing the disparity gap happens by putting two kinds of instructional support in place. Bridging the gap requires:

1. **EARLY INTERVENTION** - Quick acceleration that focuses on the individual child and his/her capabilities. Intervention is a short term, life changing, learning experience which develops the child's scholastic capacity and instills habits of learning which carry on into the child's future.
2. **CONSISTENT QUALITY IN THE CLASSROOM** - At least three consecutive years of literate, supportive classrooms as children enter school.

Without a strategy for pulling children from the academic basement into the main floor, the rate and percentage of failure will grow annually. Providing short term academic intervention is not a luxury or experiment that only a few schools can afford; it is the duty of the elementary school, as the first institution of the community, to provide service which puts scholastic "have nots" into the ballgame with their peers. One central goal of the elementary school is to provide, for all children, the tools and opportunity to succeed. Eliminating the distance between the scholastic "haves" and "have nots" is happening in schools all over Arkansas and must be a matter of priority for the any school or community which hopes to prepare students for the 21st century.

Reading Recovery, Closing the Gap

Reading Recovery is a proven intervention program which has been accelerating learning for some of Arkansas most at-risk children. In studies recently conducted by the University of Arkansas at Little Rock, children across 27 school districts who had received the Reading Recovery intervention were selected to see if the intervention was helping them get into the scholastic mainstream and stay up with the average group in their class. The studies found that Reading Recovery has indeed put children on the road to scholastic success by closing the disparity gap in two ways:

1. Reading Recovery moves children from the academic basement into the successful mainstream of their class with 16 - 20 weeks of tutorial help.

Children identified by their teachers as the most scholastically disadvantaged are involved in the Reading Recovery tutorial and are taught by a specially trained teacher who knows how to accelerate learning in the most at-risk children in first grade. Of the 1000 children served by Reading Recovery in Arkansas 860 are now reading and writing at the average of their class. And even two years after having received Reading Recovery help, they are still performing with their classmates.

2. Minority and non-minority children succeed at the same accelerated rate during and after Reading Recovery intervention. There is no disparity gap between the reading, writing and spelling performance of black and white children who have had the Reading Recovery tutorial. Measured one full year after the Reading Recovery intervention on four types of reading and spelling achievement tests, the black and white children initially labeled as "at-risk" in first grade before the intervention, scored at the average of their class and the scores of the black and white children differed on all measures by a total 5 points. Black and white children, never labeled as at-risk, were taken from a random sample for comparison. These children, from the same schools, showed scores which when averaged together were comparable to the Reading Recovery children's scores. But when broken down by racial groups, there was a difference between the white and black children of 23 points on the reading and spelling measures. The strategies learned in the Reading Recovery intervention were clearly helping children close the disparity gap.

Making room in the busy elementary day for tutorial help from the specially trained Reading Recovery professionals is a challenge for many elementary schools in these days of budget cutbacks and funding uncertainties. However, the investment of time and money for a few weeks in first grade saves many more dollars that would be spent on these very same at-risk children if they had not made it into the educational mainstream. Closing the disparity gap during the early grades prevents the costly expenditures which follow students marked by failure throughout their school careers.

Mean Scores of Anglo and African American Reading Recovery
and Non-Reading Recovery Students on Literacy Tasks at End of
Second Grade

Measures	RR Group		Non-RR Group	
	Anglo	African American	Anglo	African American
Dictation	.17		7.15	
Spelling		.14	.97	
Text Reading	1.12		3.96	
Gates MacGinitie	3.54		11.70	